Report into

Electronically Assisted Voting at the 2007 Federal Election for Electors who are Blind or have Low Vision

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GLOSSARY

ACE	Assistant Commissioner Elections
ACT EC	ACT Electoral Commission
AEC	Australian Electoral Commission
AFP	Australian Federal Police
ATL	Above the Line
BCA	Blind Citizens Australia
BTL	Below the line
CEA	Commonwealth Electoral Act 1918
CSA	Community service announcement
CSV	Comma separated variable
DEC	Deputy Electoral Commissioner
DRE	direct recording electronic
DRO	Divisional Returning Officer
EAV	electronically assisted voting
EC	Electoral Commissioner
ELMS	Election Management System
ERAR	Electoral and Referendum Amendment Regulations
ESP	Elections System and Policy
eVACS	Electronic Voting and Counting System
EVC	Early voting centre
EVM	Electronic Voting Machine
EVS	Electronic Voting Section
FACEO	First Assistant Commissioner Electoral Operations
GPV	General Postal Voter
HoR	House of Representatives
ICT	Information and Communication Technology
JAWS	Job access with speech
JSCEM	Joint Standing Committee on Electoral Matters
NATA	National Association of Testing Authorities
OIC	Office in Charge
PPVC	Pre-poll voting centre
RFQ	Request for quotation
RFT	Request for Tender
RMANS	Roll Management System
RPH	Radio for the Print Handicapped
SDS	System Design Specification
SOR	Statement of Requirements
TEC	Tender Evaluation Committee
TEP	Tender Evaluation Plan
VEC	Victorian Electoral Commission
VNR	Video news release
VPN	Virtual private network
XML	Extensible markup language

1.0 Executive Summary

1.1 Background

1.1.1 In its report on the 2004 federal election, the Joint Standing Committee on Electoral Matters (JSCEM) recommended that remote electronic voting be considered for certain classes of voters including electors who are blind or have low vision.

1.1.2 In August 2006, the Government responded to the JSCEM report and stated that a trial of electronically assisted voting would be undertaken for the 2007 federal election.

1.1.3 An Electronic Voting Section was formed in September 2006.

1.2 Scope

1.2.1 The scope of the trial was restricted to 30 pre-poll voting sites, and to electors who were sight impaired such that they were unable to vote without assistance.

1.2.2 Government also required that voting be available in the Pre Poll period and that the electronic voting system produce a printed output that recorded the preferences of the voter for later inclusion in the count.

1.3 Legislation

1.3.1 The Electoral and Referendum Legislation Amendment Act 2007 became law in March 2007, and enabled this trial for the first general election and first senate election after the commencement of the legislation. Consequently the legislation is relevant to the 2007 election only.

1.3.2 The Electoral and Referendum Amendment Regulations 2007 (No. 3) were registered in September 2007, and the commencement date was 1 August 2007.

1.4 Consultation

1.4.1 In accordance with Recommendation 27 of the JSCEM report, a Reference Group consisting of senior officials from peak bodies, support organisations, a national supplier and the Human Rights and Disability Discrimination Commissioner was formed to provide advice on the trial, including location selection.

1.4.2 This Group met regularly during the project period.

1.4.3 Consultation was also conducted at the state and local level across Australia to both determine appropriate locations for the pre-poll voting centres and to promote the trial.

1.5 Location Selection

1.5.1 A comprehensive process was devised to determine appropriate locations to conduct the trial, including local consultation.

1.5.2 The Special Minister of State approved the location selection recommendations on 2 July 2007, and these recommendations

included a mix of metropolitan, urban, regional and remote locations.

1.5.3 Once the 29 locations had been approved, the completed e-voting system was demonstrated to the target audience in those locations mostly utilising organisations for the blind as the demonstration venues.

1.6 System Acquisition, Design, Testing and Deployment

1.6.1 Following a restricted tender process conducted by the AEC, Software Improvements Pty Ltd (a Canberra company that supplies the ACT Electoral Commission's electronic voting services) was contracted to develop the electronically assisted voting system.

1.6.2 The solution was based on a desktop computer format, with a 21-inch flat screen monitor, a telephone style keypad and earphones. The computer box was encased in a tamper-evident perspex case. The combined system was termed an electronic voting machine (EVM).

1.6.3 While voters with some sight could be guided through the voting process using the monitor, those without sight needed comprehensive instructional voice scripts to guide them.

1.6.4 The instructional scripts were recorded during development of the system, however candidate names and parties were recorded after the close of nominations when they became known.

1.6.5 As the Government required a printed output for each ballot, and in order to avoid anyone seeing the content of the printed output in the polling place, the voter's preferences were printed in a two-dimensional barcode. This printed vote record was then placed in a pre-poll declaration envelope and placed in the pre poll ballot box.

1.6.6 After preliminary scrutiny and the close of the poll, the envelopes were opened and the vote record extracted and decoded for inclusion in the count.

1.6.7 BMM Australia Pty Ltd, a National Association of Testing Authorities accredited firm audited the system post development, and prior to the election. The system was certified as having met all requirements.

1.7 Communication Strategy

1.7.1 Local consultation, both in selecting sites and demonstrating the EVMs, played a major part in the promotion of the system, with most demonstrations gaining media attention.

1.7.2 The more formal strategy centred around newspaper and radio advertising during the election period, and text and audio files on the AEC website.

1.7.3 Feedback from voters in the post-election period indicated that few had seen or heard the paid advertising.

1.8 Training

1.8.1 Electoral officials and Divisional Office staff were trained in August 2007, with some follow-up training for certain divisions closer to the election.

1.8.2 This training included a sensitivity module which instructed polling officials in how to deal with voters who were blind or had low vision.

1.9 Election and Post Election Periods

1.9.1 Candidate names and parties were voice recorded after the close of nominations. The AEC confirmed the pronunciation of the names of more than 400 of the 1421 candidates with each candidate prior to recording their name.

1.9.2 This recorded data was combined together with the full election data and the pre recorded instructional scripts and burnt onto installation DVDs. The DVDs were dispatched to the relevant Divisional Offices and installed onto the EVMS by contracted technicians under the supervision of the Divisional Returning Officer.

1.9.3 A total of 850 votes were cast using EVMs during the period from 12 to 24 November 2007 with a further 109 BVI electors either using the especially provided magnification equipment or abandoning the use of the EVMs and requesting assistance to cast their vote.

1.10 Evaluation Reports

1.10.1 The Contractor prepared a project report in conjunction with the AEC.

1.10.2 The AEC commissioned an independent evaluation of the trial. This evaluation includes voter feedback which was very positive.

1.11 Conclusion

1.11.1 This trial conducted the first electronically assisted voting at the federal level in Australia and provided the opportunity to a secret ballot for electors who are blind or have low vision.

1.11.2 The EVM was the first of its kind to use a telephone style keypad interface which drew parallels with the rules of telephone banking. This bridged the gap between voters who were unfamiliar with using a computer but were familiar with telephones, ATMS or telephone banking.

1.11.3 The trial demonstrated that electronic voting for people who are blind or have low vision provided an intuitive, secure, secret and independent method of casting their vote. Although the take up of the EVMs appeared low, there was an increase of 41% in the polling places that were both used by the AEC and the Victorian Electoral Commission (VEC) when the VEC implemented EVMs for their 2006 Victorian State Election.

1.11.4 The Contractor's report and the independent evaluation both found the trial to be a success.

1.11.5 The EVM has proved that it can facilitate the voting process for people who are blind or have low vision, but also that it could be used as an "audio assisted voting system" for any Australian who requires assistance with printed format.

1.11.6 This success is a solid foundation for the future, should the Australian government undertake further electronically assisted voting.

2.0 INTRODUCTION

2.1 Purpose

2.1.1.1 This report has been prepared by the AEC to describe the conduct and outcomes of the recent electronically assisted voting for people who are blind or have low vision.

2.2 Background

2.2.1.1 The JSCEM, in its report on the 2004 Federal Election, recommended that the Australian Electoral Commission (AEC) trial electronic voting for people who are blind or have low vision.

2.2.1.2 Prior to the 2007 Federal Election, people who are blind or had low vision could only vote by gaining assistance from another person to complete their ballot papers. While this enabled people who are blind or have low vision to participate in the voting process, it meant that the vote of this person could never be a secret and independent vote.

2.2.1.3 Vision Australia has estimated that there are approximately 3.5 million Australians who have difficulty accessing standard printed material for a variety of reasons.[1] Of these, it is estimated that there are 193 300 people who are blind or have low vision. Another estimate put this figure at 293 000 Australians who are blind or have low vision.[2] This number is expected to increase as the population ages, for example, one million Australians, (increasing annually by 25,000) have diabetes and many diabetics develop a vision impairment. The Fred Hollows Foundation expects this figure to double over the next two decades.[3] In 2005 in South Australia, for example, 80 per cent of people who are blind or have low vision are over the age of 65 years.[4]

2.2.1.4 For this trial, the AEC aimed to maximise the electoral knowledge and effective participation of voters who are blind or have low vision. The trial allowed for these people to vote secretly and independently using electronically assisted voting machines in the 2007 federal election.

2.3 Parliamentary Inquiry

2.3.1.1 The e-voting trials flowed out of a number of recommendations made by the Joint Standing Committee on Electoral Matters (JSCEM) in *The 2004 Federal Election: Report of the Inquiry into*

[1] Vision Australia, blindness and low vision services *Financial literacy, Banking and Identity Conference – 25-26 October 2006 – RMIT University 'including all consumers' – communicating and transacting with people with a print disability*, p. 1. Vision Australia comment that the data was collected in 2002 and that this figure could be conservative.
[2] The Fred Hollows Foundation, Blindness Statistics, Information Sheet, at http://www.hollows.org.au.
[3] The Fred Hollows Foundation, Blindness Statistics, Information Sheet, at http://www.hollows.org.au
[4] Royal Society for the Blind of SA Inc, Submission No. 101, to the inquiry by the Joint Standing Committee on Electoral Matters into *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 1.

the Conduct of the 2004 Federal Election and Matters Related Thereto.

2.3.1.2 With regard to blind voting, evidence to the JSCEM in relation to the special needs of people who are blind or low vision included:

a. Guide Dogs Victoria;

b. Mr Noel Abrahams;

c. RPH Adelaide Inc;

d. Professor George Williams and Mr B Mercurio;

e. People with Disability Australia Inc;

f. Vision Australia;

g. NSW Disability Discrimination Legal Centre;

h. The Royal Society for the Blind;

i. Blind Citizens Australia;

j. Canberra Blind Society; and

k. The Royal Society for the Blind of SA Inc.[5]

2.3.1.3 It was argued that people who were blind did not have the same rights as those enjoyed by other voters and it was important that they be able to cast a secret vote in private and to independently verify their vote and not need to rely on others.[6] Concern was expressed that there was potential for the voter's intentions not to be accurately recorded under the current system that relies on assistance from others.

2.3.1.4 The Committee canvassed the possibility of an AEC official only to assist with the voting or the use of an electronically assisted voting system. The Committee noted, however, that the voter had the option of seeking assistance from the presiding officer at the polling place under section 234 of the Commonwealth Electoral Act 1918. The Committee concluded that at the next Federal Election, facilities should be available to enable a secret, verifiable vote to be cast by people who are blind.[7] The Committee considered that this should be of an experimental nature and available in each electorate as part of a broader initiative to achieve the needs of people with disability at polling stations. The Committee concluded the following in Recommendation 27:

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[5] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, Submissions Nos 16, 31, 45, 48, 50, 54, 68, 101, 135, 138 and 101 respectively.

[6] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 133 citing Submission Nos 16, 50 and 54.

[7] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 134.

2.3.1.5 **Recommendation 27 stated**:

”The Committee recommends that the AEC consult with appropriate organisations to establish appropriate experimental arrangements to assist the blind and visually impaired to cast a secret ballot at the next Federal Election.”

A. **Government response stated**
”Supported. Consultation between the AEC and appropriate organisations is well advanced to allow the AEC to develop appropriate trial arrangements for electronically assisted voting for blind and visually impaired voters to cast a secret printed paper ballot at the next federal election. It is proposed that the trial would be available to eligible electors at 30 pre poll locations across Australia. The consultations will also inform the AEC’s decision on the proposed location of the trial sites and the degree to which the trial could be extended to electors with a print disability.”

2.3.1.6 It was argued to the Parliamentary inquiry that electronic voting at the federal level should be investigated to provide a service to people who were blind or have low vision.[8] The JSCEM recommended a limited trial:

2.3.1.7 **Recommendation 41 stated:**
”The Committee recommends that a trial of an electronic voting system be implemented at an appropriate location in each electorate to assist blind and visually impaired people, who currently cannot cast a secret and independently verifiable vote.

- In terms of the type of electronic voting system, and the most appropriate locations, the AEC should liaise with relevant groups, and then report back to the Committee with its proposal.”
- Following the election, the AEC should report back to the Committee on all aspects of the trial.

A. **Government response stated**
”Supported. The consultations mentioned in the response to recommendation 27 will inform the development and implementation of the proposed trial. As noted in the response to recommendation 27, the proposed trial will only occur in 30 locations across Australia. Any trial of electronically assisted voting to assist blind and visually impaired voters will include the production of a printed

[8] Professor G Williams and Mr B Mercurio, Submission No. 48, Inquiry by the Joint Standing Committee on Electoral Matters, *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005. See also Guide Dogs Victoria Submission No 16, RPH Adelaide Inc Submission No 45, People with Disability Australia Inc Submission No 50, Vision Australia Submission No 54, Royal Society for the Blind Submission No 101, Blind Citizens Australia Submission No 135 and Canberra Blind Society Submission No 138.

output recording the preferences of the voter, to be used in the count.[9]"

- **Recommendation 42 stated:**
  "The Committee recommends that the AEC identify, at an early stage, any legislative changes required to allow the paper ballot output of the system (whether electronic counting or a printed ballot paper) to be counted as a valid vote."

  A. **Government response stated:**
  "The Government supported this recommendation."[10]

2.3.1.8 The Australian Electoral Commission therefore conducted a trial which utilised recent advances in technology to enable people who are blind or have low vision to cast a secret verifiable ballot. The opportunity for people who are blind to cast an independent, secret ballot in a federal election allowed them to enjoy the same rights as other voters.

2.4 Australian E-voting Background

2.4.1 AEC – E-vote

2.4.1.1 The AEC has been progressively conducting electronic voting for industrial elections and is currently exploring how forms of electronic voting could be utilised in fee for service elections.

2.4.1.2 The AEC first conducted Yes/No ballots electronically in 1998 for the Dept of Defence and the CSIRO. The software was initially developed by Defence and CSIRO and was installed on the intranet of each organisation for the purpose of deciding Enterprise Agreement proposals.

2.4.1.3 Since then the AEC has taken over the development and enhancement of this software and has conducted the enterprise agreements for the CSIRO and the Dept of Defence for each subsequent agreement. The AEC has also conducted ballots for the Department of Immigration and Multicultural Affairs in 2006 as well as the AEC's own Collective Agreement in 2007 electronically.

2.4.1.4 In recent ballots the AEC has kept the software installation within the AEC servers and provided a Virtual Private Network (VPN) for the client.

2.4.1.5 For employees that were unable to access the software some ballots provided for faxed responses from the voter.

2.4.1.6 In 2003 the AEC outsourced the conduct of it's own Workplace Agreement ballot to a company called SecureVote in order to keep the process at arm's length.

2.4.1.7 While all of these ballots have been conducted successfully, they remain Yes/No Ballots and the software did not meet the needs of the complex requirements for a federal election.

[9] Government Response, p. 19.
[10] Government Response, p. 19.

2.4.2 ACT Electoral Commission

2.4.2.1 The Australian Capital Territory 2001 and 2004 elections used a direct recording electronic (DRE) voting machine, the Electronic Voting and Counting System (eVACS). In 2001, 16 559 votes were cast and counted electronically and this number increased to 28,169 electronic votes for the 2004 election.[11] This was an increase of 70 per cent over 2001 and the proportion of electronic votes in relation to all votes increased to 13.4 per cent in 2004 compared to 8.3 per cent in 2001.[12]

2.4.2.2 People who are blind or had low vision were guided through the voting process by audible instructions and could cast a secret and independently verifiable vote. The Canberra Blind Society also commented on the success of DRE voting.[13]

2.4.2.3 The ACT Electoral Commission listed the features of the DRE, eVACS, as:

a. Eliminates the need for manual counting of electronic votes, thereby removing the possibility of counting error and speeding the transmission of results;

b. Reliable and secure;

c. Significantly reduces the number of unintentional voter errors and contributes to an overall drop in the proportion of informal voters at the election;

d. Allows blind and sight-impaired people to vote without assistance and in secret through use of headphones and recorded voice instructions; and

e. Provides on-screen voting instructions in twelve different languages.[14]

2.4.2.4 DREs do not access the internet or remote connections and there is no risk of hacking. Electronic votes are written to a 'write-once only CD-ROM' in the polling place.[15] The use of DRE may also reduce the level of informal voting through the provision of an audible alert.[16]

2.4.2.5 In the 2004 election, 'voting tablets' were also trialled as these are highly portable and robust.

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[11] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 3.
[12] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 3.
[13] Canberra Blind Society, Submission No. 138 to Inquiry by the Joint Standing Committee on Electoral Matters, *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 2.
[14] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, pp. 3-4.
[15] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 15.
[16] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 15.

2.4.2.6 The ACT Electoral Commission reported on the:

a. extremely high level of accuracy demonstrated at the 2001 and 2004 counts indicates that this process is far superior to manual sorting and counting of paper ballots.[17]

2.4.2.7 On the basis of the 2004 experience in the ACT, the ACT Electoral Commission believed that electronic voting should be available again in the 2008 elections.[18]

2.4.2.8 The benefits that accrue from electronic voting are significant, particularly the way in which electronic voting maximises the impact of each person's vote by ensuring that inadvertent numbering errors do not occur. There are also considerable benefits and savings obtained by recording electors' preferences directly onto computer, thereby removing the need for data entry of paper ballots. The accessibility of electronic voting to blind and sight-impaired people is another valuable reason for continuing to provide electronic voting.[19]

2.4.3 Disadvantages with DREs

2.4.3.1 There are also a number of potential disadvantages with direct recording electronic voting. Cost and security are the main concerns with all electronic voting systems. JSCEM also saw the time taken to vote as an issue as well as the cost.[20]. The Committee concluded that:

a. ...the time taken to vote with DRE, particularly in States with a large number of Senate candidates, would be excessive. It would require large numbers of DREs at each polling place, which in turn, would add to fit out costs that the AEC already considers exorbitant.[21]

2.4.3.2 The AEC was of the view that the cost of providing DREs at over 7,700 polling site across Australia would be prohibitive.[22] Concern was also expressed in relation to the fitting of the Senate candidates on one screen and the space requirements associated with above the line voting.[23] The AEC concluded that:

a. DREs will not address the issues of access to electoral services for electors in remote locations, both in Australia and overseas, who do not have access to a reliable postal service. Electronic voting using DREs requires an elector to attend a pre-polling

[17] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 23.
[18] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 4
[19] Elections ACT, *Electronic voting and Counting System: Review*, August 2005, p. 23.
[20] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 264.
[21] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 264.
[22] Australian Electoral Commission, Submission No. 216, p. 20 to the inquiry by the Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005.
[23] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 263.

voting centre or divisional office, and it is their inability to do so in the first place that makes voting difficult for these electors.[24]

2.4.4 Victorian Electoral Commission

2.4.4.1 An Electronically Assisted Voting (EAV) system is comparable to the DRE system but does not count the votes.

a. EAV uses the ingredient of a standard personal computer equipped with adaptive technology for people who are blind or have low vision (audio screen readers and text enlarging software) to electronically register the vote. After the close of the poll the votes are transferred from each EAV to a CD and sent to a central location for printing. Once printed, they are sent to the relevant Returning Officer for inclusion in the count

2.4.4.2 Vision Australia listed the benefits of Electronically Assisted Voting for the voter as:

a. Being an electronic medium, the ballot can be rendered in a range of formats including

A. audio-synthetic speech or human recorded voice;

B. large print format;

C. a variety of screen colours and contrasts;

D. refreshable Braille display; and

E. audio in multiple languages.[25]

2.4.4.3 In May 2005 the Victorian Parliament's Scrutiny of Acts and Regulations Committee advocated the use of an EAV system.[26] The Victorian Committee suggested electronic voting machines for local and general elections in that state which:

a. permit the casting of a private, unassisted vote for the blind, those with limited vision and with low levels of English literacy;

b. provide the same voting instructions as appear on the paper ballot in a range of languages other than English;

c. produce a voter-verifiable paper trail to be retained by electoral officials; and

d. will be restricted to a closed local area network under the complete physical control of electoral officials.[27]

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[24] Australian Electoral Commission, Submission No. 182, p. 16 to the Inquiry by the [24] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005.

[25] Vision Australia, Submission No. 34, p. 3 to the Inquiry by the [25] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005.

[26] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 265.

[27] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 265.

2.4.4.4 JSCEM concluded that the EAV system would provide a better service for people who are blind or visually impaired.[28] There are however, a number of disadvantages acknowledged by JSCEM. At the time the Australian Electoral Commission noted that:

a. The printed ballot paper may not meet the requirement of providing electors with a truly secret ballot. Because of the difference in appearance from the printed ballot papers, scrutineers observing the ballot count could possibly identify how electors using EAV voted in the election;

b. Printers connected to electronic voting machines are a high-risk point of failure;

c. If the EAV systems were to be used in pre-poll voting centres, printers would need to be able to produce 150 different House of Representatives ballot papers and eight different Senate ballot papers.[29]

2.4.4.5 The ACT Electoral Commission did not support the use of printers connected to electronic voting machines.[30] The JSCEM concluded that the difficulties associated with the printing of ballot papers with the EAV may outweigh the benefits.[31]

2.4.5 Tasmanian Electoral Commission

2.4.5.1 The Tasmanian Electoral Commission approved the trial of computer assisted voting for voters who are blind or have low visions for the 2007 Legislative Council elections.

2.4.5.2 There were two ways to vote using VI-Vote.

a. The **Audio Voting** mode is an audio process that reads out the names of the candidates and enables an elector to allocate sequential preferences, which are then printed on a ballot paper.

   Via a series of voice prompts, the elector chooses their preferences using a specially designed keypad.

   Once the elector has finished voting, the system will read the vote back to them, before giving the elector the option to print the ballot paper or start again.

b. The **Vote Magnification** mode enables an elector to magnify the candidate names on a computer screen so they can

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[28] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 266.
[29] Australian Electoral Commission, Submission No. 205, pp. 9-10 to the inquiry by the Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 266.
[30] Australian Electoral Commission, Submission No. 205, p. 10 to the inquiry by the Joint Standing Committee on Electoral Matters, *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 266.
[31] Joint Standing Committee on Electoral Matters *The 2004 Federal Election: Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto* September 2005, p. 267.

allocate sequential preferences, which are then printed on a ballot paper.

The elector uses the mouse to control the level of magnification and to allocate preferences.

2.4.5.3 The order of candidate names on the ballot papers in both methods is rotated using Robson Rotation, as required under the *Tasmanian Electoral Act 2004.*

2.4.5.4 If the voter tries to print their ballot paper before indicating enough preferences to cast a formal vote, they will receive a warning that their vote is informal. The elector is then given the options of either starting again or printing the informal ballot paper. The elector's preferences are printed in a font that closely resembles handwriting. The elector then places the printed ballot paper into a nearby ballot box.

2.4.5.5 VI-Vote was made available at the office of the returning officer for the pre-poll period and on polling day. While the electronic system worked well, only a small number of voters used the system.

2.4.5.6 Neither method stores any record of the elector's vote on the computer's hard-drive. Instead, at the completion of voting, the computer prints a ballot paper that is very similar in appearance to a standard ballot paper.

2.4.5.7 Although VI-Vote has been designed and approved for electors needing assistance to vote, electors not requiring assistance were encouraged to use the system. Broader use of VI-Vote increases the number of ballot papers with printed preferences and provides a process during the polling period for independently verifying that the system is working correctly.[32]

2.4.6 Formation and Staffing of E-voting Section

2.4.6.1 Following the Government's Response to the JSCEM report on 22 August 2006, the AEC quickly formed a specialised team to implement and deliver both e-voting projects.

2.4.6.2 An EL2 with expertise in Commonwealth procurement, implementation of national IT projects and project management was seconded from Centrelink for an 18 month period.

2.4.6.3 An EL1 who had previous project delivery experience in development of electoral specific software for three different electoral authorities as well as international and local election delivery background was transferred from AEC Victoria.

2.4.6.4 A contracted Project Manager was employed for a period of 6 months to monitor both awarded contracts.

[32] Tasmanian Electoral Commission Annual Report 2007 http://www.electoral.tas.gov.au/

2.4.6.5 Two APS6 staff were employed for a period of 12 months:

a. One as a Liaison Officer between the blind organisations, support groups and voters. This officer also assisted in maintaining the election budget and developing and delivering the training program for Divisional office and polling place staff.

b. The other APS6 was a project officer who assisted in writing the tender evaluation reports, working within both projects to cover the logistical aspects, some contract management and also assisted in developing and delivering operational training.

2.4.6.6 All of the above staff were involved in delivering public awareness.

2.4.6.7 An APS3 was employed for a period of 11 months to assist with the administration of the unit, including accounts and filing.

2.4.7 Funding

2.4.7.1 Funding was appropriated to both e-voting trials in the amount of $4.3m

2.4.7.2 Final expenditure is included in the costs details later in this report.

2.4.8 Consultation

2.4.8.1 The Australian Electoral Commission Disability Advisory Group met in Melbourne on 21 September 2006. The Group comprised Michael Simpson (Vision Australia), Maryanne Diamond (Australian Federation of Disability Organisations), Nadia Mattiazo and John Powell (Blind Citizens Australia), Graeme Innes (Human Rights & Equal Opportunity Commission) and representatives from the Victorian Electoral Commission and the Australian Electoral Commission. The Disability Advisory Group established an e-voting Reference Group to meet regularly and provide ongoing advice to the Australian Electoral Commission on the implementation of the trial.

2.4.8.2 The Reference Group's first meeting was held in Melbourne on 14 December where the Terms of Reference were tabled and accepted by the group.

a. Meet according to an agreed schedule and communicate freely on all matters relating to the proposed trial. The AEC will circulate agendas before and minutes after each meeting.

b. Provide advice on and assistance with developing a Public Awareness Strategy, provide comments on the Strategy once developed, and assist in circulating information on the proposed trial to voters.

c. Help identify participants from diverse groups to be invited to test and review the proposed electronic voting system. .

d. Discuss and consider the localities of the 30 nation wide venues.

e. Discuss, consider and provide comment on the appropriate ways to set up a pre-poll voting centre to accommodate the electronic voting trial.

f. Provide comment on the proposed AEC voting solution during development.

g. Provide advice on the training tools and procedures to be developed to guide the voter through the electronic voting process.

h. Provide advice on the selection criteria and training for the staff that will be employed for the specific purpose of assisting electors utilise the electronic voting system.

2.4.8.3 After the initial December meeting, the Reference Group met every 6 or 7 weeks until the 2007 federal election was announced. The group then met once more after the election on 11 December 2007. At that meeting, the decision was made to disband the Reference Group and issues relating to blind voting would be heard in the broader Disabilities group meetings.

2.4.8.4 The Reference Group membership consisted of:

- Michael Simpson (Vision Australia)
- Maryanne Diamond (Australian Federation of Disability Organisations),
- Nadia Mattiazo (Blind Citizens Australia) later replaced by Robyn McKenzie
- Graeme Innes (Human Rights & Equal Opportunity Commission)
- Hans Reimer (RPH Australia)

2.4.8.5 Many valuable suggestions emanated from the Reference Group.

2.4.8.6 The telephone style keypad was one of the first suggestions. The concept behind this suggestion was that a blind person would be able to negotiate the numbers on a telephone keypad more easily than a computer keyboard where there are many more keys and the numbers are formatted differently.

2.4.8.7 Other advice included suggestions on site selection for the maximum thirty locations, advertising and communication strategies.

2.4.8.8 The reference group recommended engaging an accessibility and useability expert in January 2007. The expert engaged, Mr Tim Noonan, is highly credentialed, as he has advised on standards for and the development and rollout of ATM banking for people who are blind or have low vision. Mr Noonan was enlisted as a consultant to the AEC and his advice was invaluable in the development of the final product.

2.4.8.9 The AEC approached support and peer groups in the blind communities throughout Australia to develop avenues for passing on information about the project. Local councils in potential areas in all States and territories were also included in the consultation process.

2.4.8.10 Communication was primarily through email and telephone with a database of contacts being developed by the AEC. More than 250 names and email addresses throughout Australia were included in the database.

2.4.8.11 As part of the information sharing and site selection process, one-hour meetings were set up in the offices of vision-impaired support organisations to explain the electronic voting system to the administrators in that office. This was immediately followed by another one-hour information session where disability officers from the local councils and electors who were blind or had low vision and carers and guides were included.

2.4.8.12 These meetings gave the E-voting team valuable feedback about the development of the electronic system and also enabled the team to make informed decisions on location recommendations.

2.5 Legislative Framework

2.5.1 Legislation

2.5.1.1 The Government response to JSCEM's report was presented to the Parliament on 31 August 2006. In its response, the Government supported Recommendations 27, 41 and 42.

2.5.1.2 Finance had previously submitted a bid for a Bill for introduction in the Spring sittings 2006 which had been given 'A' status. The Cabinet Submission covering the Government response provided the policy authority for a Bill to be drafted to make the necessary amendments to the Electoral Act.

2.5.1.3 A team was formed to work on the Bill. In consultation with the Minister's Office and the Electoral Policy Unit of Finance, Drafting Instructions were prepared. These were provided to the Office of Parliamentary Counsel (OPC) on 13 October 2006 under Finance's letterhead. During this period, the Minister wrote to the Prime Minister to seek an upgrade to category 'T' status for the Bill. While it was recognised that it was impossible to introduce the Bill in the first week of the Spring sittings, the higher category would ensure that drafting resources were available at OPC.

2.5.1.4 The Bill was prepared over a six week period with numerous meetings with OPC and the provision of many draft Bills. Clarification on policy was sought from the Minister as the need arose. A key decision was made early for the Bill to establish a legal framework which would provide for regulations to be made to supply the necessary details. One reason for this approach was that the technical aspects of the e-voting equipment were still being determined and the contracting process was still underway.

2.5.1.5 There were two further important elements of the Bill. The first was limiting the trial to the first elections and referendum held after the Bill was given Royal Assent. The second was to provide the Minister with the capacity to decide for any reason not to proceed with the trials.

2.5.1.6 The Bill that became the *Electoral and Referendum Legislation Amendment Act 2007* (Amendment Act) was introduced into the House of Representatives on 30 November 2006. The Bill was referred to the Main Committee for consideration and was passed by the House of Representatives on 6 December 2006.

2.5.1.7 The Bill was then introduced into the Senate on 7 December 2006. On that same day the Bill was referred to the Senate Finance and Public Administration Committee for inquiry and report by 20 February 2007. The AEC made a seven-page submission to the Committee's inquiry essentially outlining the provisions of the Bill. The Committee's report was tabled on 26 February 2007, recommending that the Senate pass the Bill. The Senate passed the Bill on 26 February 2007. Royal Assent was given on 15 March 2007.

2.5.1.8 Upon Royal Assent all of the provisions providing for the electronic voting trials commenced. Schedule 2 of the Amendment Act amended the *Commonwealth Electoral Act 1918* (Electoral Act) to insert a new Part XVB into the Electoral Act. Division 1 provided for a trial of electronically assisted voting for sight-impaired people while Division 2 provided for a trial of remote electronic voting for defence personnel serving outside of Australia. Schedule 2 also amended the *Referendum (Machinery Provisions) Act 1984* (Referendum Act) to insert a new Part IVA into the Referendum Act. Division 1 provided for a trial of electronically assisted voting for sight-impaired people while Division 2 provided for a trial of remote electronic voting for defence personnel serving outside of Australia.

2.5.1.9 Section 202AB limited the trials to the first general election, and the first Senate election, held after the commencement of section 202AB. Section 73M of the Referendum Act limits the trials for voting at the first referendum held after the commencement of the section and only if that referendum is held on the same day as the first general election after the commencement of section 202AB.

2.5.2 Regulations

2.5.2.1 Following the passage of the Bill though the House of Representatives, work commenced on preparing drafting instructions for the regulations. Instructions were prepared and circulated to Elections, Enrolment and the E-voting team for comment. Following a series of consultations, instructions were provided to the Office of Legislative Drafting and Publishing on 22 December 2006.

2.5.2.2 The regulations went through a series of drafts as policy was refined and technical attributes were finalised. Due to the

complexity and scope of the proposed regulations, the regulations took some time to finalise. As a consequence of this, the regulations were drafted to commence retrospectively on 1 August 2007. Advice from the Australian Government Solicitor was obtained before these instructions were issued.

2.5.2.3 During the drafting phase comments were sought from the Attorney-General's Department. The Attorney-General's Department provided advice in relation to human rights issues associated with the BVI trial and in relation to the offence provisions contained in the proposed regulations.

2.5.2.4 The regulations affected the administrative responsibilities of three other Ministers: the Attorney-General in relation to human rights issues surrounding the electronically assisted voting trial; the Minister for Defence in relation to defence personnel; and the Minister for Justice and Customs in relation to the offence provisions in the regulations. Formal approval was sought by the Minister from the Minister for Justice and Customs for the offence provisions, while support for the regulations was sought from the Attorney-General and the Minister for Defence.

2.5.2.5 The Governor-General made the regulations on 6 September 2007 and they were registered on the Federal Register of Legislative Instruments on 11 September 2007.

2.5.2.6 The regulations were tabled in the Senate on 13 September 2007.

2.5.2.7 In a letter dated 20 September 2007, Senator Watson, as Chairman of the Senate Standing Committee on Regulations and Ordinances, wrote to the Minister raising some concerns with the drafting of some of the e-voting regulations. A brief providing a proposed response to Senator Watson was provided to the Minister in September 2007.

2.5.2.8 Following the registration of the regulations, on 24 September 2007 the Electoral Commissioner determined the places, days and hours where electronically assisting voting would be available and this was gazetted on 2 November 2007.

2.5.3 Interpretations

Gazettal

2.5.3.1 The gazettal of the pre-poll voting centres for electronic voting was described under Regulation 43 of the Electoral and Referendum Regulations 1940. As the regulations were being drafted before some decisions had been finalised in relation to the electronic voting trials, the regulations were drafted to provide some flexibility by way of Electoral Commissioner's determinations. Regulation 43 provides that the Electoral Commissioner may, by notice in the Gazette, determine the polling places or pre-poll voting offices at which electronically assisted voting is available and the specific days, and hours, of operation for electronically assisted voting.

2.5.3.2 Once the pre-poll locations had been finalised, the Electoral Commissioner determined the places, days and hours where electronically assisting voting would be available.

2.5.3.3 The gazette was signed by the Electoral Commissioner on 31 October 2007 and appeared in Special Gazette No. S220 on 2 November 2007.

2.5.3.4 The Gazette hours of opening reflected those of the host pre poll centre and because the host pre poll centre was generally opening a week in advance of the electronic voting machines becoming available the E-voting team was able to wait until the ordinary Pre Poll notice was gazetted and gather the information from the gazette notice for the host pre-poll centres.

2.5.3.5 A separate gazette notice was required as it needed to also include the provision to cast a pre poll vote electronic vote on election day at the 29 sites.

Informality

2.5.3.6 Subsections 202AB(3) and 202AH(3) generally require that for a person participating in the electronic voting trials, the person receives the same information (in the same order) and has the same voting options as if she or he was voting under the relevant Part of the Electoral Act. The subsection also provides that the person is able to indicate his or her vote in a way that, if he or she were instead marking a ballot paper, would satisfy the requirements of the relevant section. Similar provisions applied to voting in a referendum.

2.5.3.7 These provisions, which had existed in the draft Bill since 18 October 2006, would allow a person to cast an informal vote. The draft provisions were not amended following discussions within the AEC, with the Department of Finance and with the Minister's Office. In a Minute to EC dated 8 March 2007 the following wording was approved: "You are about to cast an incomplete vote. Do you wish to proceed?" The voting machines were designed so that a person received a warning before an informal vote could be cast.

Ballot Paper Navigation

2.5.3.8 Above the Line Voting Guidance

a. The E-voting team requested guidance from the Electoral Commissioner with regard to the Senate ballot paper layout on the EVM screen. In order to make the EVM screen less cluttered and to assist the voter in casting either an above the line (ATL) or a below the line (BTL) vote, a decision had been made to allow the voter the option to vote above or below the line. This meant that upon the voter making a choice to vote either ATL or BTL only those parts of the ballot paper would be presented on screen and with the audio prompts. However, in doing this, a partially sighted voter, who was not using the headphones and consequently the voice prompts, now lacked

the visual prompts that a voter would receive if they were viewing the whole Senate ballot paper.

b. For example, the area above the Ungrouped candidates or above a group that had not registered a Group Voting Ticket, is completely blank. This is confusing to a voter who is now only viewing the ATL part of the ballot paper and cannot see that there are candidates listed BTL under the completely blank ATL section. For the totally blind, this had been addressed by giving voice prompts that advised the voter they needed to select to vote below the line if they wanted to vote for an ungrouped candidate.

Current Visual representation of an ATL Senate paper

A	B	C		E
☐ or Party Name or Group Name	☐ or	☐ or Party Name or Group Name		☐ Party Name or Group Name

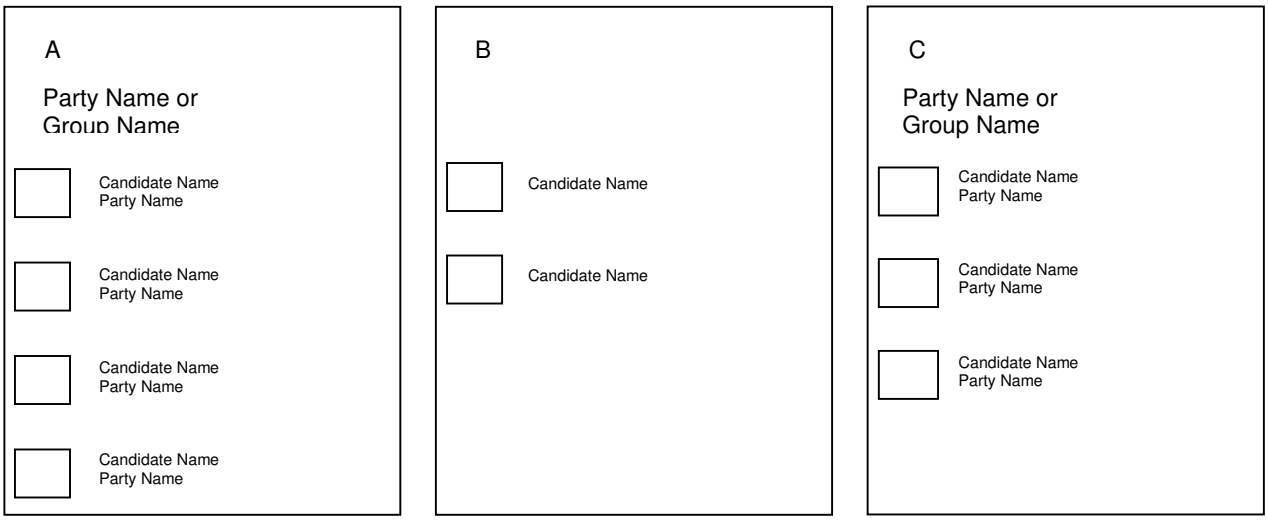
Approved wording for ATL for the EVM

A	B	C		E	
☐ or Party Name or Group Name	☐ or The group represented by this voting ticket does not have a registered political party name	☐ or Party Name or Group Name	If you wish to vote for candidates in this group, you will need to start again and choose to vote for all candidates. To start again, please press the 1 key and then to vote for all candidates press the 8 key.	☐ Party Name or Group Name	If you wish to vote for candidates in this group, you will need to start again and choose to vote for all candidates. To start again, please press the 1 key and then to vote for all candidates press the 8 key.

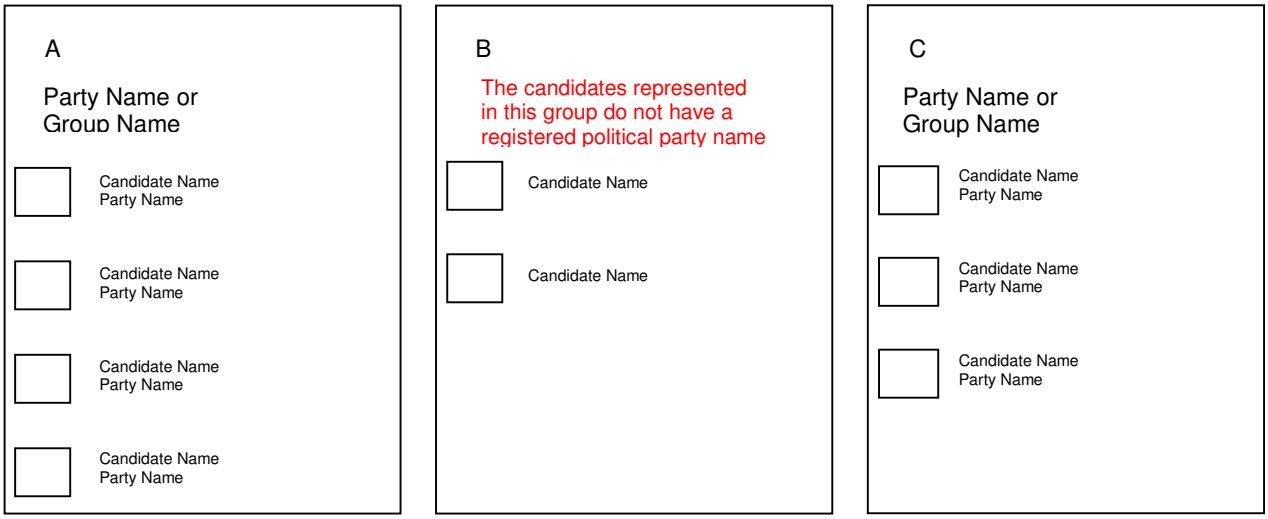
c. The script in red was played as an audio file for the totally blind to aid them in navigating the ballot paper. The writing in red was also approved to be added to the screen in order to guide a voter who did not have the benefit of viewing the paper in its entirety.

d. Similarly the ATL section of the Senate paper is sometimes needed to provide context to information in the BTL section of the ballot paper as demonstrated below.

Current Visual representation of an BTL Senate paper



Approved wording for BTL for the EVM



e. Again the script in red was played as an audio file for the totally blind to aid them in navigating the ballot paper. The writing in red was also approved to be added to the screen in order to guide a voter who did not have the benefit of viewing the paper in its entirety.

f. Positive feedback was received from voters with regard to the splitting of the ballot paper. For people voting ATL they only needed to find the group of their preference and place the number one in that box. Splitting the ballot paper removed a potentially very confusing navigational problem for the voter.

2.5.3.9 Order of preferences on the confirmation screen

a. It was proposed that when the voter reviewed their preferences prior to casting their vote their preferences should be re-ordered into numerical order.

b. For example the voter may vote below the line for the Senate and the placement of their preferences may be diverse. If on the confirmation screen the preferences remained in ballot paper order the voter may have had some considerable difficulty in confirming their vote. The software had the ability to re-order the candidates and display them in the order of the voter's preferences.

c. In supplying a different review screen the question arose as to whether the AEC was supplying something that is not available to a sighted voter. When a sighted person reviews their ballot paper they generally look at the ballot paper and confirm that the number one is against their first preferred candidate. They then check that they have marked the two, three and so on, counting until they have concluded that they have cast their vote correctly.

d. In providing a computer to facilitate the voting process for voters who are blind or have low vision it was already recognized that the voter was unable to use the standard method of voting, therefore, an ordered preference display could be a further tool to this group of voters to enhance the voting experience in the same manner that the voting experience was enhanced by all candidate names being read to them through a set of headphones.

2.6 Procurement

2.6.1 Acquisition Methodology

2.6.1.1 Shortly after government approval was granted for the trial, the AEC procurement process began.

2.6.1.2 In considering the procurement methodology, it was noted that the Victorian government, in their tender for electronic voting services, received some 35 responses, thereby requiring a prolonged evaluation period.

2.6.1.3 As the AEC's project did not commence until September 2006 and a solution was to be available for deployment by 30 June 2007, an abbreviated procurement methodology was necessary.

2.6.1.4 Section 8.65(g) of the Commonwealth Procurement Guidelines provides for an exemption to the mandatory provisions for procurement of first good or services intended for limited trial. In light of this provision the Delegate approved a direct sourcing process to obtain the services to develop and implement a system to provide the limited trial of remote electronic voting.

2.6.1.5 The following organisations were selected to participate in the direct sourcing for the reasons indicated:

a. Hewlett-Packard Australia Pty Ltd – this company provided the Victorian Electoral Commission's solution; and

b. Software Improvements Pty Ltd – this company provides the ACT Electoral Commission's solution.

2.6.1.6 Registries Limited, a company that provided online voting for the AEC's Certified Agreement vote in 2002, was also invited to participate however they declined as they concentrate on online voting services.

2.6.2 Request for Tender

2.6.2.1 The E-Voting Reference Group was invited to provide advice on matters for consideration as the AEC commenced development of a Statement of Requirements (SOR) for a tender. To demonstrate the value of this consultation, the following examples are provided of items raised by the Reference Group that added value to the project:

a. Implement a telephone style key pad in lieu of the computer numerical key pad to improve usability; and

b. Access the services of an accessibility expert to provide specific advice on the proposed system.

2.6.2.2 The SOR included in the tender is at Appendix C.

2.6.2.3 Tender documentation with an invitation to respond was issued by email to the above organisations on 1 December 2006, and both organisations acknowledged receipt of the documentation.

2.6.2.4 The AEC conducted an industry briefing on 7 December 2006. At this briefing, the AEC provided an overview of the requirements and outlined the electoral process.

2.6.2.5 A range of clarification questions were raised by the invited parties and subsequently answered by the AEC.

2.6.2.6 Tenders were received by the closing time and date from both organisations that were invited to submit Tenders.

2.6.3 Tender evaluation

2.6.3.1 The Delegate approved the Tender Evaluation Plan (TEP) on 19 December 2006. Under this Plan, an independent party was required to act as the probity advisor. Deacons Projects was appointed to this role, and reviewed each of the following documents before approval by the Delegate:

a. Tender;

b. Tender Evaluation Plan; and

c. Tender Evaluation Report.

2.6.4 Tender Evaluation Committee

2.6.4.1 The Tender Evaluation Committee (TEC) consisted of personnel occupying the following positions.

Position	Title	Organisation
Chairperson	Director Electronic Voting	AEC
Member	Assistant Director Electronic Voting	AEC
Member	Assistant Director IT Applications	AEC

2.6.4.2 The Plan also provided for additional specialist advice to be called upon for the following purposes:

a. technical analysis;

b. financial assessment;

c. probity; and

d. legal issues.

2.6.5 The Evaluation Process

2.6.5.1 The evaluation was conducted in accordance with the Tender Evaluation Plan. It progressed through six stages of discreet evaluation. At each of these stages offers could be rejected after assessment by the TEC for failure to comply or unsatisfactory technical solutions.

2.6.5.2 Stage 1 Assessment – Conditions for Participation

2.6.5.3 This provided the initial assessment of tenders to determine compliance with the Conditions for Participation. As this procurement was direct sourcing, there were no conditions for participation.

2.6.5.4 Stage 2 Assessment – Minimum content and format.

2.6.5.5 Stage 2 was the assessment of tender responses to determine compliance with the minimum content and format requirements as specified in the request documentation. The TEC recorded the agreed results of this stage. Both Tenderers proceeded to Stage 3.

2.6.5.6 Stage 3 Assessment – Capacity and Capability.

2.6.5.7 This stage assessed whether the Tenderers' had demonstrated capacity and resources to deliver the services for which it was tendering, had demonstrated capacity and level of knowledge to deliver services and an understanding and preparedness for the risks associated with the delivery of the solution.

2.6.5.8 Financial and Legal risk assessments were also considered as part of this stage. These ratings were included with the overall score rankings.

2.6.5.9 The TEC recorded the agreed results of this stage. Both Tenderers proceeded to Stage 4

2.6.5.10 Stage 4 Assessment – Functional and Performance.

2.6.5.11 The overall weighting for the Functional and Performance Criteria grouping represented 90% of possible technical score. The TEC's evaluated the tenderers response to all elements of the Functional and Performance evaluation criteria.

2.6.5.12 As a result of the initial assessment, a number of issues were identified for clarification, and clarification questions were provided in writing to each respective Tenderer at the presentation (see below).

2.6.5.13 Tenderers were invited to present their solution in person, and these presentations were held on 10 January 2007. No new information was provided during the presentations.

2.6.5.14 The TEP required a Risk Assessment to be undertaken in Stage 6, however there were a number of risks identified during Stage 4 that needed assessment prior to the Price Analysis (Stage 5).

2.6.5.15 After taking advice from the Manager National Procurement, the TEC reassessed each score lower than 7. The reasoning for this was that Clause 21.5 of the TEP states that all risks at or above medium level must be discussed. The Scoring Regime in Clause 23 indicates that a score of 5-6 'demonstrates medium risk level'.

2.6.5.16 The risk assessment resulted in changes to some scores as recorded in the Tender Evaluation Report.

2.6.5.17 Reference checks were also part of Stage 4 and were conducted by two members of the TEC.

2.6.5.18 The Tender indicated that comments would be sought from referees addressing the following criteria:

a. Experience in the successful development and delivery of electronic voting systems;

b. Ability to respond quickly to changing requirements; and

c. Provision of high standards of customer service.

2.6.5.19 Standard questions were asked of each Tenderer as recorded in the Report.

2.6.5.20 After collating and assessing referee comments, the TEC determined that the scores from Stages 3 and 4 should not be varied.

2.6.5.21 Both Tenderers proceeded to Stage 5.

2.6.5.22 Stage 5 Assessments – Price Analysis.

2.6.5.23 The TEP requires that an analysis of the submitted price and any offered discounts and other pricing mechanisms will be conducted, as required, to determine an equitable basis of price comparison for the requirement. As well, each major element of the pricing

schedule was compared and an assessment conducted of the competitiveness of each element to determine whether further price related risks were identified.

2.6.5.24 At the completion of Stage 4, the price analysis was undertaken by the TEC Chair.

2.6.5.25 In the course of the analysis of submitted prices, a number of clarification issues arose, and questions were asked of the respective Tenderers.

2.6.5.26 The TEC committee reviewed the price analysis prior to proceeding to Stage 6.

2.6.5.27 Stage 6 - Value for Money.

2.6.5.28 The TEP states that this Stage consists of the following steps in order to determine the tender that provides the best value for money to the Commonwealth:

a. Consideration of overall risk associated with the tenderers' processes, general operations and price;

b. Technical worth including the impact of risks identified throughout the evaluation process; and

c. Consideration of price.

2.6.5.29 On completion of the risk assessment the value for money formula was applied to the accrued evaluation scores. Issues to be resolved during contract negotiations were then identified and a recommendation for a preferred service provider made to the delegate.

2.6.6 Approvals

2.6.6.1 On 1 December 2006, the FACEO approved the issue of a Request for Tender and provided FMA9 and FMA10 approval for that purpose.

2.6.6.2 On 13 February 2007, the EC approved the Tender Evaluation Report, which selected Software Improvements Pty Ltd (the Contractor) as the preferred tenderer.

2.6.6.3 Contract negotiations commenced soon after this date with an agreement entered into by the parties on 21 March 2007.

2.6.7 Recording

2.6.7.1 Copies of all relevant evaluation documents and attachments are part of the Tender Evaluation Report Electronic Voting RFT AEC06_55V2.0 and have been placed on file.

2.7 Design, Development, Testing And Certification

2.7.1 Design

2.7.1.1 The basis for the design of the system was the statement of requirements contained in the tender, supplemented by information provided by the Contractor in their tender response. This then

formed the “SERVICES TO BE PROVIDED” schedule in the Contract.

2.7.1.2 A draft System Design Specification (SDS) based on the Contract was provided for review in early March 2007.

2.7.1.3 The Reference Group, as part of their advice on the development of the system, recommended accessing an accessibility expert to assist in designing the system. The AEC engaged a suitably qualified expert, who provided advice throughout the design and testing phases.

2.7.1.4 The design needed to comply with the Government’s stipulation that:

a. ‘any trial of electronically assisted voting to assist blind and visually impaired voters will include the production of a printed output recording the preferences of the voter, to be used in the count’.

2.7.1.5 As most votes would be cast by this method in the pre-poll period, the printed output would be processed as a pre-poll vote, and pass through the same processing as other pre-poll votes.

2.7.1.6 This would include, after the vote was printed, folding the vote and placing it in the pre-poll declaration envelope.

2.7.1.7 As the vote was to be printed, the question arose of whether the printer worked correctly.

2.7.1.8 A person other than the voter, then, might need to see the printed output either to check that the printer worked correctly, or might accidentally see the printed output in assisting with the process of folding and placing the output in the envelope.

2.7.1.9 To avoid the possibility of the secrecy of the vote being compromised, it was determined (in developing the SOR), that the vote would be printed in a barcode in the polling place and then decoded and printed in English and subsequently included in the count – subject to preliminary scrutiny provisions.

2.7.1.10 In order to have enough capacity in the barcode to represent a Senate below the line vote, the PDF417 two-dimensional barcode was selected for this purpose.

2.7.1.11 Certain other design issues also needed to be addressed. The EVS met with the EC, DEC, FACEO and ACE on 12 March 2007 to resolve the following issues:

2.7.1.12 Partially Completed Ballot Papers

a. This issue relates to what message the voter should receive if they have not completed the ballot paper in accordance with the legislated ballot paper instructions that require the voter to enter a number in every box.

b. Recommendation

A. That the wording “You are about to cast an incomplete vote. Do you wish to proceed?” be adopted as the method to alert voters that they have more preferences to complete in accordance with the CEA and the instructions on the ballot paper.

c. Decision

A. Approved.

2.7.1.13 Ordered Preference Display

a. This issue relates to the verification stage of voting. Should the voter’s preferences be reordered for ease of verification or should the voter scroll “to and fro” through the screens to confirm their preferences.

b. Recommendation

A That Ordered Preference Display at verification be adopted

c. Decision

A Approved.

2.7.1.14 Random Cursor Position

a. This issue questions which candidate has the focus of the cursor when a ballot paper is viewed. Other electoral authorities have requested the cursor to move to the next candidate for each different voter to ensure no candidate is favoured – in the spirit of Robson Rotation.

b. Recommendation

A The cursor appears on the first candidate of every ballot paper.

c. Decision

A Approved.

2.7.1.15 Referendum Paper

a. This issue relates to whether the words Yes and No should appear as options on the referendum paper or if the voter should be presented with a blank box that is subsequently populated by the voter with either the word Yes or No.

b. Recommendation

A That the voter be presented with a blank box and the option to press one key for yes and another key for no.

c. Decision

A Approved.

2.7.1.16 Visual Prompts for Above The Line (ATL) Senate Voting Groups that have not registered a Group Voting Ticket, do not have a party name or are Ungrouped.

a. It was decided that the following visual prompts would be provided:

A If you wish to vote for candidates in this group, you will need to start again and choose to vote for all candidates. To start again, please press the 1 key and then to vote for all candidates press the 8 key.

B The group represented by this voting ticket does not have a registered political party name

2.7.1.17 Visual Prompts for Below the Line (BTL) Senate Voting Groups that do not have a party name.

b. It was decided that the following visual prompt would be provided:

A The candidates represented in this group do not have a registered political party name

2.7.1.18 EVS met with the Contractor for design meetings on 14 and 20 March 2007, and as a result of each meeting, the SDS was updated.

2.7.1.19 The SDS was formally accepted by the AEC on 30 March 2007, with minor issues still to be resolved. The document continued to be updated as a result of usability and other testing until the audit stage commenced.

2.7.2 Development

2.7.2.1 The Contractor commenced development on 5 March 2007, on receipt of a Letter of Comfort from the AEC.

2.7.2.2 Initial versions of the EVM software were provided for AEC staff to review the user interface. Once this area was near to completion, the Contractor supplied the setup module, and trained project staff in its use.

2.7.2.3 Development was an iterative process, with AEC staff reviewing the voting application and providing feedback on required improvements or fixes.

2.7.2.4 A key part of the development phase was the development and recording of scripts. This element is covered below.

2.7.3 Election Data

2.7.3.1 Although the Tender stated that data would be available in delimited format, AEC's IT group provided the data as XML 'media feed' files.

2.7.3.2 This caused some additional work for the Contractor, however did not cause any serious issues.

2.7.3.3 The load process required the following data:

a. aec-mediafeed-ballotpapers-<xxxxx>.xml

A containing election data (contains details of States/Territories, Divisions, groups, candidates, parties,

ungrouped lists, referendum proposals and their placement on the ballots;

b. aec-mediafeed-groupvotingtickets-<xxxxx>.xml

A containing details for each Senate ballot of those groups which have a registered group voting ticket;

c. eml-110-events-<xxxxx>.xml

A containing information on the year of the election and the number of Senate positions to be elected for each Senate ballot paper;

d. single administrator authentication string (adminbarcode.txt)

A this string is written to a barcode, and is used to activate an EVM via the barcode reader;

e. audio/…. Directory

A containing the audio files for voting session operation of the EVM, being all instruction audio files as well as election specific data;

f. audiopractice/…. Directory

A containing all the audio files necessary to support the Practice Session, being all instruction audio files plus the audio files matching content of Practice Session ballots;

g. aec-mediafeedpractice.xml

A Practice Session election data in a file in the same format as the aec-mediafeed.xml file;

h. aec-mediafeedpractice-groupvotingtickets.xml

A Practice Session group voting ticket information in a file in the same format as the aec-mediafeed-groupvotingtickets.xml file, and

i. eml-110-eventspractice.xml

A Practice Session year of election and number of Senators to be elected.

2.7.4 Voice Recordings

2.7.4.1 The EVM relied on clear instructions to ensure that a person who was blind or had low vision could cast their vote with no, or as little assistance as possible.

2.7.4.2 The project basically consisted of two time dependent parts:

a. Developing and recording the instructional scripts which could be done prior to the election; and

b. Recording of candidates' names and parties (election data) that could not be done until the election was announced and candidates had commenced nominating.

2.7.4.3 This section discusses the initial recordings, and the recording of candidates' names is covered under 'Election Setup' below.

2.7.5 Voice Scripts

2.7.5.1 The scripts were developed to guide the voter through the logical steps determined in the design of the software. For example, EVS made various decisions in the development of the software such as the House of Representatives ballot would always be presented first, and the JSCEM had made directives that the voter would receive the same information in the same order as a sighted voter. In developing these logical steps the voice scripting soon followed.

2.7.5.2 Another important part of recording the voice scripts was to ensure a neutral and impartial persona through the narrator's voice. The AEC did not want to infer through the inflection that can sometimes occur in a voice that a voter should vote for one candidate or another, nor did the AEC want the voter to think that the voting session was over because of an unfortunate tone that the narrator might have taken.

2.7.5.3 The usability consultant, based on his expertise in developing talking automated teller machines for bank customers who are blind or have low vision, was once again recruited to assist the AEC.

2.7.5.4 The AEC also undertook a request for quotation process, and subsequently contracted Vision Australia to provide narration services.

2.7.5.5 Under the guidance of our consultant we were advised to have a female voice for the instructional scripts and a male voice for the data so that the voter would have a better understanding of when they had arrived at candidate data on the ballot paper. This is known as using voice fonts.

2.7.5.6 To test the amount of time it would take to record scripts and data, the AEC requested that Vision Australia record the complete data for the 2004 election. These recordings were also required for full system testing and the audit process.

2.7.5.7 In May 2007, the AEC recorded scripts with Vision Australia over two days and an additional three days were required to record candidate data.

2.7.5.8 The AEC reviewed the process and built on the lessons learnt with regard to production and quality control of the data.

2.7.5.9 The AEC then only needed to make minor modifications to the scripts for fine tuning. The altered scripts were re-recorded prior to the election.

2.7.6 Testing

2.7.6.1 The Contractor was required to develop a test plan as part of their contractual obligations and the first version of this plan was provided on 29 March 2007.

2.7.6.2 This document contained comprehensive test scripts that were invaluable in documenting the testing undertaken for the purposes of the independent audit.

2.7.6.3 Testing was ongoing from the provision of the first draft version in mid March 2007 until the application was ready for audit in July 2007.

2.7.6.4 A key element of this phase was usability testing undertaken in four sessions on 16 and 17 April 2007 in Sydney and the following week in Canberra. The usability expert arranged for some 16 testers who were blind or had low vision to attend these sessions.

2.7.6.5 A further two testers undertook a session in Canberra on 24 April 2007.

2.7.6.6 As a result of these sessions, a number of improvements were made to the design of the system.

2.7.6.7 Comprehensive testing using the supplied test scripts was undertaken during June 2007. As a result of this testing, minor fixes were applied to the software.

2.7.6.8 Retesting was complete by 30 June 2007.

2.7.7 Hardware Issues

2.7.7.1 The following issues with hardware required specific attention during the design and testing phases.

a. Keypad

A. As already mentioned, the Reference Group recommended a telephone style keypad rather than a computer numeric keypad. The usability expert agreed with this recommendation.

B. Three iterations of design of this keypad were considered before a keypad with the appropriate tactile properties was developed.

b. Headphones

A. The Tender required earphones, and while specifications were provided in the Tender response, the AEC did not understand that the offered earphones had individual clips for placing over ears, rather than headphones that would fit over the head.

B. The earphones initially offered were determined to be too difficult for a person with vision impairment to handle, therefore an alternative was requested, which the Contractor supplied.

c. Tamper Evident Case

A. The Tender required a method of ensuring that the computer case and its contents are not subject to

tampering. To this end, the Contractor offered a "Kensington Lock".

B. It was determined during the evaluation phase that this would be insufficient, therefore the Contract required “a tamper proof case to protect the EVM from physical interference”.

C. In practice, a tamper **proof** case was not practical, and a tamper **evident** case was agreed upon.

D. This case was a Perspex box that encased the computer box, screwed together and sealed with ballot box seals.

d. Uninterruptible Power Supply

A. The Tender required “that, in the event of a power failure, the equipment can be restarted and made operational on resumption of the power supply.”

B. To this end, the Contractor offered an uninterruptible power supply (UPS) unit that would power two adjacent electronic voting machines (EVM).

C. In testing, however, it was determined that the laser printer drew excessive power, resulting in the UPS failing.

D. An alternative UPS that could run a single EVM for 30 minutes including three printed pages was offered and accepted. Each EVM would need its own UPS.

2.7.8 Certification

2.7.8.1 The tender included a requirement that the final system be independently audited to verify that the system is secure and accurate. Tenderers were required to agree to supply the source code and other documents and equipment to an independent auditor.

2.7.8.2 This audit was to include the encoding and decoding of barcodes, and the production of printed output.

2.7.8.3 The audit and certification process is described below.

2.7.8.4 In providing Australia’s first remote electronic voting at the federal level, the project team was very mindful of the adverse publicity that electronic voting had attracted overseas, both in the USA and Europe.

2.7.8.5 The project team consulted with both the ACT and Victorian Electoral Commissions prior to defining the requirements for the tender. The ACT EC conducted electronic voting in its previous two elections, and the VEC conducted its first electronic voting in November 2006.

2.7.8.6 Both systems were independently audited to establish the integrity of the systems, and both Commissions used BMM International as the auditor.

2.7.8.7 In relation to the ACT system, for instance, BMM International certified that the code for EVACS [electronic voting and counting system]:

a. Appeared to neither gain nor lose votes;

b. Appeared to faithfully implement the Hare-Clark algorithm for vote counting provided to BMM by the Commission; and

c. Was written in a consistent, structured and maintainable style.

2.7.8.8 BMM International is accredited by the National Association of Testing Authorities (NATA) as complying with ISO/IEC 17025-2005: General requirements for the competence of testing and calibration laboratories.

2.7.8.9 To comply with Commonwealth Procurement Guidelines, the project manager determined that a restricted request for quotation (RFQ) be issued to three organisations, BMM International and two other NATA certified auditors.

2.7.8.10 This RFQ was issued on 8 June 2007 and after an evaluation of the responses, BMM International was selected as the successful contractor.

2.7.8.11 The RFQ included the following scope of the audit:

RFQ Clause 1.13 AEC requires the following three elements of the voting system to be audited:

- *That the system adheres to the security features specified by the AEC, as outlined in the RFQ documents and clause 1.15 below;*
- *That the system accurately creates and prints in barcode format, then accurately decodes in readable format, all votes cast in the exact sequence of preferences as selected by the elector, as outlined in clause 1.17 below; and*
- *That the system software is free from "malicious" coding as outlined in clause 1.18 below.*

2.7.9 Security

RFQ Clause 1.15 As the EVMs are standalone machines, there is no danger from network access. However the AEC requires that the audit confirm that the system is secure to the following extent:

- *That the EVMs are secured in such a manner that any attempt to access the machine in order to modify the installed software would be apparent.*

1.16 AEC believes that this has been sufficiently addressed by the security of the physical machine, but requires that the auditor test this belief.

2.7.10 Accuracy

RFQ Clause 1.17 To ensure vote accuracy, the Voting System must:

- *Enable full details of a federal election to be loaded from data supplied by AEC;*

- *Allow the loading of audio so as to be associated with the appropriate functions and candidates;*
- *Present ballots in the same order and with the same information as received on a paper ballot, as defined by the supplied data;*
- *Print the elector's preferences as selected in a two dimensional barcode; and*
- *Allow for decoding of the barcode so as to present the elector's preferences in the same order as selected.*

2.7.11 Malicious coding

RFQ Clause 1.18 AEC requires an independent review of the system software to ensure that it is free from code that intentionally alters any aspect of the operation of an EVM to present a vote that is not that specifically cast by an elector.

2.7.11.1 The audit commenced on 16 July 2007, and was completed on 10 August 2007.

2.7.11.2 BMM subsequently issued the following formal findings and certification on 23 August 2007:

Our findings are as follows:

1. BMM is satisfied that the system design includes features that provide the level of security required by the AEC;

2. BMM is satisfied that the AEC conducted its testing of the EVM with due diligence;

3. BMM found no evidence of malicious source code in the EVM;

4. There were no errors detected in BMM tests for security, accuracy and compliance of the system; and

5. BMM is satisfied that risks identified in this report have been avoided or minimised to a level that would allow the EVM to comply with AEC requirements regarding security, accuracy and voting functionality.

We certify that the AEC Electronic Voting Machine for blind and vision impaired voters complies with the specified criteria.

2.8 Location Selection

2.8.1 Background

2.8.1.1 In initiating electronically assisted voting for voters who are blind or have low vision, the e-voting team referenced information and reports from other electoral authorities that had provided a similar type of voting option.

2.8.1.2 The most relevant of these was the recent experience with regard to the planning, sourcing, development and delivery of voting machines for voters who are blind or have low vision by the Victorian Electoral Commission at the 2006 state election. This

election provided for electronic voting machines in 6 locations across Victoria.

2.8.1.3 Voter turnout for the Victorian election was significantly less than expected. As a consequence, the AEC put considerable thought into devising a site selection strategy to attempt to achieve a participation rate high enough to allow effective evaluation of the trial.

2.8.1.4 The Reference Group (see Consultation above) was consulted to provide the locations of potential sites nationally to achieve not only the best locations for a high rate of participation but to also address regional and remote areas of need – such as Alice Springs which has a high indigenous population many of whom suffer sight impairment.

2.8.1.5 However, one source of advice was not considered sufficient. To better assess the potential voter turnout, the project team developed a methodology that involved a more grass roots approach. The strategy adopted was to utilise the advice provided by the Reference group with information gathered directly from locations hosting active support groups that seemed willing to assist in supporting the trial.

2.8.1.6 A methodology was developed to incorporate this local perspective in the assessment process.

2.8.2 Road Test

2.8.2.1 The AEC had received representations from a local member of the Coffs Harbour City Council's Access Advisory Committee to locate electronic voting machines in Coffs Harbour.

2.8.2.2 Two members of the E-voting team visited Coffs Harbour on 17 January 2007 in conjunction with the DRO for Cowper. The following meetings took place:

a. Area Manager for Northern NSW Vision Australia.

b. Regional Manager Guide Dogs NSW/ACT.

c. Meeting with several blind/low vision members of the community.

d. Coffs Harbour Community Development Officer, responsible for the delivery of the Council's disability programs.

e. Visited the location of the EVC site used at the 2004 federal election.

2.8.2.3 The Coffs Harbour location visit was considered a success and was used as a model for future site inspections. It highlighted the need to identify and build relationships with representatives of the community, blind and low vision support groups and networks at a local level while incorporating the advice from the Reference Group, when considering potential trial locations.

2.8.2.4 As a result of the visit a number of follow up tasks were identified. These included continued liaison with the identified contacts and a return visit to each approved location for the purpose of demonstrating the EVMs to the target audience. This also increased public awareness as well as built confidence and interest for participation in the trial.

2.8.2.5 The Coffs Harbour model together with a series of location visits was recommended to AEC executive for endorsement and implementation as the Location Selection Plan.

2.8.2.6 On 23 January 2007 the Electoral Commissioner approved the location selection plan. Following is an outline of the plan:

2.8.3 Location Selection Plan

2.8.3.1 As a result of the road testing, Coffs Harbour was to be included in the recommended list of locations. With the plan approved, the process to identify the remaining locations commenced.

2.8.3.2 The Plan consisted of the following activities.

a. Wrote to local organisations that dealt with people who are blind or have low vision and explain the trial to them. These organisations included:

   A Guide Dogs (in all states, under various names);

   B Seeing Eye Dogs (in the Eastern mainland states primarily);

   C Vision Australia (in the Eastern mainland states);

   D Local council disability officers; and

   E Any other local bodies that can be identified.

b. Asked these organisations about the number of people who are blind or have low vision on their books of voting age, and whether they would be prepared to assist in promoting the trial.

c. If there was sufficient interest from a particular area, arrange a visit, in conjunction with the local DRO, to:

   A meet with the organisations;

   B attempt to identify any other local groups that might help;

   C meet with potential users of the system to explain the trial and ascertain their level of interest; and

   D under the DRO's guidance, attempt to identify suitable sites for a EVC.

2.8.4 Location Selection Process

2.8.4.1 The simple philosophy employed for the first round of location selection was to identify areas that had active support groups in the area. This was on the basis that if active support groups where present then they would have clients that may be representative of

the target group of voters for the trial and would be in regular contact with those clients.

2.8.4.2 Advice from the Reference Group continued and the suggested leads followed up. Also, separate research in locating and contacting support groups and blind and low vision networks continued.

2.8.4.3 Care was taken not to fuel expectations that any particular location had some preference over any other. In discussions with representatives and other interested parties, the AEC pointed out that the legislation had provision for up to 30 locations only to be selected. These needed to be representative of a range of location demographics and would need to have sufficient voter participation interest to provide data for trial evaluation and reporting.

2.8.4.4 A comprehensive list of potential locations was developed. These included recommendations from AEC State Managers and their operational and divisional staff, information from the Victorian state election experience and information from peak and support groups both at a local and state level.

2.8.4.5 The following criteria was used to refine the available list of potential trial locations:

a. At least one centre should be located in each capital city;

b. Any other centres should be located in disability service centres where suitable premises are available as these centres are generally located near public transport and the majority of the target group are familiar with them;

c. Rural areas should have representation; and

d. Expected voter turnout should be such that the trial can be adequately evaluated in terms of system suitability and demand.

2.8.4.6 The following possible break-up of locations by State was developed after considering all factors:

New South Wales	7-8	South Australia	2-3
Victoria	6	Tasmania	2
Queensland	5	Northern Territory	1-2
Western Australia	3-4	ACT	1

2.8.5 Local Visits and Consultation

2.8.5.1 Based on the research, contact development and location profiling already undertaken, a program for visiting prospective sites was developed for the most promising locations.

2.8.5.2 Consultation was undertaken in areas identified as potentially suitable. The observations as a result of the site visit generally reinforced the initial research for that location. A list of locations was compiled and recommended to AEC executive for approval. The recommendations were based on information gathered from various sources including:

a. Peak bodies, e.g., Blind Citizens Australia and other blind service and support organisations;

b. Suppliers, e.g., Vision Australia, various guide dogs organisations, etc.;

c. Leaders in major representative groups, e.g., Macular Degeneration Foundation;

d. Representatives of local smaller support groups, e.g., VIP (vision impaired person) Support Groups in various locations;

e. Representatives of city, town and shire councils; and

f. In some cases, representatives of state governments, e.g., Education Queensland in relation to students with vision impairment who are preparing to leave school.

2.8.5.3 With the exception of Heidelberg in Victoria, all the locations that were used in the 2006 Victorian State Election were considered to be appropriate locations. The Heidelberg location was replaced with Belmont, a suburb of Geelong. All sites were both accessible and familiar to potential voters. It also appeared at the time that they would be enthusiastically supported due to the relationships that had been fostered with the support groups in line with meeting JSCEM recommendation 41.

2.8.5.4 The other factor related to this decision was that using the same locations and sites as used in the Victorian state election offered an opportunity for some comparative assessment within a controlled environment.

2.8.5.5 The team visited five locations each in Queensland, West Australia and South Australia.

2.8.5.6 Two Locations were visited in each of Tasmania, Northern Territory and the Australian Capital Territory.

2.8.5.7 In New South Wales, eight locations were visited..

2.8.5.8 Individual reports from all locations visits were recorded and placed on file.

2.8.6 Ministerial Approval for Locations

2.8.6.1 At the completion of the location selection processes, a final list of 29 locations was compiled.

2.8.6.2 The following locations were recommended for participation in the trial of electronic voting at the 2007 federal election. This list

included estimates for voter participation at each location as well as showing were additional pre poll centres were established – usually in disability service centres where they had not been established previously.

Location	Electorate	Expected Voters		Additional PPVC?
		Min.	Max.	
Victoria				
Melbourne	Melbourne	30	50	No
Kooyong	Higgins	60	80	Yes
Ballarat	Ballarat	60	70	Yes
Shepparton	Murray	25	50	Yes
Warragul	McMillan	20	35	Yes
Geelong	Corangamite	30	50	Yes
South Australia				
Adelaide	Adelaide	25	50	No
Gilles Plains	Sturt	50	70	Yes
Noarlunga	Kingston	10	20	No
New South Wales				
Wollongong	Cunningham	30	60	No
Parramatta	Parramatta	25	50	No
Enfield	Lowe	50	70	No
Chatswood	Bradfield	25	50	No
Coffs Harbour	Cowper	30	60	No
Dubbo	Parkes	25	50	No
Albury	Farrer	50	70	No
Northern Territory				
Darwin	Solomon	20	40	No
Alice Springs	Lingiari	10	25	No
Queensland				
Brisbane City	Brisbane	30	50	No
Brisbane North	Lilley	30	70	No
Gold Coast	McPherson	30	50	No
Hervey Bay	Hinkler	35	65	No
Cairns	Leichhardt	40	70	No
Tasmania				
Hobart	Denison	30	50	No
Launceston	Bass	25	40	No
Western Australia				
Perth	Swan	40	70	No
Mandurah	Brand	30	50	No
Bunbury	Forrest	15	25	No

Location	Electorate	Expected Voters		Additional PPVC?
		Min.	Max.	
Australian Capital Territory				
Canberra	Fraser	30	60	No

2.8.6.3 On 2 July 2007, the Special Minister of State approved the location selection recommendations. With this approval in place the selected locations were posted on the AEC website and progressively updated as the actual EVC address within each location was determined.

2.8.7 EVM Demonstrations

2.8.7.1 Once the 29 sites were approved, the e-voting team embarked on a series of demonstration visits.

2.8.7.2 These visits were designed to achieve two important goals:

a. To provide for a further opportunity to continue the consultative process and to reinforce the results of the initial visits; and

b. Participants were reminded about the need to enrol and the procedures for GPV registrants if they elected participate in the trial.

2.8.7.3 The demonstrations also provided an opportunity for free media exposure through active media promotion of the trial. Prior to each demonstration, media alerts were sent to all the respective local outlets. This resulted in a lot of positive news in the context of local good news stories in the press and on many radio and TV outlets. The exposure given locally was considerably higher than that which was achieved on the larger state or national outlets. This supported the decision presented in the selection plan proposal to include a localised focus in the process.

2.8.7.4 The demonstration visits also provided an opportunity for some hands on experience of the voting machine by potential voters. This was a critical factor, as it was known that some potential voters might have a fear of using technology. The demonstrations served to minimise this apprehension and promote the usability aspects of the machine. With some of the more computer literate participants, it instilled a level of enthusiasm to participate and willingness to promote the trial with their peers.

2.8.7.5 The demonstration sessions were well supported and assisted in building awareness and confidence in the trial process.

2.9 Communication Strategy

2.9.1 Introduction

2.9.1.1 The objective of the communication strategy was to:

a. 'increase awareness of the electronic voting trials among target groups close in proximity to the proposed trial sites'.

2.9.1.2 In the Victorian Election, 199 voters participated across the 6 sites, which was significantly less than expected. This prompted the AEC and the peak bodies to take an approach that intensified the marketing directly to the voters who live in localities where the E-voting sites were to be allocated.

2.9.1.3 The target audience included those eligible electors who are blind or have low vision and resided near a trial site and included various groups that were in a position to promote the availability of the electronic voting machines to eligible electors. These included service providers (Vision Australia, state guide dog associations, blind/vision impaired organisations/diabetes institutes/aged care), government organisations (including Centrelink, Medicare), community welfare agencies (including aged care centres), peak advocacy/disability organisations (including HREOC, Blind Citizens Australia, Australian Federation of Disability Organisations), Local councils/shires, carers, relatives, friends and neighbours.

2.9.1.4 An important aspect of the trial was to emphasise that this is a real alternative for qualified voters. The key message was that electronically assisted voting trials are available at the selected pre-poll sites and that voters who are blind or have low vision can now cast a secret vote in person, those that are not already enrolled should enrol and registered General Postal Vote electors who are blind or have low vision can still vote electronically if they have not voted by post.

2.9.1.5 The possible methods of communication with people who are blind or have low vision included the Australian Blindness Forum; Information Radio; Centrelink: News for Seniors, Disability and Carers Newsletter; Aged Persons Network; ABC Regional Stations and radio in general; and Austed (list of disability liaison officers at universities). Further, successful participation in the trial was also dependent on the extent to which the associations for people who are blind or have low vision promoted the trial. Considerable effort was put into seeking out and attracting local active groups.

2.9.2 Reference Group

2.9.2.1 The members of the Reference Group mentioned under Consultation above also provided assistance with communication. The Group received project status information, provided feedback to the AEC, assisted with the identification of

trial sites, the members also participated in trials and acted as a sounding board for theories and approaches.

2.9.2.2 In its meetings, the Reference Group provided comment, assistance and advice on various aspects including the development of a Public Awareness Strategy.

2.9.3 Radio

2.9.3.1 A major part of the communication strategy budget was spent on radio advertisements. The audio news release for radio stations provided grabs and an interview with a voter who was blind or had low vision and who was familiar with the machine. These were released with a media kit containing a media release, fact sheet, questions and answers and background information. Opportunities were also sought for Community Service Announcements. Producers of 'infotainment shows' were also approached.

2.9.4 Television

2.9.4.1 Other parts of the strategy included the provision of footage to TV stations, an electronic media kit and a link on the AEC website. An electronic news release was issued to all appropriate television and radio outlets throughout Australia. Television outlets were sent film footage of the voting machine being used by an elector who was blind or had low vision and an interview with an AEC spokesperson.

2.9.4.2 Mainstream media were targeted to ensure secondary audiences, including key stakeholders, were aware of the sites where electronically assisted voting could take place and inform voters who were blind or had low vision. Media release shells were also sent to State and Territory managers and divisional offices.

2.9.5 Australian Electoral Commission

2.9.5.1 The AEC provided updated material on its website which could be accessed by people who are blind or had low vision through the use of adaptive technology, and audio downloads were provided. Alternative formats were also available to people who are blind or had low vision including audio cassettes, Braille and large print and the availability of these was reinforced at all contact points including the AEC's call centre. Comprehensive questions and answers were provided to the call centre and the Call Centre Coordinator was briefed.

2.9.5.2 All AEC staff were advised of the locations of the sites and Questions and Answers were available on the Intranet. Information was provided through the staff magazine 'Scrutiny' and information and a hands on demonstration was provided at the DROs' national leadership conference.

2.9.6 External stakeholders

2.9.6.1 All key stakeholders such as the Members of the Joint Standing Committee on Electoral Matters, Special Minister of State and Shadow Minister of State, Federal politicians and the state electoral commission were advised of the location of the pre-polling sites and operational procedures. Information sheets were also provided for all candidates. This information was provided through formal briefings, meeting, written submissions and correspondence and the 'TallyBoard' magazine.

2.9.7 Public awareness and education

2.9.7.1 States and divisional offices were provided with background information and media releases to assist with the promotion of the selected pre-poll sites for electronic voting. There was regular liaison with state electoral commissions to provide public awareness messages and to assist in the identification of blind and vision impaired/seniors networks, state government agencies and associations. National Office also provided advice on identifying state and local editorial opportunities.

2.9.8 Partnerships with other agencies

2.9.8.1 All appropriate government agencies and non-government agencies were provided with information and encouraged to promote the site locations. Local councils and shires were also approached to promote the electronically assisted voting centres in their municipal regions. In particular, the public relations or media officers were targeted as they usually have contacts with the local media and have input into Council/shire publications that could promote the availability of the electronically assisted voting opportunities.

2.9.9 Formal communication plan

2.9.9.1 A formal communication plan was developed by the Media and Communication Strategy Section in consultation with the E-voting team.

2.9.10 Pre-election period

2.9.10.1 A media release was prepared for the Special Minister of State, Gary Nairn, announcing the trial. The media team distributed a media release on 7 August announcing the electronic voting trial sites. Coverage resulting from these two media releases appeared nationally on television, radio and print.

2.9.11 2007 federal election period

2.9.11.1 As part of the AEC's media relations plan for the 2007 federal election, media releases were distributed on e-voting for people who are blind or have low vision to raise awareness of the voting during the election period.

2.9.11.2 This included a national media release, localised state/territory versions and a divisional version localised for those divisions where e-voting was taking place.

2.9.11.3 A media release was distributed to all mainstream metro and regional outlets advising of all AEC products and services for all electors with a disability.

2.9.12 Communication during site demonstrations

2.9.12.1 The E-voting team embarked on a demonstration and public relations tour of selected sites as described under Consultation above. As the tour of visiting the trial sites was being conducted, 23 localised media releases/alerts were issued which invited media to an event to view the voting. The media alerts regarding the trial were distributed to carefully researched local media which resulted in a high success rate of positive coverage.

2.9.12.2 These release/alerts generated 120 media mentions of electronic voting (although some media mentions also discussed broader availability of e-voting, electronic voting in the United States and a legal case in South Australia).

2.9.12.3 This positive media coverage was supported and enabled by spokespeople from stakeholder organisations such as Australia's Human Rights and Disability Discrimination Commissioner Graeme Innes AM, the Blind Association's Tom Blair and vision-impaired voter and consultant Tim Noonan.

2.9.12.4 A video news release (VNR) was produced to provide material for television stations to use. Several television stations made requests for the VNR and it was also distributed, along with a media release, in the first week of November 2007.

2.9.12.5 AEC spokespeople from across Australia also discussed the trials in their area, for example Paul Langtry in South Australia on ABC radio and Iain Loganathan speaking to NT media outlets. AEC's public relations agency, Haystac, also promoted the e-voting trials when dealing with media outlets in the Northern Territory.

2.9.13 Public relations

2.9.13.1 The availability of e-voting was cross promoted within the AEC's broader election public relations program for electors with a disability. This included a:

a. section in a special version of the AEC's official election guide for electors with disabilities, produced in a range of accessible formats and distributed to approximately14,000 individuals and organizations;

b. program of announcements on all RPH stations and CSAs on mainstream radio; and

c. section on the AEC's election website providing information and resources for disabled electors.

2.9.14 E-voting Team Information Dissemination

2.9.14.1 The Electronic Voting Team disseminated information through three phases, and over the course of the year, the messaging progressively became more focused:

a. **Phase 1:** The initial contact assessed interest and capacity to accommodate the voting machines but was not able to plan with certainty for electronic voting to take place in a particular location.

b. **Phase 2:** Once locations were known, a demonstration phase was entered, having the goal of building confidence in the usability of the machines through hands on experience and also promoting awareness and increasing likely participation at the election.

c. **Phase 3:** This was a final phase was to promote the trial and the deployment of the machines. The locations and sites had been determined and the election had been called. Potential voters were advised that they would be able to vote at these locations from Monday 12 November.

2.9.14.2 The third phase of information dissemination commenced in early November 2007. It reinforced the information that had been disseminated with the initial contact and it was a targeted approach directed to those individuals and organisations on the contact list that had developed over the course of the project. It included all of the support groups, service providers, local governments and individuals.

2.9.14.3 Over 200 people / organisations were contacted by phone or email and reminded of the time frame for voting and the address of the Early Voting Centre in their area. The other key message was to make them aware of the information contained on the AEC web site and provide a link to that information, and advising of the AEC 13 23 26 contact number. The web site contained additional information including keypad instructions and tips on using the machine. This information was in both text and audio files. Finally, this communication encouraged the people and organisations contacted to share this information within their own networks.

2.9.14.4 The e-voting team had been made aware of the use of bulletin boards or cyber chat groups within the blind community. One of the larger and more active of these groups was 'VIPL'. To tap into this network the team provided information to members of the reference group so that it could be shared more widely.

2.9.14.5 Collectively these approaches represented a concerted effort to make people aware of their voting options just prior to and

during the election. This strategy, together with the demonstration visits, was well received and was regarded by the target audience as an effective form of communication in the trial.

2.9.15 Enrolment and General Postal Voters

2.9.15.1 It was observed during these demonstrations that quite a number of the blind community had not enrolled. Some of these were principled views stating that while there is a requirement to cast a secret vote in Australia, that this was not an action that they could lawfully carry out – therefore they would not enrol or participate. Consequently, it was important that the E-voting team also encouraged members of the blind community to enrol in order to be able to participate and to fulfil their legal obligation.

2.9.15.2 During all location visits this issue was actively addressed and enrolment encouraged as a legal requirement as well as encouraging participation in the trial. Enrolment forms were made available and organisations and individuals attending meetings were introduced to the local DRO for any potential enrolment follow up.

2.9.15.3 The consultative discussions took place as part of the site assessment and it was noted that many of the voters eligible to participate in the trial were already registered as GPVs. Being registered as a GPV means that these voters are automatically sent postal ballot papers 3 weeks prior to election day. As the electronic voting machines were not going to be available until 2 weeks prior to the election, it meant that the GPV had the potential to effectively discourage voters from participating in the trial. At the information sessions these voters were informed that they could continue voting as GPVs if this was more convenient for them. However, if they wanted to participate in the trial they were advised to not vote on the ballot papers issued to them as GPVs. They should either destroy those papers or hand them in at the voting centre where they intended to vote electronically.

2.9.15.4 There was concern in the blind community that if they voted in the trial they would lose their status as a GPV which had served their particular mobility circumstances well. The E-voting team discussed the GPV at every information session and in the training of polling officials so the voter would know what to do when they received a GPV but wanted to vote at the trial instead. The provided options were:

a. To hand the uncompleted GPV in to a polling station or early voting centre prior to voting on the EVM; or

b. To destroy the postal vote and vote using the EVM.

2.9.16 Website and Audio files

2.9.16.1 A comprehensive website was developed that was suitable for navigation by screen reading software such as JAWS (Job Access with Speech). JAWS is regularly used by people who are blind or have low vision to listen to the printed text on a website using a synthetic voice. There was an issue with navigating to the page that had the information as the voter needed to enter via a series of menus. For future elections the solution would be to have a quick link on the AEC's home page that can be easily found by the screen reader.

2.9.16.2 The Website was divided into the following topics

a. Electronic Voting Trials for Electors who are Blind or have Low Vision – Overview;
b. Trial Locations;
c. Helpful hints for voters using electronic voting machines;
d. Keypad summary for Voters using electronic voting machines;
e. Audit of AEC's electronic voting machine for voters who are blind or have low vision; and
f. Audio Resources.

2.9.16.3 Appendix H shows the printable information that was located under these topics

2.9.16.4 Audio files were recorded especially to assist the target audience. All files were MP3 format and topics covered and the size of the files were:

a. Electronic Voting Trials for Electors who are Blind or have Low Vision [1.3MB];
b. Helpful hints for voters using electronic voting machines [2.6MB];
c. Keypad summary for Voters using electronic voting machines [782k];
d. Audit of AEC's electronic voting machine for blind and vision impaired voters [598k];
e. Trial Locations:
    A. Australian Capital Territory [72k];
    B. New South Wales [320k];
    C. Northern Territory [123k];
    D. Queensland [272k];
    E. South Australia [138k];
    F. Tasmania [101k];
    G. Victoria [269k]; and
    H. Western Australia [164k].

2.9.17 Call Centre

2.9.17.1 The E-voting Team worked with the call centre group to develop a series of scripts to assist in answering calls from voters. These information scripts were built into the call centre software so that the correct response could be found readily

2.9.17.2 A full list of call centre scripts is at Appendix I.

2.10 Training

2.10.1 Training of Operational Staff

2.10.1.1 In June 2007, three members of the E-Voting team met with three DROs and an AEC training officer to consult during the development of the training program for operational staff. The one-day meeting was conducted in Melbourne and included a presentation on "Sensitivity Awareness" by Tony Clarke, a blind Vision Australia executive officer.

2.10.1.2 Topics for discussion were:

a. Introduction and methodology;

b. Background;

c. Sensitivity Awareness;

d. System Overview;

e. Administration functions;

f. Who Can Vote;

g. The voting session;

h. Pre Poll Returns;

i. Post polling day functions;

j. System troubleshooting & escalation processes;

k. Development of training manuals;

l. Practical exercises; and

m. Impact on AEC's internal systems.

2.10.1.3 The E-Voting team then developed the training manual to suit both Divisional and polling staff. From that a power-point presentation and a Trainer's Guide was produced.

2.10.1.4 The training package (of four hours duration) was finalised in July and with the federal election imminent, delivery to all Divisional staff involved became a priority. This was closely followed by a schedule of training for polling officials in all states that were to be engaged at the EVCs.

2.10.1.5 The aim of the package was to ensure divisional staff understood:

a. why there was a trial of electronic voting,

b. what the process was for issuing electronic votes; and

c. how to process electronic pre-poll votes after polling.

2.10.1.6 The package was delivered by two trainers using a power-point presentation. The training included practical exercises on completing returns and operating the EVM as well as a sensitivity awareness session which, for the training of the Polling Staff, was usually delivered by a person who was blind or had low vision from one of the local service providers.

2.10.1.7 The E-voting section formed two teams so that training could be delivered in separate states simultaneously.

2.10.2 Divisional Staff

2.10.2.1 Operations Managers, Divisional Returning officers and assistant Divisional Returning Officers from relevant Divisions were brought together for training on a state-wide basis in the early part of August.

2.10.2.2 With a tight schedule leading to the election, compromise sometimes had to be made around election preparation in the states. For instance, in Tasmania, polling staff were included in the same training session as Divisional staff and Northern Territory staff travelled to South Australia. During training, it was suggested that organisations such as Vision Australia, Guide Dogs and Blind Citizens Australia be approached to recruit polling officials from their volunteers. It was emphasized that these volunteers should be experienced in assisting people who were blind or had low vision.

2.10.3 Polling Staff

2.10.3.1 Initially, polling official training was planned for the second week of the election. However, not knowing the date of the announcement, it was considered too risky to make the arrangements with such a short timeframe.

2.10.3.2 Instead, training of polling officials followed directly on from the completion of Divisional training in the second half of August. The package was essentially the same, with a heavier concentration on EVM practice and sensitivity training but excluding the after polling day component.

2.10.3.3 With the early training, an attrition rate was anticipated, so the decision was made to train an extra person in each EVC. Three polling officials and the OIC from each of the 29 venues were invited to attend training. The schedule was similar to the Divisional training with the two training teams travelling from state to state. With the larger numbers and restricting participants to 12 per session, up to three sessions were conducted in some states. Many of these officials had been recruited from blindness organisations as had been suggested.

2.10.3.4 At the announcement of the election, the attrition rate varied from site to site. It was found that one site no longer had any of the staff that were originally trained, consequently a catch up session was held for these staff in Melbourne taking the opportunity to include any other polling official staff within Victoria that may have needed training. Training was also conducted in Dubbo. From the E-voting team's observation and feed back from the voters, it was evident that these polling officials could have benefited from a full sensitivity awareness session.

2.10.4 Conclusion

2.10.4.1 Training was successful when it was conducted in full. The timing of the training was too early to be able to have all the messages retained given the later announcement of the election. Should the trial be expanded, training should be changed to a "Train the Trainer" model and delivered by the DRO in the election period at the time staff are trained in Pre Poll voting.

2.11 Election Setup

2.11.1 Voice Recordings

2.11.1.1 As mentioned under Design above, the voice recording of scripts was undertaken during development of the system.

2.11.1.2 Recording of election data ie candidate and party names however, created its own challenges.

2.11.1.3 As the date of the election was not known, studio time could not be booked until the election was announced and the close of nominations date was known.

2.11.1.4 Another factor was the very short time frame that was available to get the names recorded. Candidate names could not be recorded until the ballot paper order was known. For HoR this was 2 November 2007 and for Senate 3 November. The data needed to be recorded completely by 5pm on Sunday 4 November in order to be flown back to Canberra for import into the EVM software and then quality checked before release.

2.11.1.5 To compound the above two issues, the AEC had to ensure that all candidates names were pronounced correctly so that all candidates were presented fairly to the voter.

2.11.1.6 Following project planning and some time and motion studies carried out with Vision Australia it was determined that the AEC would commence contacting candidates after the close of bulk nominations on 30 October 2007. The process was to use three of Vision Australia's talk back radio studios. Candidates would be contacted and the purpose of the call explained. They were then asked to say their name so that it could be recorded. The recordings were stored in division order and when it came time to record the names for electronic voting, the

narrator would listen to all recorded files for that division and was then able to read the names using the same pronunciation.

2.11.1.7 A series of reviews of the candidates' names was undertaken to determine which names should be checked. After the initial review, a list of any names that were not being checked was sent to Canberra for two independent reviews. Using this process, more than 500 names were checked out of 1421 candidates.

2.11.1.8 Most candidates were quite content with their names being checked. If a candidate questioned the process they were escalated to the Assistant Director for clarification. No candidate refused to have their name recorded. Only one candidate became concerned enough to telephone the AEC to check again if the process was above board as well as contacting a radio station to voice their concerns about the process.

2.11.1.9 Once the names were checked only a few needed further clarification during the recording process. Recording of the data commenced on Friday evening 2 November with the HoR ballot papers that were available. Recording of HoR was completed on Saturday afternoon which allowed for the continuation of the quality assurance of every file and then mastering which occurred progressively with the recording. The data recording for the Senate commenced on the Sunday and all processes were completed by 4pm on Sunday 4 November 2007.

2.11.2 Data Load

2.11.2.1 On Monday 5 November the data load commenced.

2.11.2.2 AEC's IT Applications team supplied election data on the afternoon of 4 November 2007. Full details of all files required for the data load is under Design above.

2.11.2.3 The voice recordings of the audio files of candidate names along with the previously recorded audio instructions were also required.

2.11.2.4 The above files were combined on Monday 5 November and the EVMs installation DVDs and decode CDs were created for testing.

2.11.2.5 To test the process, encoded ballots were printed for each electorate and state and these were decoded.

2.11.2.6 The resultant ballot papers were then checked against live ballot papers to verify that the data load was successful.

2.11.2.7 After checking, copies of the EVM DVDs were created for dispatch to the 29 sites across Australia.

2.11.2.8 All installation DVDs were received in time with only Alice Springs requiring an additional copy to be sent by courier – which arrived on the same day as the first dispatch.

2.11.2.9 Decode CDs were sent later in that week, as they would not be required until after polling day.

2.11.3 Diacritical Marks

2.11.3.1 When a candidate successfully nominates for either the House of Representatives or Senate and the name on the nomination form contains a diacritical mark, these are printed on ballot papers.

2.11.3.2 The AEC election administration databases use a single-byte character set and do not have the ability to capture a diacritical mark. This means that a ballot paper that needs to display a diacritical mark must be manually typeset. For the E-Voting team, this also meant that the diacritical mark would not be passed to the E-Voting systems in the data supplied from these AEC databases.

2.11.3.3 The E-voting team sought advice with regard to altering the data that was supplied from the AEC systems so that a candidate's name would include any diacritical marks and consequently provide the same information as would appear on a paper ballot as required by CEA 202AB(3).

2.11.3.4 Appendix F shows the loading and checking procedures that were approved for the alteration and upload of data into the setup module prior to the creation and distribution of the EVM installation DVD.

2.11.3.5 The main issue with changing the diacritical mark for the EVM was that the diacritical mark needed to be seen on the screen for voters who had some sight, however the decode module that decoded the printed barcode and produced the ballot paper was not able to interpret the diacritical mark.

2.11.3.6 Consequently, the process involved creating a full election including the decode module and then altering the data to include the diacritical mark and reloading to create the EVM installation DVD.

2.11.3.7 For the 2007 federal election there was only one candidate with a diacritical mark.

2.11.3.8 In the development stages of the EVM software, diacritical marks were raised, but not fully addressed. This issue will need to be included in the Statement of Requirements for future electronic voting projects.

2.12 Deployment

2.12.1 Selection of Early Voting Centre Locations

2.12.1.1 The deployment strategies for EVM equipment were totally reliant on the site selection outcomes at approved locations. The methodology for this selection process is outlined under Location Selection above. As well, the difficulties in securing suitable premises at nominated locations had significant impact on the deployment plans.

2.12.1.2 Two phases were involved in the determination of the EVC location:

a. The first phase was the approval by the Special Minister of State of the broad geographical areas selected to be part of the trial; and

b. the more complex task was then to identify a suitable facility to accommodate the EVMs as well as conducting general pre-polling activities.

2.12.1.3 Liaison with the DRO had commenced during location visits. Once locations were approved, these discussions became more focused. Some of the EVC sites had been easily identifiable as arrangements were in place to use the premises of the support groups. These sites met a range of accessibility criteria and were able to offer a level of flexibility in the tenancy arrangements despite the uncertainty of when the election was to be called.

2.12.1.4 However, this was not the case in many other locations, particularly in regional areas. This impacted on the deployment plans for the EVMs and the arrangements with the contractor.

2.12.1.5 The last of the 29 site locations was confirmed on 7th of November just five days prior to the commencement of the pre-polling period on Monday 12 November.

2.12.2 Two Stage Deployment

2.12.2.1 Logistical planning with the contractor had taken place prior to the final EVC identification and gazettal.

2.12.2.2 ‘Just-in-time’ deployment from the main store was considered too high risk in ensuring that all EVCs had the voting machines in place, set up, tested and functioning for Monday 12 November.

2.12.2.3 A strategy was arranged with the Contractor to deploy the EVMs and associated furniture to central storage hubs in each state for secondary deployment to the individual site locations on a just-in-time basis from those hubs. This was particularly relevant in the more remote locations of the Northern Territory and Western Australia.

2.12.2.4 All deployment was by road, with the equipment loaded on pallets and wrapped in plastic for protection. A picture of a loaded pallet is shown at Appendix G.

2.12.2.5 Three waves of dispatch from the central storage facility in Sydney occurred over the course of one and a half weeks commencing with the most distant locations first. This enabled all EVM equipment to be in the designated storage hubs by 5 November for secondary just-in-time deployment to each EVC.

2.12.3 Deployment Plans

2.12.3.1 Once all the actual site locations had been identified 29 individual logistic plans were constructed.

2.12.3.2 Generally the plans provided for the delivery of the EVM equipment to arrive on Thursday 8 November 2007 at an appointed time.

2.12.3.3 The Contractor's technician then set up the EVMs on Friday 9 November, again at a pre determined time.

2.12.3.4 Each individual plan also included contact details for AEC, Contractor staff and technicians for contingency purposes.

2.12.3.5 Arrangements were made with each DRO to ensure access to the premises at these times.

2.12.3.6 All arrival times were met within an hour either side of the designated time.

2.12.3.7 In the training of operational staff, DROs, OICs and other polling officials were made aware of their roles and responsibilities for the set up phase. These included providing the EVM DVD that was sent by secure mail to DROs separately from the other EVM equipment.

2.12.3.8 The Technicians installed the software on the EVMS using the DVDs under AEC staff supervision. On completion of the software installation, each machine was tested to ensure that it was functioning properly.

2.12.3.9 Installation in some cases was quite difficult. Eg. The hire arrangements for the premises at Brisbane Central precluded access prior to Monday 12 November and required the premises to be vacated on polling day evening, 24 November. Through intensive consultation and negotiation these types of constraints were built into the individual logistic plans.

2.12.4 Retrieval

2.12.4.1 Similarly with the pack up and pick up of the equipment, the plans reflected the individual constraints for each EVC. In most cases the plan was to have the equipment packed up on Monday 26 November and picked up for return to Sydney on the following day.

2.12.4.2 As was the case with deployment, each individual plan was reflective of the prevailing accommodation arrangements entered into by the DRO.

2.12.4.3 As already mentioned, the hire arrangements for Brisbane central required that the premises be vacated on election night. Therefore, the machines deployed at that location were disconnected by AEC staff and relocated to AEC storage. Arrangements were made with the contractor for the pack up and removal to an alternative location, and for pick up of the equipment on a subsequent day.

2.12.4.4 All equipment and furniture, with the exception of that which was located in Canberra, was delivered from all parts of Australia to the contractor's storage facility in Sydney by the end of November 2007. Each configuration was subsequently broken down to separate the furniture from the electronic equipment in preparation for the final phase – the return of all equipment to the AEC in Canberra.

2.12.4.5 In December 2007, the EVM equipment was sent to AEC storage at Hume ACT and the furniture stored at a similar facility in Queanbeyan NSW.

2.12.5 Disposal

2.12.5.1 All data was cleansed from the machines in preparation for disposal.

2.12.5.2 Eight EVM configurations are being maintained for demonstration purposes and historical significance.

2.12.5.3 Each individual EVM configuration consisting of the CPU box, printer, monitor and other peripheral equipment was prepared for disposal.

2.12.5.4 Disposal was through an auction house.

2.12.6 Help Desk Support

2.12.6.1 Help desk support was to provided at two levels:

a. Level 1 support was provided by the AEC and attended to the lower level enquiries associated with operation of the EVM.

   A. The AEC level 1 support help desk escalated as appropriate to the Level 2 help desk support which was provided by the Contractor.

b. Level 2 support was provided by the Contractor, and was available from the time of delivery and setup of EVMs to the end of the voting period.

   A. Level 2 support was supplied by dedicated project operators to develop a continuity of understanding of the project.

B. Level 2 dedicated project operators had direct access during the voting period to the Contractor's development staff to ensure immediate resolution of problems that may be referred.

2.12.6.2 The response time required for resolution of issues escalated to level 2 support was less than 4 hours.

2.12.7 Site Support

2.12.7.1 Site support was provided by the Contractor, and consisted of on call on-site support for each site during the voting period.

2.12.7.2 The response time for on-site support was less than 4 hours.

2.12.7.3 On site support staff were able to attend the site of an EVM to rectify technical EVM problems.

2.12.7.4 The Contractor's on-site technical staff had direct access to level 2 support staff and the Contractor's nominated development staff.

2.12.8 Summary of Support Issues

2.12.8.1 In all, there were twelve calls to the AEC level one help desk, two of which were for the same issue.

2.12.8.2 Of these calls, eight were resolved over the telephone.

2.12.8.3 Set out below are details of the remaining 4 calls.

a. Warragul: a faulty UPS was replaced.

b. Noarlunga – a low-power issue at the site was causing problems, and this was eventually resolved with site management.

c. Adelaide – a headphone extension cable was not installed initially.

d. Chatswood – the EVM at this site had a hard disk failure; and was replaced on the same day.

2.12.9 Early Voting Centre Visits

2.12.9.1 During the election, all EVCs were visited by at least one member of the E-voting Team. The schedule of visits attempted to prioritise the EVCs most likely to require support once pre-poll voting commenced on Monday 12 November 2007. As many EVCs as possible were visited in the first days of voting when voter traffic was relatively low.

2.12.9.2 In supporting EVC staff the E-voting members focused on the following. That :

a. polling officials followed the correct procedures as outlined in the training manual;

b. all elements of the support pack were in use;

c. EVMs and CCTVs were set up in such a way using cardboard desktop screens, that the secrecy of the vote was maintained and privacy afforded to the voter;

d. proper statistical records and returns were being maintained;

e. all start of day and end of day functions were being completed; and

f. exit questionnaires were being offered to all voters who are blind or have low vision.

2.12.9.3 All DROs were advised of the date and time that these visits would occur. On arrival, a preliminary inspection took place. Photographs were taken of the EVC access points and the EVM configuration together with the CCTV (if one was deployed).

2.12.9.4 During the course of each visit, the E-Voting team member in conjunction with the DRO/OIC, worked through an inspection report that ensured compliance with all material and other issues. A copy of the checklist is at Appendix C.

2.12.9.5 Generally only minor adjustments needed to be made in each EVC and usually related to moving privacy screens to better provide privacy, adjust signage or ensure elements of the support pack were in use. In some other EVCs, the adjustments were more involved and some reinforcement of the training was required.

2.12.9.6 Inspection Reports were completed and comments made for each EVC. During the visits, consideration was given to the level of staff confidence in dealing with the voters and assisting in the use of the voting machine and how the EVM was set up. Also covered was the control of completing returns, statistical information and completion of the exit survey as well as a discussion on media interest and public awareness opportunities.

2.13 Project Costs

2.13.1 Cost analysis

2.13.1.1 Total $2,207,203

a. Salary $387,409

b. Operating Expenses $1,032,933

c. Capital $786,861

2.13.1.2 Special items – included in totals above

a. Communication[33] $213,036

[33] Communication costs are for the formal communication strategy. Additional expenditure was incurred in demonstrating machines, which generate free radio, television and newspaper coverage.

b. Total contractor costs $1,028,092

c. Audit $36,364

2.13.1.3 Cost per Vote

a. The cost per vote was $2,597

2.14 Contractor's Project Review

2.14.1 Contractor Evaluation

2.14.1.1 As part of their contractual obligations, the Contractor was to provide a final report on the project which critically reviews the implementation.

2.14.1.2 The Contractor met with AEC staff on 5 December 2007 to conduct a review of the project and subsequently provide a report for review.

2.14.1.3 The final report was provided to the AEC in February 2008.

2.14.1.4 This section discusses major findings contained in the Contractor's report.

2.14.2 Project Scope

2.14.2.1 The overall scope and direction of the project remained generally unchanged throughout all phases of the trial contract negotiation, development and implementation. Where changes were required they were accommodated as additional requirements and identified during the series of three scoping meetings that were conducted.

2.14.2.2 As a result the original 48 requirements contained in the RFT grew to a total of 114 requirements in the contract after the completion of the third scoping meeting. It should be noted that not all additional requirements were as complex as most of the original 48.

2.14.3 Project Organisation

2.14.3.1 The Contractor considered the organisational arrangements very successful. All issues were dealt with in a timely manner and escalated where appropriate.

2.14.3.2 Roles and responsibilities were clearly defined and understood by the respective AEC and Contractor project teams.

2.14.4 Project Management

2.14.4.1 The positive assessment related to the project organisation by the Contractor flowed on to the project management processes. Dedicated Project Officers in both organisations and the liaison between these officers drove the project forward on a day-to-day basis. The robustness and depth of both project teams allowed for changes to these personnel to occur without any negative impact to the overall project progress.

2.14.4.2 Weekly in-person Project Management meetings and Project Status reporting provided the project discipline and focus that supported the Project Offices in undertaking their respective tasks.

2.14.5 Risk and Quality Management

2.14.5.1 Specific risks were communicated to the Contractor during contractor negotiations, and the Contractor was required to prepare a risk management plan. Effective mitigation strategies were developed for each risk, and these were reviewed as part of the weekly project management meetings.

2.14.5.2 All mitigation strategies were actively pursued throughout the project and this approach is considered to be a major contributing factor to the overall success of the project.

2.14.5.3 The formal quality management framework for the project as delivered by the Contractor was based on IEEE standard 730-1998 for the Software Quality Assurance Plans in conjunction with ISO 9001:2000 Quality Management System.

2.14.6 Project Timelines

2.14.6.1 The table below provides a broad outline of the three major phases and the milestones within that identifies the contractual deliverables of the project.

	Start	Completion		
Activities	**Scheduled**	**Scheduled**	**Estimated**	**Actual**
Phase 1 - Develop, Build, Test, Audit	01 Mar 07	31 May 07	31 May 07	05 Oct 07
Phase 2 – Conduct Trial	15 Oct 07	30 Nov 07		11 Dec 07
Planning meeting to confirm election timeline	16 Oct 07	16 Oct 07		16 Oct 07
Commence delivery of EVMs	01 Nov 07	08 Nov 07		08 Nov 07
Setup EVMs at PPVCs	09 Nov 07	10 Nov 07		12 Nov 07
Support trial	12 Nov 07	24 Nov 07		24 Nov 07
Election Day	24 Nov 07	24 Nov 07		24 Nov 07
Disassembly of EVMs	25 Nov 07	26 Nov 07		28 Nov 07
Retrieval of EVMs to AEC secure facility	26 Nov 07	30 Nov 07	12 Dec 07	11 Dec 07
Phase 3 – Post-Implementation Review (PIR)	05 Dec 07	19 Dec 07		
PIR Meeting	05 Dec 07	05 Dec 07		05 Dec 07
Draft PIR report	05 Dec 07	12 Dec 07		12 Dec 07
Deliver draft PIR report for review	12 Dec 07	17 Dec 07		
Incorporate feedback and handover PIR report	17 Dec 07	19 Dec 07		
Project Closure	19 Dec 07	19 Dec 07		

2.14.7 Observations

2.14.7.1 The Contractor review identified some learning experiences as a result of their participation in the trial.

2.14.7.2 Should there be any future requirement to provide this or similar type of electronically assisted voting, the context in which the Contractor observations should be considered is that any future requirement will be made easier. This is primarily due to the jointly

developed design specifications that comply with current legislation which evolved as a result of this trial.

2.14.7.3 Some of the key Contractor observations are summarised below.

a. Utilisation of PDF417 barcodes to encode voter preferences was of high integrity and was proven fool proof and resilient to destruction attempts in testing and reliable in deployment.

b. The decode module used a simple interface. If more time for delivery was available any future development could be more sophisticated and generate printed ballots more similar in appearance to regular ballot papers.

c. The RFT provided no indication that the solution should include provision to display diacritical marks. This needs to be clearly specified in any future RFT.

d. The number of requirements increased over the course of the project. The expansion of the requirements should be more comprehensive in any future initiatives.

e. The inclusion of UPS was an expensive component in each EVM configuration. The need to ensure completion of an electronic vote in a power outage should be reconsidered in future.

f. Technicians that were unfamiliar with the equipment could install the current EVM configuration. The simplicity of the set-up should continue be a characteristic of any future rollout.

g. As simple as it is to set up the EVM configuration of separately assembled components, this increased the logistic cost related to assembly and disassembly. Any future requirement could investigate the potential use of a single integrated EVM configuration.

h. To better meet time sensitivity requirements sufficient spare capacity of all hardware components should be made available for deployment as required.

i. The circumstances related to this trial provided for development of the software to be undertaken within a tight timeframe.

j. Laptops worked well as demonstration machines. Retaining this option in the future would allow for a mobile solution for demonstration purposes.

2.14.8 Positives and Negatives

2.14.8.1 The Contractor report highlighted some things that worked well and identified some others that have room for improvement.

2.14.8.2 The positive working relationship between the Contractor and the AEC made the development and implementation of the e-voting solution easier.

2.14.8.3 The development of the telephone style keypad was innovative and well received in both the demonstrations and in the actual voting period.

2.14.8.4 The barcodes used to encode the votes was robust and effective.

2.14.8.5 The tamper evident cases were a little cumbersome to put together and when transported flat packed were subject to damage. The Contractor suggested a pre-moulded case rather than one that needs assembly if there is a future requirement.

2.14.8.6 With more time for development better outcomes may have been achieved.

2.14.8.7 A full list of "Lessons Learnt" from the Contractor's report is included at Appendix E.

2.15 Independent Trial Evaluation

2.15.1 Planning and process

2.15.1.1 In its 2007-08 Budget Statements, the AEC reported on its plan to evaluate the trial of voting using the EVMs. This evaluation is part of its program of evaluations against the AEC's Outcome 2.

2.15.1.2 The overall objective of the evaluation was to determine the effectiveness of the trial in facilitating a secret and independent vote for those who are blind or have low vision.

2.15.1.3 The aims of the evaluation of the trial were to:

a. determine the effectiveness of the trial in facilitating a secret and independent vote for voters who are blind or have low vision, by examining:

   A. the level of take-up for the use of EVM;

   B. user acceptance of the EVMs; and

   C. the exercise of discretion by EVM voters;

b. determine the extent to which access to the EVMs was made available to voters who are blind or have low vision by examining the:

   A. impact of the locations for trial;

   B. communication strategy to inform BVI electors about the trial; and

   C. cost per vote of trial;

c. evaluate whether the use of electronically assisted voting machines complied with legislative and other standards by examining:

   A. compliance of procedures and processes implemented in the trial with relevant sections of the Commonwealth Electoral Act 1918 and associated regulations ; and

B. compliance of the EVMs with relevant standards relating to hardware and software, and of the access and layout of PPVCs with relevant guidance on accessibility for BVI people;

d. assess whether the use of electronic voting led to any increase in electoral offences, or any increase in the risk of electoral offences or fraud by examining

A. procedures to manage risks of electoral offences; and

B. allegations of electoral fraud arising from the EVM trial.

2.15.1.4 Also as part of the evaluation, the consultant was contracted to identify administrative issues arising from the trial, and make recommendations for improvements should the trial continue or be more widely implemented subsequent to that planned for the 2007 Federal Election.

2.15.2 Scope of Evaluation

2.15.2.1 The scope of the evaluation was focused on the conduct of the trial during the 2007 Federal Election. Attention was given to the:

a. planning for the trial, covering consultations, communications, testing and training for the trial;

b. processes and procedures, along with associated guidance and instructions, undertaken at the trial sites and subsequently in decoding records of votes; and

c. views on electronic voting and the EVMs themselves as a means for improving access to a secret and independently verifiable vote for BVI people.

2.15.2.2 The scope of this evaluation did not cover the electronic voting supporting IT infrastructure.

2.15.3 Approach to the Evaluation

2.15.3.1 The evaluation was undertaken in three stages:

a. Stage 1: Scope and Planning;

b. Stage 2: Data and Information Gathering; and

c. Stage 3: Analysis of Data and Reporting the Findings.

2.15.3.2 Each stage was conducted in close consultation with the AEC Strategic Research and Analysis Section and the Electronic Voting Section-.

2.15.3.3 Information for the analysis was collected by the following means:

a. an exit sample survey of EVM users undertaken by polling officials after the vote had been cast;

b. five focus groups of voters who are blind or have low vision following polling day;

c. two focus groups of OICs and polling officials from the trial PPVCs after polling day;

d. a focus group of, teleconferences with, and written feedback from, DROs from the Divisions in which the trial was conducted after the scrutiny was completed;

e. tallies recorded at the trial PPVCs on the forms developed specifically for the trial;

f. end-of-day EVM print-outs;

g. interviews with the Electronic Voting Section members,

h. an examination of supporting material developed by the Electronic Voting Section;

i. statistical and performance information about the 2004 and 2007 Federal Election relating to number of votes, above/below the line voting, and cost;

j. desk review and discussion with relevant AEC officials to identify relevant standards and legislative provisions;

k. costing for the project as assessed by the Electronic Voting Section;

l. observations at trial sites;

m. assessment of description of PPVCs based on information gathered during on-site visits by the Electronic Voting Team; and

n. information on complaints and allegations regarding the EVM trial.

2.15.4 Exit interviews

2.15.4.1 A copy of the survey instrument for BVI electors who cast their votes electronically is at Appendix J.

2.15.4.2 A total of 850 BVI electors cast their votes using the EVMs, with a further 109 BVI electors recorded as attending the trial PPVCs either using the CCTVs or abandoning the use of the EVMs/CCTVs and requesting assistance to cast their vote.

2.15.4.3 A total of 823 survey instruments were filled in on a voluntary basis; of which 769 were recorded as completing their vote using the EVMs, with a further 43 survey returns not stating whether or not the EVM vote was complete.

2.15.4.4 Nonetheless, a sample size of 769 represents a significant proportion of those who cast their votes electronically. Estimates can therefore be relied upon as being representative of all the BVI population who cast their vote. In particular, a sample size of 769 from a population of 850 has a maximum confidence interval at the 95% level of +/-1.1%.

2.15.5 Focus Groups – Voters

2.15.5.1 Five focus groups of voters who are blind or have low vision were held at Vision Australia premises, one each at Kooyong, Prahran and Belmont in Victoria, and two at Enfield in Sydney.

2.15.5.2 There was a total of fifty participants in the weeks beginning 10th and 17th December 2007. All but one of the attendees had cast their votes using the EVMs

2.15.5.3 The list of issues raised with the focus groups is at Appendix K.

2.15.6 Focus Groups –Polling Officials

2.15.6.1 Two focus groups of OICs and polling officials were held on 12 December 2007 in Melbourne and 18 December in Sydney. The trial PPVCs at which the participating staff were employed were Kooyong, Melbourne City, Belmont, Enfield, Parramatta, Chatswood and Wollongong. A total of seventeen OIC and polling officials attended these sessions.

2.15.6.2 The list of issues raised with the focus groups is at Appendix L.

2.15.7 Focus Groups and Questionnaires – Divisional Staff

2.15.7.1 A focus group was conducted in Sydney on 18th December with DROs and their staff with responsibilities for Enfield, Parramatta, Chatswood and Wollongong. A further teleconference was held with the DROs and staff for all the Victorian Electoral Divisions with responsibilities for PPVCs in the following week. In addition, written feedback supporting comments from those who participated in the focus groups and teleconference, feedback was also obtained from the Divisions with responsibilities for the Noarlunga PPVCs, the two Northern Territory and Tasmania based PPVCs, and the Albury PPVC. Feedback on comments and complaints was received from the WA based PPVCs.

2.15.7.2 The issues raised with the DROs and their staff at the focus groups and teleconference are at Appendix M.

2.15.8 Findings and Recommendations

2.15.8.1 The full summary of findings and recommendations is at Appendix N.

2.15.8.2 Supporting documentation is contained in the report itself.

2.15.8.3 Below is a summary of the evaluation.

2.15.9 Summary of the Evaluation

2.15.9.1 This summary collates comments into the high level elements listed at paragraph 72.3 above.

2.15.9.2 The effectiveness of the trial in facilitating a secret and independently verifiable vote for voters who are blind or have low vision.

a. The trial demonstrated that EVMs can be effective in providing BVI electors with the facility to cast a secret and independently

verifiable vote, with potential to facilitate such a vote to all electors who are print-handicapped or who do not have the ability to write on a paper ballot paper.

b. However, the trial was characterised by a turn-out of BVI voters towards the lower range of that forecast by the Electronic Voting team members. The turn-out of BVI voters was particularly affected at those trial PPVCs unable to secure easily accessible and familiar premises and at those locations where expected support from support groups was not in evidence.

c. Once at the trial PPVC sites, most recorded BVI voters used the EVMs, with a total of 850 votes cast electronically. The EVM voters were more likely to be younger than the average BVI person, with the older EVM voters more likely to require assistance to vote using the EVMs. Even when assistance was required, voters had the opportunity of independently verifying their vote on the EVM.

d. In order to be more fully effective in facilitating a secret and independent vote to BVI electors, particularly amongst older electors, greater familiarity with the technology and promotion of the accessibility of the technology is required to overcome initial reluctance to try a new means of casting a vote. Those who either did not use computers, or did so infrequently, found the EVMs harder to use, adding weight for greater means to become more familiar with the technology. Demonstrations of the EVMs by the Electronic Voting Project Team played an important role in introducing the EVMs to electors. Once the electors were committed to try the EVMs, the practice sessions were a key method of familiarising voters with the technology.

e. Take-up of EVM voting is expected to increase over time, as evidenced by the increase of 41% of EVM votes cast this election in Victoria compared with the 2006 State Election. Low technology solutions such as magnifiers also assisted some low vision voters in casting a secret and independently verifiable vote.

f. Amongst the EVM users, the support for the EVMs was overwhelmingly very positive, with 97% of users stating that they were *(very) satisfied* overall with the use of the EVMs. There was almost unanimous support for retaining the basic design of the EVMs, although a range of minor improvements to assist usability were suggested.

g. Those who used the machines were able to vote in a way to reflect their intentions, as evidenced by the relatively high number of below the line (BTL) voters. However, access to information on how-to-vote from registered parties and independent candidates and on group voting tickets (GVTs)

would have improved confidence that their vote would fully meet their intentions.

h. The extent to which access to the EVMs was made available to voters who are blind or have low vision.

i. The selection of locations on the basis of local support and on a geographic distribution, provided a sound approach to the conduct of the trial.

j. BVI voters went to considerable effort to access the EVMs in metropolitan areas, particularly when compared with their means of voting in the previous election, suggesting more locations for EVMs may be required in future implementations. The pattern in non-metropolitan areas was very different with voters less likely to come from other population centres to vote; other strategies for providing access in areas with low eligible populations may be required, such as mobile EVM polling.

k. Having EVMs located in polling places which are opened for extended periods, such as PPVC was a key factor in providing access, as BVI people are often reliant on arranging lifts at times convenient to the provider or public transport which may be limited on polling day.

l. It is recognised that, as in the trial, not all PPVCs will be ideal for access by BVI people or suitable for the set-up of EVMs, given there is usually only a limited lead time in which the DRO can secure a premises. Nonetheless, the access needs of BVI people should be considered similarly to those for wheel chair access.

m. The number of machines at each site was generally sufficient to meet demand, but there were reports of some waits for the machines, given the time taken to vote compared with the time taken to fill in a paper ballot-paper, as well as significant periods of low or no use. A greater number of reports of waits would have been likely to occur had there been greater take-up.

n. Most EVM users found out about the trial through the BVI community, indicating the limited effectiveness of the media campaign in spreading the message about the trial. It also provides an indication that the EVM users reflect those BVI electors who are actively engaged in the BVI community. In any future implementation of EVMs, a media campaign focussed on radio and on communication through more general welfare agencies will need to be considered to promote the EVMs.

o. The unit cost per vote in the trial was relatively high. Costs for a wider implementation are not possible to forecast as they are contingent on Government decisions, including the scope of any future electronically assisted voting as well as

associated AEC management decisions to implement Government requirements. However, unit costs are expected to lower.

2.15.10 Management of Risks of Electoral Offences and Outcomes

a. The AEC put in a range of controls to minimise the risks of electoral offences associated with the EVMs and their use. These were subject to an independent audit with satisfactory outcomes.

b. Only one control was identified as not being effective in all cases, that associated with the printing, checking and retaining the start-of-day/end-of-day print-outs; this was an extra control for overnight security and not vital to managing the risk of system tampering overnight.

c. Improvements were suggested in other areas to more easily manage the risks.

d. The current checklist for the assessment of suitability of polling premises needs to be modified to address the specificity of access guidelines for BVI people.

e. While there were a small number of complaints related to the EVM trial, there have been no allegations of electoral fraud arising from the trial.

2.16 Future Options

2.16.1 Introduction

2.16.1.1 Set out below are observations prepared by the project team that may assist in any future trial.

2.16.2 Staffing

2.16.2.1 This project needs dedicated resources not shared with other tasks. Suggested levels:

a. EL1 Project Manager (reporting to an EL2 Section Manager)

b. APS6 Project Officer

c. APS6 Procurement Officer

d. Shared resources

A. EL2 Section Manager

B. APS5 finance officer

2.16.2.2 The dedicated staff should have the following capabilities between them:

a. Extensive electoral experience;

b. High level project management;

c. High level procurement skills, including complex requests for tender.

2.16.3 Project Governance

2.16.3.1 The AEC project governance, detailed in the AEC project plan, should be more closely followed, that is, the Steering Committee should meet on a regular basis to receive reports from the project team, independent of the joint steering committee.

2.16.4 Consultation

2.16.4.1 The Reference Group worked well, and should be re-established should any future trial go forward.

2.16.4.2 Dialogue at the state and local levels should commence as soon as possible should the EVMs be used in future elections. This was a key to establishing relationships upon which to build for future phases.

2.16.5 Procurement

2.16.5.1 In the 2007 trial, CPG provisions for the procurement of a 'first good or service' were used to undertaking direct sourcing with a restricted tender.

2.16.5.2 For any future trial, the provisions for a 'first good or service' will no longer apply, and a much longer lead time must be allowed for procurement.

a. A best estimate for this activity is 12 months minimum from commencement of creation of the Statement of Requirements to signing a contract.

2.16.5.3 Any Tender should be for a minimum of one 'general election' with the option, at the AEC's sole discretion, for an extension of a second general election.

2.16.5.4 The Tender should also include the following elements:

a. Consideration to have the requirement of a sample system (including all hardware) to be demonstrated to the tender evaluation committee during the evaluation phase;

b. A requirement for the Contractor to provide staff in Canberra during the initial stages of design/system development; and

c. In the SOR, highlight the logistical requirements, and suggest that as small a footprint as possible be devised, for example, the Rise LCD panel pc, the Apple iMac, or the Sony Panel pc.

2.16.6 System Specifications

2.16.6.1 The specifications prepared by the Contractor may be able to be used to update the SOR for the next tender. Any new contract should include the requirement for new specifications to be prepared as part of the design.

2.16.7 System Development

2.16.7.1 The accessibility / usability expert contracted to assist with systems development for the 2007 federal election added significantly to the

usability of the system, and such an expert should be contracted for any future development.

2.16.8 Hardware design improvements

2.16.8.1 Some suggested improvements for hardware for any future trial are:

a. Use an 'all in one' pc, such as the Rise LCD panel pc, the Apple iMac, or the Sony Panel pc to reduce the cubic measurement for logistical purposes;

b. Do not use a UPS: it will only save one vote at a time, and it was not relied on once in the 2007 election; and

c. Consider a mobile design, for example, a notebook PC, or perhaps one of the panel pcs, for use as a mobile polling machine.

2.16.9 Audit

2.16.9.1 The audit process worked very well, and comprehensive testing records assisted.

2.16.9.2 The tender for an auditor should be repeated for this process. This should be open tender requiring a lead time of more than 3 months prior to the delivery of services.

2.16.9.3 The auditable elements should be included in the SOR for the main tender as well.

2.16.10 Working with AEC ICT

2.16.10.1 Early interaction with AEC IT worked well resulting in a smooth project implementation.

2.16.10.2 It is recommended to have a representative from AEC ICT should be considered for the tender evaluation committee.

2.16.11 Legislation and Regulations

2.16.11.1 These will need to be reviewed in line with any varied government requirements and the independent review outcomes.

2.16.12 Location Selection

2.16.12.1 This trial selected a range of locations: metropolitan, urban, regional and remote.

2.16.12.2 The remote locations, and most of the regionals, did not service a large number of voters and consideration should be given as how to best service the voters in these areas.

2.16.12.3 More locations should be selected focusing on sufficient numbers in those locations. For instance, there might be more locations selected in Sydney/Melbourne/Brisbane, to service a wider range of the target audience in those areas.

2.16.12.4 Consider providing mobile polling facilities. These could service the regional towns and country areas rather than having a static service with a small catchment potential.

2.16.12.5 A mobile service could be used in nursing homes or retirement villages in metropolitan areas.

2.16.12.6 Mobile polling could also be set up in blindness organisation sites where there is not sufficient space to set up a full PPVC.

2.16.13 Communication Strategy

2.16.13.1 Development of this strategy needs to commence earlier in the project.

2.16.13.2 Advice should be sought from those who are experts with the target audience as to the best way to reach that audience. For example, very few found out about the trial from paid media selected for the 2007 federal election.

2.16.13.3 Continue the demonstrations for BVI voters. This may be able to be done on a 'train the demonstrator' for each state. It should be noted that this attracted a significant amount of unpaid media coverage, newspaper, radio and TV.

2.16.13.4 For demonstration purposes, consider acquiring additional EVMs to locate one or two in each state, so the same two or three are not being freighted all over the country.

2.16.14 Election data load

2.16.14.1 The Contractor received XML (extensible markup language) files this time, however CSV (comma separated variable) files are available earlier in the post close of nominations period, and they have all the data needed, excluding diacritical marks (XML did not have this either, as the host systems have single-byte databases).

2.16.14.2 The CSV format is more understandable, and easier to edit than an XML file.

2.16.14.3 The XML file has a lot of unnecessary data, and is difficult to edit in regards to diacritical marks.

2.16.14.4 A requirement should be included in the tender to deal with diacritical marks. The process used in the 2007 federal election could be suggested as one option.

2.16.14.5 Ensure a CSV file showing the relationship between states/territories and divisions is provided.

2.16.14.6 The checking process worked well, and should be repeated.

2.16.15 Logistics – election data CDs/DVDs

2.16.15.1 This worked well, however platinum express post and street addresses should be used for any future distribution of this type.

2.16.16 Logistics – EVMs

2.16.16.1 The concept of a logistics plan for each site was invaluable. This plan contained all necessary contacts and delivery details, and was shared between National Office, the Contractor and the Divisional Office.

2.16.17 Voting period administration

2.16.17.1 Some OICs did not record the statistics needed for a meaningful daily report, and for post-election analysis.

2.16.17.2 Earlier buy in by DROs and polling officials is necessary to resolve this in any future trial.

2.16.18 Support

2.16.18.1 The support processes were well developed, and provided a well defined path for any issues during the election.

2.16.18.2 Both the Contractor and the AEC IT Support worked well when issues were identified, with excellent support from staff in the Electronic Voting Section.

2.16.19 Post election processing

2.16.19.1 Post election processing was confined to counting centres. After preliminary scrutiny, encoded votes were extracted from envelopes and decoded for inclusion in the count.

2.16.19.2 As indicated in the independent evaluation, printing in the counting centres may be more effectively done on coloured paper so the decoded papers are more easily handled.

2.17 Conclusion

2.17.1.1 For the first time in a federal election this trial successfully provided the right to a secret ballot for electors who are blind or have low vision.

2.17.1.2 The EVM was the first of its kind to use a telephone style keypad interface which drew parallels with the rules of telephone banking. This bridged the gap between voters who were unfamiliar with using a computer but were familiar with telephones, ATMs or telephone banking.

2.17.1.3 After considering the Contractor's project review and the independent evaluation, there is also ample evidence to clearly state that the trial was a success from point of view of technology and logistics.

2.17.1.4 While the number of votes taken was at the lower end of the estimates made after location selection, the number of votes taken in Victoria was some 41% higher than those taken in the 2006 state election when comparing the same polling places.

2.17.1.5 The EVM has proved that it can facilitate the voting process for people who are blind or have low vision, but also that it could be used as an "audio assisted voting system" for any Australian who requires assistance with printed format.

2.17.1.6 This success is a solid foundation for the future should the Australian government undertake further electronically assisted voting.

APPENDICES

Appendix A

Project Time Line

Item	Start	Finish	Comments
Project Initiation	11-Sep-06	11-Sep-06	Milestone
Legislation	25-Sep-06	06-Sep-07	
Develop Amendments	25-Sep-06	06-Dec-06	
HoR - Amendments passed	06-Dec-06	06-Dec-06	Milestone
Senate Amendments passed	26-Feb-07	26-Feb-07	Milestone
Assent given	13-Mar-07	13-Mar-07	Milestone
Develop Regulations	01-Dec-06	31-Aug-07	
Effective date	01-Aug-07	01-Aug-07	Milestone
Regulations approved	06-Sep-07	06-Sep-07	Milestone
Consultation	21-Sep-06	11-Dec-07	
Reference Group	21-Sep-06	11-Dec-07	
Reference Group Initial Meeting	21-Sep-06	21-Sep-06	
Reference Group Meeting	14-Dec-06	14-Dec-06	
Reference Group Meeting	29-Jan-07	29-Jan-07	
Reference Group Meeting	13-Mar-07	13-Mar-07	
Reference Group Meeting	30-Apr-07	30-Apr-07	
Reference Group Meeting	04-Jun-07	04-Jun-07	
Reference Group Meeting	09-Jul-07	09-Jul-07	
Reference Group Meeting	03-Sep-07	03-Sep-07	
Reference Group Meeting - Final	11-Dec-07	11-Dec-07	
Site selection visits	17-Jan-07	11-Jun-07	
Conferences, etc.	05-May-07	28-Jul-07	
Round Table-Print Disabilities, Adelaide	05-May-07	06-May-07	
Macular Degeneration Expo, Hobart	29-Jun-07	30-Jun-07	
Mobility Expo 2007, Brisbane	18-Jul-07	18-Jul-07	
Overview 2007, Canberra	27-Jul-07	28-Jul-07	
Demonstration visits	29-Jun-07	14-Sep-07	
Training	17-Jul-07	31-Aug-07	
Division staff training	17-Jul-07	27-Jul-07	
Polling official training	27-Aug-07	31-Aug-07	
Procurement	02-Oct-06	19-Dec-06	
Commence procurement process	02-Oct-06	02-Oct-06	Milestone
Procurement Process Approval	16-Oct-06	16-Oct-06	Milestone
Develop SOR	02-Oct-06	29-Nov-06	
FMA 9 and 10 Approvals	01-Dec-06	01-Dec-06	Milestone
Release tender	01-Dec-06	01-Dec-06	Milestone
Tender open	01-Dec-06	19-Dec-06	
Industry Briefing	07-Dec-06	07-Dec-06	Milestone
Tender close	19-Dec-06	19-Dec-06	Milestone
Tender evaluation	19-Dec-06	21-Mar-07	
Tender Evaluation Plan Approved	19-Dec-06	19-Dec-06	Milestone
Evaluation	19-Dec-06	12-Feb-07	
Preferred Tenderer selected	13-Feb-07	13-Feb-07	
Contract Negotiation	13-Feb-07	19-Mar-07	
Letter of Comfort signed	05-Mar-07	05-Mar-07	Milestone

Contract signing	21-Mar-07	21-Mar-07	Milestone
System Design, Testing	05-Mar-07	28-Jun-07	
Develop Contractor's Project Management Plan	05-Mar-07	15-Mar-07	
Project Management Plan accepted	15-Mar-07	15-Mar-07	Milestone
Develop system design specification	05-Mar-07	20-Mar-07	
Review system design specification	21-Mar-07	29-Mar-07	
Accept system design specification	30-Mar-07	30-Mar-07	Milestone
System Testing	05-Mar-07	28-Jun-07	
Usability testing	16-Apr-07	18-Apr-07	
Audit	31-May-07	23-Aug-07	
RFQ Issued	31-May-07	31-May-07	Milestone
RFQ Closed	13-Jun-07	13-Jun-07	Milestone
Evaluation	13-Jun-07	26-Jun-07	
Contract Signed	26-Jun-07	26-Jun-07	Milestone
Conduct of the Audit	16-Jul-07	10-Aug-07	
Certification Issued	23-Aug-07	23-Aug-07	Milestone
Communication	10-Jan-07	23-Nov-07	
Initiation	10-Jan-07	10-Jan-07	Milestone
Plan development	10-Jan-07	24-May-07	
Final Plan	28-May-07	28-May-07	Milestone
Advertising period	05-Nov-07	23-Nov-07	
Equipment	13-Apr-07	31-Aug-07	
Receive Development EVMs	13-Apr-07	13-Apr-07	Milestone
Initial 47 EVMs received	18-Jun-07	18-Jun-07	Milestone
Additional 5 EVMs received	18-Jun-07	18-Jun-07	Milestone
Final 10 EVMs received	31-Aug-07	31-Aug-07	Milestone
Election Period	31-Oct-07	21-Dec-07	
Deployment of EVMs	08-Nov-07	12-Nov-07	
Recording scripts	31-Oct-07	05-Nov-07	
Election application creation	05-Nov-07	07-Nov-07	
Distribution of CD-ROMs	07-Nov-07	12-Nov-07	
EVM setup and election load	09-Nov-07	13-Nov-07	
Voting period	12-Nov-07	25-Nov-07	
Site reviews	12-Nov-07	22-Nov-07	
EVM refurbishment and return to Sydney	26-Nov-07	03-Dec-07	
EVM and furniture move to Canberra storage	10-Dec-07	13-Dec-07	
Return of the writs	21-Dec-07	21-Dec-07	Milestone
Post Election	10-Dec-07	29-Feb-08	
Focus groups	10-Dec-07	18-Dec-07	
Court of Disputed Returns closes	30-Jan-08	30-Jan-08	Milestone
Reporting period	02-Jan-08	29-Feb-08	
Reports complete	29-Feb-08	29-Feb-08	Milestone
Disposal of EVMs and other assets	30-Jan-08	27-Feb-08	

Appendix B

Communications Strategy - Table of Sites Visited

Date	Location	No of Attendees	Media
16 Jul 07	Vision Australia, Southport (Qld)	18	NBN regional interviewed AEC representative
18 Jul 07	Guide Dogs, Bald Hills (Qld)	23	Courier mail & local newspaper. ABC radio interviewed AEC representative
19 Jul 07	Vision Australia, Woolloongabba (Qld)	33	None
20 Jul 07	Centenary High School, Brisbane (Qld)	9	None
27 Jul 07	Blind Citizens EXPO Canberra (ACT)	50	Canberra Times, WIN Television
28 Jul 07	Blind Citizens EXPO Canberra (ACT)	50	Canberra Times, WIN Television
1 Aug 07	Royal Guide Dogs, Hobart (Tas)	15	WIN TV & ABC TV interviewed blind electors and AEC representative
3 Aug 07	Royal Guide Dogs, Launceston (Tas)	12	None
7 Aug 07	Association for the Blind of WA, Bunbury (WA)	20	ABC news & WIN news took film & interviewed AEC representative
8 Aug 07	Association for the Blind of WA, Mandurah (WA)	12	Local newspaper interviewed AEC representative
9 Aug 07	Association for the Blind of WA, Victoria Park (WA)	35	None
14 Aug 07	Vision Australia, Enfield (NSW)	18	None
15 Aug 07	Guide Dogs, Chatswood (NSW)	19	ABC TV & ABC radio interviewed three blind electors & AEC representative
16 Aug 07	Guide Dogs, Westmead (NSW)	16	None
20 Aug 07	Vision Australia, Warragul (Vic)	9	None
21 Aug 07	Vision Australia, Coffs Harbour (NSW)	22	WIN TV interviewed AEC representative and took footage ABC Radio
22 Aug 07	Vision Australia, Belmont (Vic)	16	Geelong Advertiser took photos and interviewed AEC representative
23 Aug 07	Hervey Bay Community Centre,	17	WIN TV & local newspaper interviewed blind elector

Date	Location	No of Attendees	Media
	Hervey Bay (NSW)		ABC Radio
24 Aug 07	Cavendish Road High School, Brisbane (Qld)	16	Internet article through school publications
30 Aug 07	Royal Society for the Blind, Noarlunga (SA)	10	Local newspaper interviewed AEC representative
31 Aug 07	Royal Society for the Blind, Gilles Plains (SA)	10	RSB media person took photos and interviewed AEC representative
4 Sep 07	Vision Australia, Albury (Vic)	15	None
5 Sep 07	Vision Australia, Shepparton (Vic)	11	WIN TV interviewed AEC representative and footage was shown on local TV
6 Sep 07	Alice Springs Council offices, Alice Springs (NT)	11	Local newspaper interviewed AEC representative and took photos
7 Sep 07	Guide Dogs, Darwin (NT)	16	ABC TV interviewed AEC representative
10 Sep 07	Vision Australia, Fairy Meadow (Wollongong) (NSW)	14	Local newspaper interviewed a blind elector & ABC radio conducted live interview with AEC representative
11 Sep 07	AEC office, Dubbo (NSW)	16	Local newspaper took photos and interviewed one blind elector & AEC representative
13 Sep 07	Vision Australia, Cairns (Qld)	13	WIN TV interviewed AEC representative and took footage. Cairns Post were provided with an information sheet
13 Sep 07	Vision Australia, Kooyong (Vic)	20	SBS TV & local newspaper interviewed AEC representative 7 one blind elector
14 Sep 07	Cairns Library, Cairns (Qld)	13	Cairns Post newspaper article ABC Radio
14 Sep 07	Vision Australia, Prahran (Vic)	30	None
20 Sep 07	AEC State office, Adelaide (SA)	9	ABC radio conducted live interview with AEC representative

EVC Inspection Check List

Issuing Point	
❑	Contact DRO/OIC prior to visit with ETA
❑	Large print Declaration is at Issuing Point
❑	Large print Declaration is being read to client if required
❑	Braille Declaration is at Issuing Point
❑	Braille Declaration is being offered as an alternative to the Large Print declaration
❑	Signature Template is being offered
❑	Declaration envelope is not being marked in any special way to signify a BVI Voter
Management	
❑	E-Voting EF70 is being used
❑	EF70A is being completed after each vote
❑	EF70B is being completed after each vote
❑	Reports folder is being used and Counterfoils stored separately
❑	Start and End of day reports are being printed and filed appropriately
EVM Setup	
❑	EVMs are set up so that the voting session can only be seen by the voter.
❑	Voting area is clear of How To Vote material?
❑	Is the Braille Keypad Guide at the EVM?
❑	Is the Large Print Keypad Guide at the EVM?

❑	Is the E-Voting Quick Reference Guide for Polling Officials (placemat) at the EVM?
❑	Are the staff using the placemat when coaching the voter.
❑	Is the Counter Bell at the EVM
❑	Are spoiled EVM print outs being destroyed effectively
❑	Take Photograph of the EVM setup
❑	Take long view photograph of the Voting centre itself
CCTV Setup	
❑	Is a CCTV Present
❑	Take a Photo of the CCTV Setup
❑	If so, is the CCTV setup so that the preferences of the voter can only be seen by the voter.
❑	Is there a Desktop voting screen surrounding the CCTV
Exit Poll	
❑	Is the Exit Poll questionnaire being positively offered
❑	Number of exit polls taken so far _____
❑	Number of BVI votes taken so far _____
❑	Participated in the Exit Poll process
Other Stats	
❑	Have there been voters queued waiting to use the EVM?
❑	If so, approximately how many people were queued?
❑	How long was the longest waiting time?

Other Comments _____
_____Initial_____Date …./11/07

Statement of Requirements

2.1 Introduction

2.1.1 The Joint Standing Committee on Electoral Matters, in its report on the 2004 Federal Election, recommended that the Australian Electoral Commission (AEC) trial electronic voting for certain classes of voters.

2.1.2 The Government has supported the recommendation in principle. Two solutions are required: one for blind and vision impaired voters at up to 30 pre-poll sites around Australia, and another for remote electronic voting for overseas Australian Defence Force (ADF) personnel.

2.1.3 This Statement of Requirements relates to the solution for blind and vision impaired voters for the next federal election. In the past, such voters have required assistance to cast a vote; therefore their vote was not secret. The principle purpose of this trial is to allow the AEC to evaluate a means of providing such voters with access to a secret ballot by an electronically assisted process.

2.2 Summary of Requirements

2.2.1 AEC requires the provision of an electronic voting system for blind and vision impaired voters.

2.2.2 The requirements detailed in this Tender are for a limited trial only and include:

a) A system to allow for the specific requirements of the Australian federal electoral system, that is, a voting system that allows for full preferential voting for the House of Representatives, proportional representation for the Senate, and caters for a referendum if necessary; and

b) The requirement for a printed ballot paper in barcode format, and the module to decode and print the contents of those barcodes.

2.2.3 The system will be deployed to up to 30 ‘pre-poll’ sites around Australia. In general terms, a pre-poll site is one that operates during the 2 or 3 weeks before election day.

2.2.4 AEC requires a minimum of 55 voting machines, which will be spread across selected sites, and will operate for up to 3 weeks during the period before an election, and on polling day.

a) Note that 8 of these 55 machines will be used for development and training.

2.2.5 Up to an additional 100 machines may be required depending on the number of sites selected and the number of machines per site.

2.2.6 The electronic voting machines (EVMs) will consist of the necessary hardware and software to allow blind and vision impaired voters to cast their votes, including the printing of the voter’s preferences in a barcode format.

2.2.7 The EVMs will be delivered to the polling places and assembled by the Contractor ready for use.

2.2.8 At the end of polling, the EVMs will be disassembled and transported to a central store by the Contractor.

2.2.9 A decoding module will be required to decode the bar-coded votes and print them in a readable format.

2.2.10 The voting process is explained in detail below, however it is **Essential** that the vote be printed by the voting machine in a barcode format so as to protect the secrecy of the ballot in the polling place.

2.2.11 It is **Highly Desirable** that a 'turn key' solution is offered. The AEC will give strong preference to 'turn key' solutions, that is, solutions that require minimal or no involvement of AEC's information technology staff.

2.3 High Level Process Diagram

2.3.1 A high-level process diagram is at Attachment 1.

2.4 The Voting Process

2.4.1 The voting process will be as follows:

a) The blind or vision impaired voter attends a pre-poll centre in order to cast a vote;

b) The issuing officer assists the voter to complete a declaration vote envelope, and determines the electoral Division for which the elector claims enrolment;

c) A voting official escorts the voter to a voting booth set up with an EVM, and familiarises the voter with the equipment;

d) The official then enables the EVM to present to the voter the appropriate ballot papers, and if necessary, referendum questions, and moves away from the booth;

e) The voter goes through the voting process, recording their preferences in the EVM;

f) The vote is confirmed and cast;

g) On casting, the printer produces a number of A4 sheets of paper, one with the voter's preferences for the House of Representatives, one for the Senate, and one sheet of paper for the referendum question/s, if applicable;

h) Note that the voter's preferences are recorded in a barcode so as to protect the secrecy of the ballot in the polling place;

i) The voter indicates that they have completed voting, and a voting official checks the output to ensure that a page has been correctly printed for each ballot type;

j) The official then escorts the voter back to the issuing officer, who places the folded ballot papers in the declaration vote envelope, seals it and places it in the ballot box.

2.4.2 It is **Highly Desirable** that the system complies with the process detailed at Clause 2.4.

2.4.3 It is **Essential** that the system be capable of reprinting the output should the official determine that the output was not printed correctly.

2.4.4 After confirmation that the output was printed or reprinted correctly, it is **Essential** that the system have a facility so that the official can reset the machine ready for a new voter, including removing all details of the previous voter's preferences.

2.4.5 Where the proposed solution requires a variation to this process, Tenderers **must** clearly explain the:

a) differences;

b) impact on the proposed process; and

c) benefits.

2.5 Equipment Requirements

2.5.1 The AEC is required to provide facilities for blind and vision impaired voters at up to 30 locations around Australia. Each selected site will have two EVMs.

2.5.2 For the purposes of this trial, AEC requires a minimum of 55 EVMs, and may require up to a maximum of 155 EVMs.

2.5.3 EVM hardware includes, but is not limited to:

a) the computer or processor itself;

b) a method of ensuring that the computer case and its contents are not subject to tampering;

c) a computer screen suitable for vision impaired voters, which may include touch screen capability;

d) an input device suitable for blind or vision impaired voters, including tactile indicators on the device;

e) headphones including a supply of disposable foam ear pads or disposable earphones; and

f) a printer capable of printing a two dimensional barcode and text on A4 80 gsm office paper, such that the barcode will not smudge when touched.

2.5.4 A minimum of 3,000 disposable foam ear pads or earphones are required, and up to an additional 4,000 may be required should the local demand be higher than expected.

2.5.5 It is **Essential** that the Contractor supplies EVMs and associated software and peripherals described in this Clause 2.5.

2.5.6 Tenderers **must** provide specifications for the proposed items listed in Clause 2.5.3 above.

2.5.7 It is **Essential** that, in the event of a power failure, the equipment can be restarted and made operational on resumption of the power supply.

2.5.8 Where touch screen capability is not included, Tenderers **must** state the advantages of the system offered.

2.5.9 The next election may be held between 4 August 2007 and 19 January 2008. Below is a nominal time frame for the election and the supply of the equipment:

Day 1	Election announcement
Day 15	Pre-poll period begins
Day 15/16/17	EVMs available for use
Day 34	Election day

2.5.10 From this timetable, it should be noted that the AEC will require use of the majority of this equipment for a period of 5 months from notification of the election, and that some 14 calendar days only are available between notification of the election and when the sites will need to be set up.

2.5.11 It is **Essential** that this timeframe be met.

2.5.12 In providing costings for the equipment, Tenderers **must** provide the most cost effective acquisition methodology, which may be lease, purchase and buy back, purchase, or some other methodology, taking into consideration the time the equipment is needed, and that some equipment will be retained by AEC.

2.5.13 Tenderers **must** provide costings for this equipment in the Pricing Schedule at TRS 4.

2.5.14 Tenderers **must** include the total cost for development of the software to final acceptance for implementation.

a) If the tenderer proposes that software costs are to be met through a license agreement full details and costs of the licensing proposal must be provided.

2.5.15 Of the 55 initial EVMs, 4 will be required for development purposes.

a) Tenderers **must** include a separate cost for this equipment in the Pricing Schedule at TRS 4.

2.5.16 Of the 55 initial EVMs, 4 will be required for training purposes.

a) Tenderers **must** include a separate cost for this equipment in the Pricing Schedule at TRS 4.

2.5.17 The equipment for development and training **including software** will be retained by AEC after the trial period for demonstration purposes only.

a) No further development or support for these machines or the software will be required;

b) Tenderers **must** include a proposal for licensing of software for use in the 8 machines retained for the purposes detailed in this clause 2.5.17.

2.5.18 The AEC will retain any EVMs that are required to be kept available to satisfy petitions to the Court of Disputed Returns. Any costs for such EVMs **must** not exceed the costs for EVMs supplied for development and training purposes.

2.6 Documentation

2.6.1 It is **Essential** that the Contractor develops, in conjunction with AEC, a systems design specification. This specification **must** include details of the software as well as the hardware.

2.6.2 It is **Essential** that the Contractor develops and provides manuals for assembly, disassembly and operation of the EVMs.

2.6.3 It is **Essential** that the Contractor develops and provides an administration user guide, including election setup.

2.6.4 It is **Essential** that the Contractor develops and provides a training course including documentation to be used for training polling staff. Note that this requirement does not include delivery of the training course to staff.

2.6.5 It is **Essential** that documentation required by this clause be supplied in hardcopy and softcopy.

2.6.6 As this documentation will be developed for the AEC as part of this acquisition, the ownership of the intellectual property will be vested in the AEC.

2.7 Election Setup

2.7.1 This clause outlines, in general terms, the elements that make up a federal election, and details the requirements to allow setup of the data for a federal election for loading onto the EVMs.

2.7.2 See Clause 2.14 for the timeframe for the next election, and for a potential timetable once an election is announced.

2.7.3 It is **Essential** that the election setup be undertaken by AEC officials to provide a level of confidence that this is within AEC's control.

2.7.4 Australia's federal elections generally consist of electing a member for each of the 150 House of Representatives electorates, and of electing Senators for each State and Territory.

2.7.5 At any federal election, a Referendum may also occur.

a) A Referendum consists of one or more questions, and for each of the questions, the elector must respond 'YES' or 'NO'.

2.7.6 Generally, if there are multiple Referendum questions, they are presented on a single ballot paper, but on some occasions, such multiple questions have been presented on multiple ballot papers.

2.7.7 Voting for the House of Representatives requires each candidate to be numbered from 1 up to the total number of candidates.

2.7.8 Voting for the Senate can be either:

a) Marking a single preference for a group 'above the line' (ATL); or

b) Numbering each box 'below the line' (BTL) from 1 up to the total number of candidates.

2.7.9 At the 2004 election for the House of Representatives, there were an average of 7.3 candidates per electorate. The maximum in any single electorate was 14.

2.7.10 The number of candidates and groups for the Senate ballot papers for the 2004 election is listed in the table below.

a) Note that the groups refer to lists of grouped candidates for whom a vote can be cast above the line.

State / Territory	Candidates	Groups	Ungrouped Candidates
NSW	78	29	4
VIC	65	19	8
QLD	50	21	2
WA	40	15	3
SA	47	16	3
TAS	26	9	4

ACT	13	6	1
NT	11	5	1

2.7.11 Tenderers should note that the above data is provided for information only, and may be indicative of the number of candidates at any future election.

2.7.12 It is **Essential** that the House of Representatives ballot data for all 150 divisions, Senate ballot data for each State and Territory and ballot data for any Referendum be available in all EVMs to cater for all electors.

2.7.13 Files of electorates, parties, candidate names, referendum questions, position on ballot paper and other relevant information will be available for upload into the system, and this data must be used without any alteration to content or case, for populating the software provided.

a) The data format in AEC's Election Management System is provided in Attachment 2 for reference.

2.7.14 The data will be available as delimited files, with details and format agreed by AEC and the Contractor to:

a) minimise the changes to existing AEC systems, and

b) minimise the chance for error due to data transmission and manipulation.

2.7.15 Referendum information will consist of the questions to be answered, and will be common to all electors.

2.7.16 It is **Essential** that the system includes the capability to facilitate the setup of the election as detailed above by AEC officials, including, but not limited to:

a) An import process to allow the data mentioned in Clause 2.7.14 to be loaded into the system; and

b) An import process to allow the sound recording of parties and names, etc., to be loaded into the system and to be associated with the data imported in Clause 2.7.16 a).

2.7.17 The AEC will be responsible for the recording of scripts and other audio, and for all costs associated with that recording.

2.7.18 Note that it is AEC's intention that the data mentioned in Clause 2.7.14 will be prepared and loaded by AEC staff at its National Office in Canberra.

2.7.19 It is **Essential** that the setup process can be completed within the timeframe provided at Clause 2.14.8.

2.7.20 Tenderers **must** state the capability of their system to comply with the requirements of the setup process described in Clause 2.7.

2.7.21 Where Tenderers offer an alternative to the elements outlined in this Clause 2.7, the advantages of that alternative **must** be clearly stated.

2.8 Logistics – Delivery and Retrieval

2.8.1 It is **Essential** that the Contractor arranges the delivery of the Electronic Voting Machines (EVMs) to specified sites around Australia, as outlined in this Clause.

2.8.2 It is **Essential** that each EVM be accompanied by a hardcopy of the documentation for assembly, disassembly and operation.

2.8.3 It is **Essential** that the Contractor arranges the collection and return of the equipment to a point to be advised in Canberra at the end of polling.

2.8.4 While the sites have not yet been selected, it is expected that, as a minimum, the following number of sites will be in the capital cities shown:

City	Number of sites
Sydney NSW	2
Melbourne VIC	2
Brisbane QLD	1
Adelaide SA	1
Perth WA	1
Hobart TAS	1
Darwin NT	1
Canberra ACT	1

Any additional sites may be in metropolitan or regional areas and will be advised if and when when they have been selected.

2.8.6 A draft timeframe in relation to a potential election day is included at Clause 2.14, and the delivery and retrieval **must** fit within that timeframe.

2.8.7 Tenderers **must** state their capability to provide the required elements (Clauses 2.8.1, 2.8.2 and 2.8.3) of this logistical solution.

2.8.8 Tenderers **must** provide indicative costings in the Pricing Schedule TRS 4 for delivery to and retrieval from the sites listed. Any variation to these costs will need to be agreed between AEC and the successful Tenderer.

2.8.9 Prices for delivery to and retrieval from any additional sites will be agreed with the successful Tenderer if and when the sites are known.

2.9 Hardware – Assembly and Disassembly

2.9.1 It is **Essential** that the Contractor arranges and manages the assembly of the EVMs at specified sites around Australia. This assembly must include testing the EVMs to ensure that they are operational.

2.9.2 It is **Essential** that the Contractor arranges the disassembly and repackaging of the equipment ready for collection after polling.

2.9.3 A draft election timeframe is included at Clause 2.14, and the assembly and disassembly **must** fit within that time frame.

2.9.4 Tenderers **must** state their capability to provide the required elements (Clause 2.9.1 and 2.9.2) of this service.

2.9.5 Tenderers **must** provide costings in the Pricing Schedule at TRS 4 for the labour involved in this exercise, for 2 machines at each site. Apart from any changes for travel time, any variations to these costs will need to be agreed between AEC and the Contractor.

2.9.6 Tenderers **must** provide an hourly rate for travel time in the Pricing Schedule at TRS 4.

2.10 Format of Printed Output

2.10.1 A prime consideration in developing this electronic voting method for blind and vision impaired voters is to enable such voters to cast a secret vote.

2.10.2 A potential point of failure for this objective is the printed output. In various circumstances, such as a printer malfunction, or an inadvertent dropping of the printed page, the voter's preferences may be seen by a polling official, resulting in a breach of the secrecy of the vote.

2.10.3 It is **Essential** that the voter's preferences are recorded on the sheets printed in the polling place in a barcode, so that the secrecy of the vote is protected, even in the event of a printer malfunction or other complication.

2.10.4 While various barcode formats could achieve this aim, the complexity of the ballot papers is such that the common Code 128 barcode, for instance, could not accommodate the necessary characters.

2.10.5 It is therefore AEC's requirement that the voter's preference be printed in a two dimensional barcode, for example, PDF417.

2.10.6 It is **Essential** that one page of printed output is produced for each vote cast, that is, one for the House of Representatives, one for the Senate, and one for the Referendum, if applicable.

2.10.7 The format of printed output, using PDF417 as an example, is shown at Attachment 3.

2.10.8 For the Senate, however, even given the capacity of available barcodes, the information recorded may need to be representational, rather than duplicating the full Senate paper.

2.10.9 Tenderers **must** provide one or more proposals for encoding the Senate ballot paper in the barcode.

2.10.10 Tenderers **must** state:

a) Which barcode they believe will achieve AEC's purpose;

b) The capability of their system to produce output in that barcode;

c) The amount of space allocated for error recovery to avoid any problems in reading the barcodes; and

d) The rationale behind their selection and configuration.

2.11 Processing Bar-coded Output

2.11.1 Decoding of the barcodes and printing of the resultant representations of ballot papers will take place in Divisional Offices, up to 150 locations around Australia.

2.11.2 Given that the successful Tenderer will format the barcode, it is **Essential** that a 'decoding' module be supplied for the barcodes, which will take the recorded data and print it in the required format (see below). This module is to enable the barcodes to be processed in each Divisional Office.

2.11.3 It is **Essential** that the 'decoding' module is Windows 2000 Professional and Windows XP Professional compliant, and be a stand-alone program, that is, the module will run under but not require installation into the Windows operating system.

2.11.4 It is **Essential** that processing for the various printed output be as follows:

a) The House of Representatives output is to be printed in the format shown at Attachment 4-A;

b) The Senate output is to be printed in the format shown at Attachment 4-B; and

c) Any Referendum output is to be printed in the format shown at Attachment 4-C.

2.11.5 The AEC currently has barcode imagers in its Divisional Offices. These are HandHeld brand imagers, model 4200, which are capable of reading two-dimensional barcodes. The specifications of the imagers are available at http://www.handheld.com/Site.aspx/ap/en/product_center/hardware/?product=160.

2.11.6 It is **Essential** that test output be read to AEC's satisfaction by these imagers, and the AEC will provide a barcode imager for use during testing.

2.11.7 It is **Essential** that AEC's IT staff be involved in the testing of the decoding module, including testing the compatibility with AEC's internal computer systems and network.

2.11.8 AEC is currently in the process of replacing its office printer fleet, which will print the decoded ballot papers. Details of the new models installed in its Divisional Offices will be advised as soon as possible. The AEC currently uses Lexmark laser printers model T620.

2.12 Help Desk

2.12.1 Level 1 help desk services will be provided by AEC's IT Support staff. IT Support will triage all calls, resolve simple problems and refer more complex problems to Level 2 support.

2.12.2 It is **Essential** that the Contractor provides comprehensive telephonic Level 2 help desk facilities to support the operation of EVMs.

2.12.3 It is **Essential** that the help desk be available from the commencement of setup to close of polling, during opening hours only. Indicative opening hours for the purpose of providing costings are:

Day	Opening Hours
Monday to Friday (15 days)	8am to 7pm
Saturday – not polling day (2 days)	8am to 6pm
Saturday polling day (1 day)	8am to 6pm

Note that closing times on Thursdays or Fridays may be extended to cater for late-night shopping arrangements.

2.12.5 Tenderers **must** provide costings for this service in the Pricing Schedule at TRS 4.

2.13 System Certification

2.13.1 It is **Essential** that the final system be independently audited to verify that the system is secure and accurate. Accordingly, the successful tenderer will be required to undergo a system audit and certification process.

2.13.2 This audit will include the encoding and decoding of barcodes, and the production of printed output.

2.13.3 For this purpose, the source code and other documents and equipment will be required to be made available to an independent auditor.

2.13.4 The independent auditor will be contracted to the AEC, and the terms of that contract will include confidentiality.

2.13.5 The AEC will be responsible for all costs of this audit.

2.13.6 Tenderers **must:**

a) indicate their agreement to participate, if selected as the successful Tenderer, in such an audit by way of the provision of the necessary source code, documents and equipment;

b) submit in the Pricing Schedule at TRS 4 any costs that may be charged by the Tenderer for participating in the audit; and

c) indicate any potential constraints on such an audit.

2.13.7 Where a cost is offered in the Pricing Schedule at TRS4, Tenderers **must** provide complete details of the reason for the cost and what it covers.

2.13.8 Tenderers should note that where their response to this Clause 2.13 results in an assessment that the audit of the system may potentially be ineffective, they may be excluded from further consideration in the tender evaluation process.

2.14 Required Time Line

2.14.1 As already covered, the next federal election may be held between 4 August 2007 and 19 January 2008. An election may be announced, then, from 1 July 2007.

2.14.2 It is **Essential** that all development, testing, certification and documentation be complete by 30 June 2007.

2.14.3 Tenderers **must** agree to this target date.

2.14.4 Where Tenderers indicate that they may not be able to meet this date, or that the AEC assess that the Tenderer may not be able to meet this date Tenderer(s) may be excluded from further consideration in the tender evaluation process.

2.14.5 It is **Most Important** that Tenderers agree to a time line of the following order:

25 January 2007	Contract signed
28 February 2007	Initial development complete
March 2007	Testing
April 2007	System changes and testing
May 2007	Software audit
31 May 2007	System ready for deployment

This timetable allows some leeway in the event of delays at any time during the project.

2.14.7 Tenderers **must** agree to this time frame, or alternatively **must** propose a suitable alternative that will achieve the 30 June 2007 deadline.

2.14.8 An estimated timeframe once an election is announced is as follows:

Mon	Day 1	Election announcement
	Days 2 to 12	Candidate and party names progressively available
Fri	Day 12 COB	Final HoR data available
Sat	Day 13 5pm	Final Senate data available
Mon	Day 15	Pre-poll period begins
Mon	Day 15	Where possible, due to location, EVM sites active
Tue	Day 16	Most EVM sites active
Wed	Day 17	Any residual EVM sites active
Sat	Day 34	Election day
Sun	Day 34	Site refurbishment
	Day 34 + 3 months	Petitions to the Court of Disputed Returns close

2.14.9 Tenderers must state their capability to meet this timeframe.

Attachments to the Request for Tender AEC 06/55
Electronic Voting Trial for Blind and Visually Impaired Voters

Attachment 1 High Level Process Diagram

Attachment 2 Data Format for Election Setup

Attachment 3 Format of Barcoded Printed Output

- A House of Representatives
- B Senate
- C Referendum

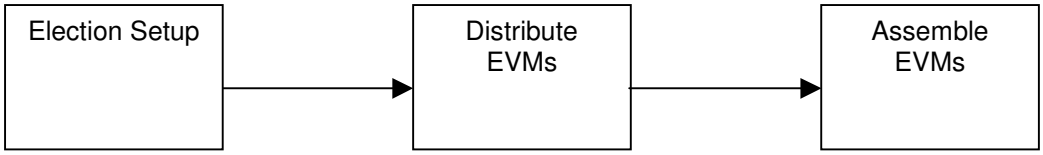
Attachment 4 Format of Decoded Printed Output

- A House of Representatives
- B1 Senate Above The Line
- B2 Senate Below The Line
- C Referendum

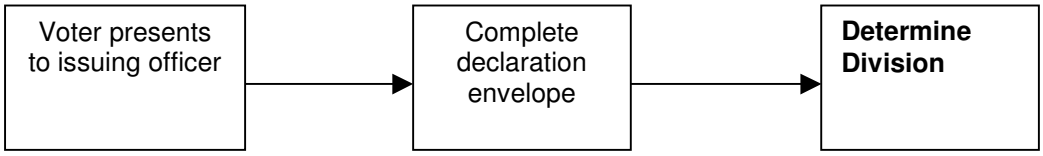
Attachment 1

High Level Process Diagram
Electronic Voting for Blind and Visually Impaired Voters

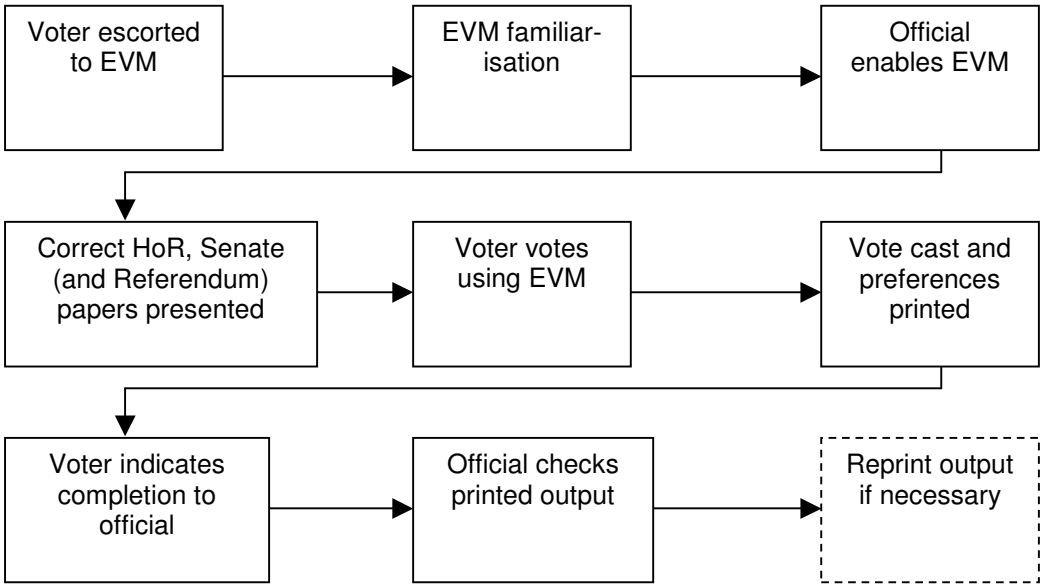
Pre-voting period preparation



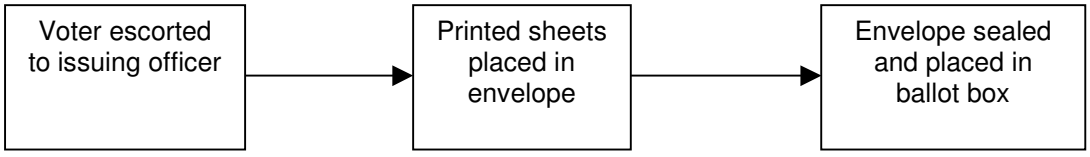
Voting period



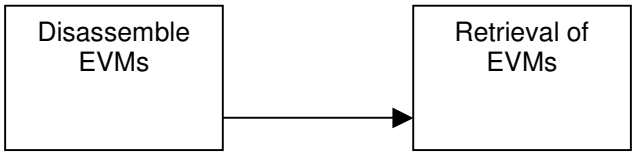
Individual voting



Individual voting complete



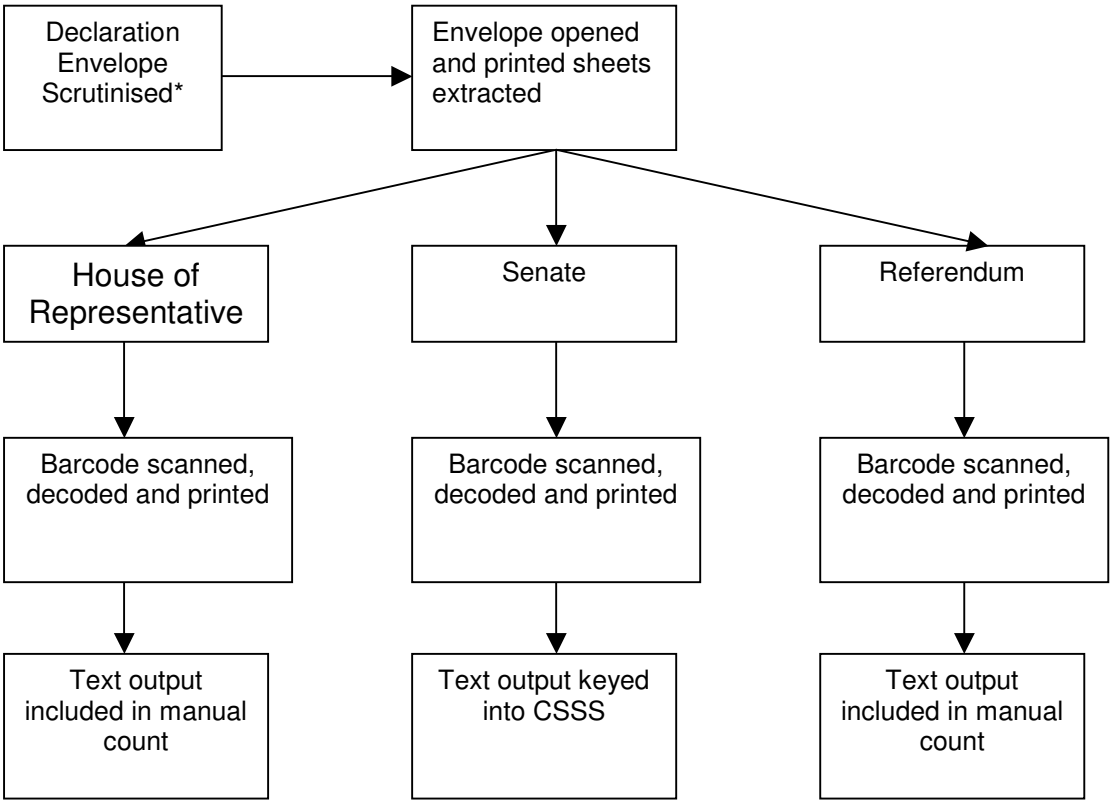
Post voting period – polling place



High Level Process Diagram - Continued

Electronic Voting for Blind and Visually Impaired Voters
Post voting period – Divisional Office

Preliminary steps undertaken by AEC that have no bearing on the system are not shown here, for example, the declaration envelope exchange process



* This process involves electoral officials determining if the person who completed the declaration envelope is entitled to vote. The process above only shows the process for votes that are to be counted.

Data in existing AEC systems

This paper is a summary of the data and data structure of existing AEC systems that may interface with Blind and Vision Impaired (BVI) trial.

Election Management System (ELMS) will provide details on election event, electorates, parties and candidates to BVI trial.

Election Management System

ELMS holds significant amount of information for the conduction of Federal Election, By-Election and Referendum. The data structure listed below is a cut down version of what is held in ELMS. AEC's IT Applications Section will provide more details should further information is required.

Event

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	event.txn_id	
Description	No	String	72	transactions.txn_tx	
Event Date	No	Date	8	transactions.txn_dt	yyyymmdd
House Flag	No	String	1	events.house_of_reps_fl	Y or N
Senate Flag	No	String	1	derived from events.senate_co	Y or N
Referendum Flag	No	String	1	events.referendum_fl	Y or N

States

States include six states and two territories. These are the electorates for Senate elections.

Name	Primary Key?	Type	Length	AEC Field	Comment
State Ab	Yes	String	3	states.state_ab	NSW, QLD etc
State Name	No	String	32	states.state_nm	

Notes for AEC programmers: do not include administrative states records.

Divisions

This table stores all the House of Representative electorates, which are called divisions.

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	divisions.txn_id	
Division Id	Yes	Integer	6	divisions.div_id	
Division Name	No	String	32	divisions.div_nm	

Notes for AEC programmers: do not include administrative divisions records.

Parties

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	parties.txn_id	
Party Id	Yes	Integer	6	parties.party_id	
Party Name	No	String	32	parties.party_nm	

Notes for AEC programmers: only include parties which have nominated candidates for the event.

Senate Groups

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	s_groups.txn_id	
Group Id	Yes	Integer	6	s_groups.group_id	
State Ab	No	String	3	s_groups.state_ab	
Group Name	No	String	32	s_groups.group_ballot_nm	
Ticket	No	String	2	s_groups.ticket	
Ballot Position	No	Integer	3	Derived from s_groups.ticket	

Notes for AEC programmers: only include parties which have nominated candidates for the event.

House Candidates

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	h_candidates.txn_id	
Candidate Id	Yes	Integer	6	h_candidates.cand_id	
Division Id	No	Integer	6	h_candidates.div_id	
Ballot Position	No	Integer	2	h_candidates.ballot_position	
Surname	No	String	32	h_candidates.surname	
Given Name	No	String	32	h_candidates.ballot_given_nm	
Party Name	No	String	72	h_candidates.party_ballot_nm	

Senate Candidates

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	s_candidates.txn_id	
Candidate Id	Yes	Integer	6	s_candidates.cand_id	
State Ab	No	String	3	s_candidates.state_ab	
Group Id	No	Integer	6	s_candidates.group_id	
Ballot Position	No	Integer	2	s_candidates.ballot_position	
Surname	No	String	32	s_candidates.surname	
Given Name	No	String	32	h_candidates.ballot_given_nm	
Party Name	No	String	72	h_candidates.party_ballot_nm	

Referendum Ballot/Questions

Name	Primary Key?	Type	Length	AEC Field	Comment
Event Id	Yes	Integer	6	r_questions.txn_id	
Ballot Paper Code	Yes	String	2	r_questions.bp_co	
Question Number	Yes	Integer	2	r_questions.question_no	
Question Type	No	String	1	r_questions.question_ty_co	R – referendum P – plebiscite
Question Title	No	String	32	r_questions.question_title	
Question Text	No	String	360	r_questions.abridged_question_tx_1/2/3/4/5	

Format of Barcoded Printed Output – House of Representatives

HOUSE OF REPRESENTATIVES

VICTORIA

ELECTORAL DIVISION OF

ASTON

Format of Barcoded Printed Output – Senate

SENATE

QUEENSLAND 2007

Format of Barcoded Printed Output

Referendum

NORTHERN TERRITORY

Referendum on proposed Constitution alteration

A PROPOSED LAW: Details of the proposed law will be included here. It may run to a number of lines:

A PROPOSED LAW: Details of a second proposed law may be included here:

Format of Decoded Printed Output

House of Representatives

HOUSE OF REPRESENTATIVES

VICTORIA

ELECTORAL DIVISION OF

ASTON

X LASTNAME1, Firstname
PARTY

X LASTNAME2, Firstname
PARTY

X LASTNAME3, Firstname
PARTY

X LASTNAME4, Firstname
PARTY

X LASTNAME5, Firstname
PARTY

X LASTNAME6, Firstname
PARTY

X LASTNAME7, Firstname
PARTY

Notes:

- X will represent the selections of the Voter, from 1 to the highest number entered.
- The font will be of a size so as to enable the full list to appear on one page.
- The order for the names will be the order on the ballot paper.

Format of Decoded Printed Output

Senate – Above The Line (ATL) Vote

SENATE

QUEENSLAND 2007

A	Y	PARTY NAME1	M	Y	PARTY NAME13
B	Y	PARTY NAME2	N	Y	PARTY NAME14
C	Y	PARTY NAME3	O	Y	PARTY NAME15
D	Y	PARTY NAME4	P	Y	PARTY NAME16
E	Y		Q	Y	PARTY NAME17
F	Y	PARTY NAME6	R	Y	PARTY NAME18
G	Y	PARTY NAME7	S	Y	PARTY NAME19
H	Y	PARTY NAME8	T	Y	
I	Y	PARTY NAME9	U	Y	PARTY NAME21
J	Y	PARTY NAME10	V	Y	PARTY NAME22
K	Y	PARTY NAME11	W	Y	PARTY NAME23
L	Y	PARTY NAME12	X	Y	PARTY NAME24

Notes:

- The first letter refers to the order of the parties on the ballot paper.
- Only ONE of the positions marked ‘Y’ will be completed with the number 1.
- The font will be of a size so as to enable the full list to appear on one page.
- Some ‘PARTY NAME’ fields will be blank, as shown.
- The order for the groups will be the order on the ballot paper.

Format of Decoded Printed Output

Senate – Below The Line (BTL) Vote

SENATE
QUEENSLAND 2007

A PARTY NAME1
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

B PARTY NAME2
Z Surname1, First Name
Z Surname2, First Name

C PARTY NAME3
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name

D
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

F PARTY NAME4
Z Surname1, First Name
Z Surname2, First Name

G PARTY NAME5
Z Surname1, First Name
Z Surname2, First Name

H PARTY NAME6
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name

I PARTY NAME7
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

J PARTY NAME8
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name

K
Z Surname1, First Name
Z Surname2, First Name

L
Z Surname1, First Name
Z Surname2, First Name

M PARTY NAME9
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name

N PARTY NAME10
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

O PARTY NAME11
Z Surname1, First Name
Z Surname2, First Name

P PARTY NAME12
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name

Q PARTY NAME13
Z Surname1, First Name
Z Surname2, First Name

R PARTY NAME14
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name

S
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name

T PARTY NAME15
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

U PARTY NAME16
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

V PARTY NAME17
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name

W PARTY NAME18
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

X PARTY NAME19
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name

Ungrouped
Z Surname1, First Name
Z Surname2, First Name
Z Surname3, First Name
Z Surname4, First Name
Z Surname5, First Name
Z Surname6, First Name

Notes:

- The first letter refers to the order of the parties on the ballot paper.
- Positions marked 'Z' will be numbered from 1 to the total number of candidates.
- The font will be of a size so as to enable the full list to appear on one page.
- Some 'PARTY NAME' fields will be blank, as shown.
- The order for the names will be the order on the ballot paper.

Format of Decoded Printed Output

Referendum

AUSTRALIAN CAPITAL TERRITORY

Referendum on proposed Constitution alteration

A PROPOSED LAW: Details of the proposed law will be included here. It may run to a number of lines:

DO YOU APPROVE THIS PROPOSED ALTERATION? **YES**

A PROPOSED LAW: Details of a second proposed law may be included here:

DO YOU APPROVE THIS PROPOSED ALTERATION? **NO**

Notes:

- The order for the questions will be the same as the ballot paper.

Appendix E

Software Improvement Pty Ltd
Project Review

Topic	Lessons
General	
The Consortium had a number of changes in staff working on this project over the past 12 months, but their loss was largely transparent to the AEC and did not adversely impact the progress of the project.	The Consortium's internal work processes worked well. Need to have back-up staff identified and available to enable smooth transfer of responsibilities, when required.
There was an effective working relationship between the AEC and the Consortium over the life of the project. This relationship was built on open and frank communication, shared understanding of issues and priorities, and the close proximity of partner offices.	Regular and open communication is critical to delivering desired project outcomes. Close proximity of key partner representatives enables them to get together quickly, as the need arises.
The schedule was flexible enough to cope with unplanned events (delay in some hardware delivery, longer than anticipated certification process).	Regular communication between the relevant AEC and Consortium Project Managers enabled the schedule to be adjusted according to agreed changes. Essential to have agreed risk mitigation strategies in place and subject to regular review.
The number of requirements grew from 48 in the RFT to 114 at the end of the three scoping meetings. Note: not all additional requirements were as complex as most of the original 48.	The expansion of the requirements should provide a more comprehensive (better) starting point for future initiatives.
Hardware	
Of a pool of 66 PCs, one had a motherboard failure (replacement motherboard also failed) and one had a hard drive failure. Although manufacturer warranty was purchased, the actual support from the manufacturer showed a lack of commitment to a time sensitive project	Given the project is time sensitive, ensure sufficient spares to provide response and repair within agreed time period.
There were no problems with the monitors. They were quite good for displaying a large font for voters with a vision impairment.	Ensure a quality monitor with good graphics display is always used.
The UPS became a very expensive component of each EVM. In addition, one UPS failed at Warragul PPVC and was replaced by one of the spares.	The need to ensure an electronic vote can be completed in a power outage situation should be

	reconsidered.
The current EVM configuration of separately assembled components increased the logistics costs, the assembly / disassembly costs and required time to ensure the integrity of the setup (components and connections) was correct.	Investigate the potential use of a single, integrated PC with touch screen capability (eg Rise LCD Panel PC, iMAC). This may require a different tamper-evident security regime.
The Printers worked well but, as mentioned earlier in this report (refer Milestone 9), the need to use a laser printer so the 2D barcodes did not smudge or bleed created issues with the UPS.	Review the need for high quality printing with a laser printer against current and emerging bubble-jet printer capabilities.
The tamper-evident security cases achieved the desired outcome but consumed a great detail of time and effort in terms of final design, shipping and assembly.	Consider a unit which is pre-moulded rather than having to assemble (still need to ensure cables can't be easily removed).
Shipping the furniture with the EVMs was expensive.	Consider alternative methods of shipping the furniture – didn't need to be shipped with the same quality of care as the EVMs.
Laptops worked well as demonstration machines and portable decoding machines.	Retain option for providing a mobile solution for demonstration purposes.
The keypads were manufactured using readily available off-the-shelf components to ensure product delivery and testing in the limited time available. This limited the choice of style and manufacturing techniques. After extensive use during the AEC 'marketing' phase two of the keypads developed a sticking key that was easily rectified by reseating the keys. There were issues with getting a design that met the requirements of users who are blind or have low vision.	Given sufficient notice a keypad could have been moulded to be of similar shape and size to a standard numeric keypad. A more suitable design based on well-specific criteria may have avoided the problem occurring. The final overall design can be used in specifying the look and feel for any future design.
The original headphones offered by the Consortium were deemed unsuitable by the AEC and an alternative was required.	Prospective tenderers for future initiatives should be requested to provide a sample of the full hardware suite for assessment.
Software	
The interconnectivity between the screen content and the audio files was not given sufficient importance during the early weeks of the project. The complexity of the operations between the different screens was not obvious early in the project.	Need to stress the importance of agreeing the screen content as soon as possible in the project. Even if screen content is not finalised, mock screens or storyboards need to be available to enable the

	customer to gain a better appreciation of the relationship between instructions on screen, movement between screens and audio scripts. Seek more end input / validation from the target user group. This may be simpler now that a design specification exists that meets the needs of the current legislation.
There was some ambiguity over responsibility for the audio scripts.	The RFT / Contract needs to be clear about who will write / develop to suit the particular system and who will record for testing, as well as for the final system. This may be simpler now that a design specification exists that meets the needs of the current legislation.
There was a considerable variation in the needs of people who are blind or have low vision and compromises were required to enable provision of an operational system in the time available. As shown via the usability testing, expert input was essential in providing a usable system.	Need to have usability expert/s on team.
There was a compressed timeframe for the development of the software. A model-driven development process assisted the Consortium to meet the timeframe	More time should be allocated for the software development process.
Installation and Support	
People completely unfamiliar with eVACS-AEC-BVI were able to install and get the system operational in the required timeframe, with most aspects working correctly in most sites.	The simplicity of the set-up should be continued, and testing done to avoid the minimal errors encountered.
Only nine problems were escalated to the Consortium for resolution using the formal process. One problem reported during setup was successfully resolved by the eVACS-AEC-BVI developer	This is testimony to a good design which has been thoroughly tested.
The poor response time by the PC manufacturer to rectify faults meant EVMs could have been off-line for an unacceptable period.	Consider deployment of spares to strategic locations (to bring down response time to attend and repair), or acquiring a PC manufacturer as a partner to avoid such problems.

Loading and Checking Procedures – Diacritical Marks

Note:

Of all candidate names for the 2007 federal election, a single name contained a diacritical mark. This was a letter ‘s’ with a ‘cedilla’, as follows:

DATA LOAD

1. Data will be supplied in EML (election markup language) format.
2. Load the Data, including sound files, onto the EVACS Setup computer.
3. Create EVM (Electronic Voting Machines) load DVD and decoded CDs.
4. Edit the supplied data to include any diacritical marks.
5. Load the Data onto the EVACS Setup computer.
6. Create EVM (Electronic Voting Machines) load DVDs.
7. Decode CDs from step 3 and EVM DVDs from step 6 are used to create duplicates for dispatch to Divisional Offices.

TESTING

8. Testing consists of the following steps:
    a. Load an EVM.
    b. For each Division and Senate, verify the screen and audio content against a formal ballot paper.
    c. Sign the formal ballot paper to show testing was conducted.
    d. Print an encoded vote (without preferences entered) for each Division and Senate, BTL and ATL.
    e. Decode each encoded vote and verify against the formal ballot paper.
    f. Sign the formal ballot paper to show decode testing was conducted.

EVM and Furniture Packaging for Deployment

Website Content

Electronically Assisted Voting for Electors who are Blind or have Low Vision

Introduction

For the first time, electors who are blind or have low vision will be able to lodge an independent and secret vote at the 2007 federal election. It is estimated that about 300,000 Australians are blind or have some kind of vision impairment.

The provision of electronically assisted voting is referred to as a 'trial' because the legislation refers to the 2007 election only.

Information on the trial is set out below.

Background

In its review of the 2004 election, the Joint Standing Committee into Electoral Matters (JSCEM) considered submissions from organisations which highlighted the fact that many electors were people who were blind or had low vision and could not complete a ballot paper in secret because they needed assistance from others. The JSCEM recommended that electronically assisted voting be trialled at the next federal election for electors who are blind or have low vision. The Government supported the trial and provided appropriate funding to the Australian Electoral Commission.

Legislation

The Electoral and Referendum Legislation Amendment Act (2007) subsequently passed into law in March 2007.

The voting process

The electronic voting machines will be available at 29 pre-poll voting centres around Australia for two weeks before and on polling day. Votes cast in the trial are pre-poll votes, so voters will be assisted to complete an application for a pre-poll vote when they arrive at the voting centre.

They will then be escorted to an electronic voting machine.

The way the system works

The trial being undertaken allows electors to record their votes using an electronically assisted method.

Electors who have some vision may be able to use the 21inch flat screen monitor. The display is either yellow on black or black on white, with an option for larger font.

Electors who cannot use the monitor will be guided through the process by voice instructions using headphones. The voter will navigate the system using a telephone-style keypad which has large black numbers on a white

background. The operation of each key is explained by the voice, but is also available in the voting centre in large print and in Braille.

Voters will be invited to become familiar with the machine by using a practice voting session, and a polling official will assist in this practice. When the voter is ready to vote, the polling official will enable the machine to present the correct ballots to the voter, and will then leave the voter to vote in private.

Once the voter has made their selections, the voter's preferences will be printed on a small laser printer next to the electronic voting machine. The preferences are contained within a two-dimensional barcode to preserve the secrecy of the vote in the polling place. These barcodes will be decoded later so the votes can be counted along with all other votes. At no time will the voter's preferences be able to be associated with that voter.

When the voter is finished voting, a polling official will assist the voter to place the votes in the declaration vote envelope, and the declaration vote envelope in the ballot box.

Trial locations

After extensive consultation with a reference group comprising representatives of Blind Citizens Australia, Vision Australia, the Human Rights and Equal Opportunity Commission, the Australian Federation of Disability Organisations and Radio for the Print Handicapped, and consultation with local organisations, 29 locations have been chosen to host electronic voting machines for the 2007 federal election.

The locations of the pre-poll voting centres and the electorate each one is in is listed here. **[link]**

If you are not near a site with electronic voting

As this is a trial, and 29 locations have been selected, the AEC acknowledges it will not be possible for all electors who are blind or have low vision to access a designated pre-poll centre which has electronically assisted voting machines.

Electors who are blind or have low vision and will not be near a site involved in the trial have the option of casting an assisted vote at a polling place on election day, an early vote at a pre-poll voting centre, or voting by post.

Further information

For further information on this trial call the AEC on 13 23 26

Trial Locations

Victoria

Location	Electorate	Pre-Poll Voting Centre
Melbourne	Melbourne	Victoria University 16th Floor, 300 Flinders St Melbourne
Kooyong	Higgins	Vision Australia 454 Glenferrie Road Kooyong
Ballarat	Ballarat	Vision Australia 1300 Howitt St Wendouree
Shepparton	Murray	Vision Australia Cnr Archer St and Channel Rd Shepparton
Warragul	McMillan	Vision Australia 2A Mouritz St Warragul
Geelong	Corangamite	Vision Australia 79 High St Belmont, Geelong

South Australia

Location	Electorate	Pre-Poll Voting Centre
Adelaide	Adelaide	Freemasons Centre, 254 North Tce, Adelaide
Gilles Plains	Sturt	Royal Society for the Blind Blacks Road Gilles Plains
Noarlunga	Kingston	Noarlunga TAFE Ramsay Place Noarlunga Centre

New South Wales

Location	Electorate	Pre-Poll Voting Centre
Wollongong	Cunningham	63 Burelli St Wollongong (next door to Woolworths)
Parramatta	Parramatta	Level 1, 22 Hunter St

		Parramatta
Enfield	Lowe	Vision Australia 4 Mitchell St Enfield
Chatswood	Bradfield	Willoughby City Library Victoria Ave Chatswood
Coffs Harbour	Cowper	The Curran Centre 12 Gordon St Coffs Harbour (near Catholic Church)
Dubbo	Parkes	Shop 1, 184-186 Macquarie St Dubbo
Albury	Farrer	Unit 2, 518 Macauley St Albury

Northern Territory

Location	Electorate	Pre-Poll Voting Centre
Darwin	Solomon	Shop 23 (Old Rebel Sport Shop) Casuarina Shopping Village Bradshaw Tce and Scaturchio St. CASUARINA
Alice Springs	Lingiari	Yeperenye Shopping Centre 13 Gregory Tce Alice Springs

Queensland

Location	Electorate	Pre-Poll Voting Centre
Brisbane City	Brisbane	Brisbane City Hall, Sherwood Room King George Square between Adelaide and Ann Streets Brisbane.
Brisbane North	Lilley	Ministry Centre 23 Victoria St Clayfield
Gold Coast	McPherson	Fradgley Hall 2 Park Ave Burleigh Heads
Hervey Bay	Hinkler	Function Room Hervey Bay Sports & Leisure Centre 187 Bideford Street Torquay

Cairns	Leichhardt	Cairns Show Grounds Pavillion De Jarlais Function Centre 109 -129 Mulgrave Rd Parramatta Park, Cairns

Tasmania

Location	Electorate	Pre-Poll Voting Centre
Hobart	Denison	Ground Floor, AMP Building Elizabeth St Entrance Hobart
Launceston	Bass	85A George St Launceston

Western Australia

Location	Electorate	Pre-Poll Voting Centre
Perth	Swan	Association for the Blind of WA 61 Kitchener Avenue Victoria Park
Mandurah	Brand	Eastlake Church 99 Lakes Rd (corner Murdoch Drive opposite Peel Health Campus) Greenfields
Bunbury	Forrest	8th Floor, Bunbury Tower 61 Victoria St Bunbury

Australian Capital Territory

Location	Electorate	Pre-Poll Voting Centre
Canberra	Fraser	Pilgrim House Conference Centre 69 Northbourne Avenue CANBERRA CITY

Helpful Hints for Voters using Electronic Voting Machines

Introduction

At the 2007 federal election, electronically assisted voting will be available for electors who are vision impaired such that they cannot vote without assistance. The details below will be useful to eligible voters who may use this technology to cast their votes at the election.

Voting Session Overview

This trial is available at 29 early voting centres for up to two weeks before and on election day. The electronic voting machines are designed to provide all the necessary information to assist voters in allocating their preferences. However, in continuing to build awareness and increase confidence in the workings of the technology and the voting process, the following helpful hints are provided.

Arrival at the Polling Place

On arrival at the polling place, the voter will be met by a polling official. At this point the voter can indicate that they wish to use the electronic voting machine to cast their votes.

In voting at an early voting centre you will be required to sign a declaration envelope stating that you have not voted previously in the election. This is a standard procedure and voters will be assisted with this.

When completing the declaration envelope, the polling official will identify the appropriate electoral division so that the correct ballots are presented to the voter. On completion of this process the voter will be escorted to the voting machine.

Once at the machine the polling official will explain the component parts of the machine to the voter. This will also include an opportunity for the voter to test and familiarise themselves with each key on the keypad and its particular function.

On completing the orientation the voter will be offered an optional practice session. This will involve voting in a make-believe election that presents the ballots to the voter in the same way as it does in the actual voting session, but with fictitious candidate and party names. If a voter does not require a practice session, the polling official will enable the machine for the voter to cast their vote in the federal election.

The polling official will use a barcode reader and the keypad to enable the machine to present the correct ballots. This process will be explained to the voter at the time by the polling official. A similar process will take place at the end of the voting session to remove all data from the machine and prepare the machine for the next voter.

Remember that you can take as much time as you need to complete voting and can call for assistance at any time.

Let's Start Voting

The House of Representatives

The first ballot presented to you will be for the House of Representatives.

The voter should listen carefully to the initial instructions. The audio will tell you how many candidates there are on the ballot. Remember that in voting for the House of Representatives, the voter is required to allocate a preference to every candidate to ensure that the vote is complete.

The default position on the ballot will be at the candidate at the top of the ballot. The remaining candidates are listed one after the other down the ballot.

Voters with some vision may note that as they navigate up and down the ballot and they move to each candidate, the text of that candidate and the square adjacent to the candidate's name are highlighted. This will make the current position on the ballot easier to identify. Voters with limited or no vision will be able to navigate the ballot assisted entirely by the audio instructions.

If a voter uses the screen, some candidates may not be shown on the initial display, and the voter will need to use the down button to ensure they access and number all candidates.

For all voters, a useful tip is to identify the candidate at the top of the ballot and then to navigate down until the candidate at the bottom of the ballot is identified. This will provide a sense of the ballot space and where each candidate is positioned in relation to each other.

If a voter is at the default position at the top of the ballot paper and presses the up key (key 2), the candidate's name will be repeated, and this will continue until the voter either selects this candidate or moves down to another candidate. Likewise, if the voter is at the bottom of the ballot and presses the down key (key 8), that candidate's name will be repeated.

At any time, if the name of a candidate is continually repeated, this is a prompt to the voter to either allocate a preference with the 5 Key or move to another candidate with either the up or down keys.

After the voter has selected a candidate with the 5 key, the system will acknowledge this action by saying "Preference One" for the first preference, two for the second and so on. This prefix will then remain attached to these candidates unless a candidate is deselected.

The audio prefix will assist voters in completing the process as each time the voter subsequently navigates to a candidate that has been already allocated a preference, the audio will state this and also identify the number of that preference. This will not be the case for any remaining candidates without preferences, as the audio will just state that candidate's name and party.

When the voter has completed voting by allocating all preferences, the audio will say that all preferences have been allocated. To move to the confirmation screen, the voter must press the hash key.

In the confirmation screen, if the voter wishes to hear how their preferences have been allocated, then the voter must listen to all instructions and not press the hash key on the initial prompt. Their preferences will then be read

back to them. If the voter is confident that they have allocated all their preferences as they intended then they should press the hash key to print the encoded ballot paper.

The Senate Ballot

The voter must continue to follow instructions from the audio in order to vote in the Senate.

Initially the voter will be given an opportunity to vote in one of two ways. This will be by voting on either the Above the Line or Below the Line ballots.

If the voter elects to vote Above the Line they will be required to allocate one and only one preference for the group or party of their choice. If they elect to vote Below the Line the voter will be required to allocate a preference against every listed candidate for the ballot to be complete. Voters will be prompted to make this choice by using either the 2 or the 8 keys and to confirm their selection with the 5 key.

Above the Line

In Above The Line, the voter will use the 4 and 6 keys to move left and right respectively across the ballot. The groupings on the Senate ballot are listed adjacent to each other across the screen. With the default starting position being at the far left hand side of the ballot at group “A”.

The alpha identifier for each grouping will act as a reference point to assist voters in determining where they are positioned on the ballot.

In navigating across the ballot, the voter will identify the party or group that for which they wish to vote. In this case, it is just a matter of allocating that preference by pressing the 5 key. To move to the confirmation screen, the voter must press the hash key.

In the confirmation screen, if the voter wishes to hear how their preference was allocated, then the voter must listen to all instructions and not press the hash key on the initial prompt. The group selected will then be read back to them. If the voter is confident that they have selected the group they intended, they may press the hash key to print the encoded ballot paper.

Below the Line

If the voter wants to vote Below The Line, all navigational keys will be needed.

The 4 and 6 keys will move between groups / parties as outlined in the Above the Line process. The 2 and 8 keys will move up and down the list of candidates within these groups, with the 5 key once again being used to allocate preferences against candidates.

As you move between groups, the audio will advise the voter the name of the group or party (if any) and of how many candidates are in each particular group and how many are without preference.

The voter will not be required to keep track of the preference number as these will be automatically allocated sequentially from preference one through to the last number. But the voter will need to identify the candidates without preferences so that they can number them in order that all candidates are allocated a preference and the vote is complete.

Allocating a preference for each candidate will take a little more time and is slightly more complicated. Remember as a voter you are entitled to take as much time as you require to complete the process.

Once again, to move to the confirmation screen, the voter must press the hash key, and again the voter can listen to the complete list of selections, prior to pressing the hash key a second time to print the encoded ballot paper.

Complete the Voting Session

After printing the Senate ballot paper, the instructions will prompt the voter to call a polling official. For convenience, this will be done by using a small bell located adjacent to the keypad.

The voter's preferences are encoded in a barcode, so anyone seeing the printed sheets cannot see how the person voted. The polling official will ask the voter if they would like their encoded ballot papers checked to see if they have printed correctly. The voter can elect to have the official check the printing or not.

After this process, the polling official will again access the EVM to terminate the voting session and remove all data from the machine.

The votes are then placed in the declaration envelope that was completed and signed by the voter at the commencement of the process. The envelope containing the two ballots will then be placed in the ballot box.

Congratulations! You have completed the voting process and participated in the trial.

Keypad Summary

The keypad is arranged in the telephone style. Keys 1, 2 and 3 are on the top row; 4, 5 and 6 on the second row; 7, 8 and 9 on the third row; Star, Zero and Hash on the bottom row.

Key 1: Start again.
This key is used to deselect all candidates selected and remove all preferences assigned to them and return to a blank ballot.

Key 2: Move up.
This key is used to move up the list of candidates in the House of Representatives ballot paper and when voting below the line in the Senate ballot. It is also used to move between other choices as required.

Key 3: Change display key.
This key is used to switch between font sizes and screen colours. There are two font sizes and they can be displayed in yellow text on a black background or black text on a white background.

Key 4: Move Left.
Key four is used to move left between groups on the Senate ballot.

Key 5: Select. This key is used to select a candidate and assign a preference.
This key is always used to allocate all preferences. There is a tactile indicator on the key which is centrally located with the four navigational keys surrounding it.

Key 6: Move Right.
Key six is used to move right between groups on the Senate ballot.

Key 7: Reduces the audio volume.
This key is one of two audio keys and is used to reduce the volume in the headset.

Key 8: Move Down.
This key is used to move down the list of candidates in the House of Representatives ballot paper and when voting below the line in the Senate ballot. It is also used to move between other choices as required.

Key 9: Increases the audio volume.
This key is one of two audio keys and is used to increase the volume in the headset.

Star Key: Undo key.
The Star key, located below the 7 key, is used to deselect, or undo the last selected item and remove the preference. It can be can be used to

progressively remove preferences each time it is pressed. The Star key is also used to return to the ballot from the confirmation screen.

Key Zero: Information key.
The Zero key is the information key. You can use this key at any time to hear helpful instructions.

Hash Key: Finish key.
The Hash, located below the 9 key, is the finish key. It is used after the voter has assigned all their preferences on a ballot , and to move to the next step in the voting process.

Audit of AEC's Electronic Voting Machine for Blind and Vision Impaired Voters

www.bmm.com

bmmtestlabs

Australian Electoral Commission

AUDIT OF AEC'S ELECTRONIC VOTING MACHINE FOR BLIND AND VISION IMPAIRED VOTERS.

BMM Australia Pty Ltd

23 August 2007

The content of this document is strictly confidential. It has been prepared by BMM Australia Pty Ltd (BMM) exclusively for the perusal of Australian Electoral Commission and may not be disclosed to any other party without the prior written approval of Australian Electoral Commission

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Executive Summary

BMM Australia Pty Ltd has been engaged to perform an audit of the AEC electronic voting machine (EVM) for blind and vision impaired voters to be used in the Australian 2007 federal election.

BMM asserts its independence from the supplier of the system and from any political party.

BMM has been asked to ensure that the EVM meets the following criteria:

- Resistant to malicious tampering by users;
- Resistant to malicious tampering by external parties by electronic means;
- Free from malicious source code;
- Presents an accurate representation of votes cast in the printed record without variation; and
- Erases all record of voter's preferences when so instructed by the polling official.

Our findings are as follows:

1. BMM is satisfied that the system design includes features that provide the level of security required by the AEC;
2. BMM is satisfied that the AEC conducted its testing of the EVM with due diligence;
3. BMM found no evidence of malicious source code in the EVM;
4. There were no errors detected in BMM tests for security, accuracy and compliance of the system; and
5. BMM is satisfied that risks identified in this report have been avoided or minimised to a level that would allow the EVM to comply with AEC requirements regarding security, accuracy and voting functionality.

We certify that the AEC Electronic Voting Machine for blind and vision impaired voters complies with the specified criteria.

Peter Dilley

Senior Project Engineer

Data Network and Computer Security

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Call Centre Scripts

Electronic Voting Trials

For the first time, electors who are blind or have low vision will be able to lodge an independent and secret vote at the 2007 federal election. It is estimated that there are about 300,000 Australians who are blind or have some kind of vision impairment.

Background

In its review of the 2004 election, the Joint Standing Committee on Electoral Matters (JSCEM) recommended that electronically assisted voting be trialled at the next federal election for electors who are blind or have low vision, and that remote electronic voting be trialled for certain ADF personnel serving overseas. The Government supported these recommendations and the trials will go ahead at the 2007 election.

Legislation

The Electoral and Referendum Legislation Amendment Act (2007) subsequently passed into law in March 2007.

The same legislation also provides for Australian Defence members and Defence civilians serving outside Australia to be able to vote using remote electronic voting for the first time.

How does it work?

The trial being undertaken allows electors to record their votes using an electronically assisted method.

Electors who have some vision will be able to use the 21 inch flat screen monitor. The display is either yellow on black or black on white, with an option for larger font.

Electors who cannot use the monitor will be guided through the process by voice instructions using headphones. The voter will guide the system using a telephone-style keypad, with large black numbers on a white background. The operation of each key is explained by the voice, but is also available in the voting booth in large print and in Braille.

Voters will be invited to become familiar with the machine by using a practice voting session, and a polling official will assist in this practice. When the voter is ready to vote, the polling official will enable the machine to present the correct ballots to the voter, and will then leave the voter to vote in private. Once the voter has made their selections, the voter's preferences will be printed on a small laser printer in their booth. The preferences are contained within a two-dimensional barcode to preserve the secrecy of the vote in the polling place. These barcodes will be decoded later so the votes can be counted along with all other votes. At not time will the voter's preferences be able to be associated with that voter.
When the voter is finished voting, a polling official will assist the voter to place the votes in the declaration vote envelope, and the declaration vote envelope in the ballot box.

Where is the nearest trial location?

After extensive consultation with a reference group comprising senior representatives of Blind Citizens Australia, Vision Australia, the Human Rights and Equal Opportunities Commission, the Australian Federation of Disability Organisations, and Radio for the Print Handicapped, and consultation with local organisations, 29 locations have been chosen to host electronic voting machines for the 2007 federal election.
These locations and the electorates each one is in is listed in the table below. Where the actual site of the Pre-Poll voting centre is known, this is also included, however it will not be possible to identify some sites until the election is called.
[Sites listed as per Appendix H.]

What days/dates will it operate?

The electronic voting machines will be available for two weeks before and on polling day.

What do I need to bring? (ID etc)

You will need to tell the polling official your name and address. You do not need identification at the polling place. Electors who are sight impaired such

that they cannot vote without assistance are entitled to vote using the electronic voting machines, however written evidence of such impairment is not required.

Can I have a trial first?

A practice session is available so the voter can become familiar with the voting process.

Will there be any assistance available?

Election officials will orientate the voter with the electronic voting machine, and provide a practice session if they so desire so the voter can become familiar with the voting process. If a voter is not confident using the machine alone, they may have assistance from a friend or a polling official. In this case, the voter will be able to hear the preferences the helper has entered, so they can be confident the vote was cast as they instructed.

Can I only vote using the machines if the centre is in my electorate?

No. Every machine is set up to take votes for every electorate, so if you can get to any pre-poll voting centre that has an electronic voting machine, you will be able to vote.

Who can vote using the electronic voting machines?

Legislation provides that electors who are sight impaired such that they cannot vote without assistance are entitled to vote using the electronic voting machines.

Who is eligible to use these facilities?

The legislation provides that voters whose sight is impaired to the extent that they cannot vote without assistance may use these machines.

How can I vote if I can't get to one of the centres with electronic voting machines?

You can cast an assisted vote at any polling place on election day, an early assisted vote at a pre-poll voting centre, or you can apply for a postal vote.

How are the votes counted?

Votes are printed out by the machine, placed in and envelope. The envelopes and votes are then processed and counted in the same way as all other pre-poll votes.

Do I need any special skills? (eg. Computer)

No. The voice guides the voter through the voting process, and a simple telephone style key pad is used to enter responses. A practice session is also available so the voter can become familiar with the voting process. The voting machine will also supply help during the voting process.

How many voting machines will be available?

There will be two electronic voting machines available at each pre-poll voting centre participating in the trial.

Will there be a queue?

There may be a queue for voting, however if polling officials identify a person who is blind or has low vision in the queue, that person will be taken directly to the electronic voting area of the pre-poll voting centre. There may also be a queue for the electronic voting machines, but there are two at each sites so the wait time should not be long.

How long will it take to vote this way?

Voting will take at least 15 minutes, and may take longer depending on whether you vote below the line in the senate, or are unfamiliar with equipment of this type.

I am a registered General Postal Voter. What do I do with my postal vote if I have an electronic vote?

You can return your postal vote to the polling place when voting using the electronic voting machine, or you can post it back to the AEC.

See **Divisional Office Search** for postal address

You could also destroy it. Most importantly, you must not use the postal vote if you vote using the electronic voting machine.

Can my guide / assistance dog come into the polling place too?

Guide dogs or seeing eye dogs are welcome in the polling place. Cables around the machines will be secured so these dogs cannot get tangled in them.

2007 FEDERAL ELECTION
EXIT INTERVIEW FOR VOTERS WHO USE THE ELECTRONIC VOTING MACHINES

INSTRUCTIONS	QUESTIONS	RESPONSES
This section is to be filled out by the officer who has assisted the voter. It should be filled in for all voters who attempt to vote using the EVM. The voter is not to be asked unless they volunteer the information.	Location of PPVC	_____
	Date	__/11/07
	Sex	☐ Male ☐ Female (tick one)
	Age Range (estimate)	☐ 18-34 ☐ 35-49 ☐ 50-64 ☐ 65+ (tick one)
	Did this person complete voting using the EVM? (tick one)	☐Yes, without assistance ☐No ☐Yes, but with assistance
	Did this person complete a practice session?	☐ Yes ☐ No (tick one)
Please ask the voter to participate in this survey. Explain that it is to evaluate the trial of the Electronic Voting Machines, and that it normally should take a maximum of 3 minutes to complete. No names will be attached to the responses, which will be treated in strict confidence.		
Allow voter to answer unprompted. Only provide them with the list of possible responses if they require.	1. How did you find out about the electronic voting machines? (Tick boxes and fill in boxes to reflect response. More than one box can be ticked.)	☐Radio ☐Newspaper ☐Television ☐Internet ☐Word-of mouth (friends, family) ☐Service/Support Organisation (which one)_____ ☐Other:_____ ____
This is to determine the extra effort the voter took to use the EVM today.	2. Approximately how long did it take you to travel to this pre-poll voting centre today?	___ hours ___minutes
Allow voter to answer unprompted, providing the options for frequency of use if required.	3. Do you use computers?	☐ Yes, on a regular basis ☐ Yes, from time-to-time ☐No ☐ Yes, but only occasionally

Focus Group Questions for Voters

Did you all find about the Electronic Voting Trial in time to vote?

(if yes) How did you find out about the trial of electronic voting? about electronic voting machines themselves? about where and when you could vote using the machines? (prompt if necessary)

(if no) would you have used the machines if you knew about them?

Did anyone attend one of the demonstrations of the machines by the AEC prior to the election?

(if yes) did you give feedback to the AEC about the machines? Tell us a little about those views

Who attended a pre-polling voting centre where the machines were available?

(if no) Would you have attempted to use a voting machine had one been at a pre-polling centre near you?

(if yes) Did you go to a voting centre especially to use the machines?

Was this different from the place where you would otherwise vote?

Were there difficulties in getting to this voting centre?

Is there a pre-polling centre that would have been easier to get to?

Did the building itself in which the centre was located present difficulty in accessing?

Did the layout of the area in which the machines were located present any issues for you? eg access for you and your guide dog (as applicable); places to put your cane that was easy to retrieve?

Improvements?

What means did you use to cast a vote at the 2004 Federal Election? (eg by postal voting) (If not at a pre-poll centre)

Did the trial encourage you to change the means by which you cast your vote?

Are you registered for general postal voting?

Is casting a secret vote (that is, without the need for assistance) important to you?

I want to discuss now the assistance that you had with the machines. Did you have a practice session on the EVM?

Was the length of time it took about right?

Was the practice session clear enough for you?

Was that (the practice session) sufficient to give you confidence to use the machines to cast your vote?

Were the polling officials who assisted you to access the machines, familiar enough with them; confident in foreshadowing difficulties that you might have in locating the machines and using them?

Improvements?

Did you attempt to use the electronic voting machine?

(if yes) How easy was the electronic voting machine to use?

Did you read the Braille instructions? If so, were they useful?

Did you use the audio? Were the voices clear? Were the audio instructions hard to follow (eg in the right order). Prompt to explore whether any of the group had difficulties in hearing because of hearing aids.

Did any of you use the screen?

How clear was it to read?

Were the colours and contrast the best for you to read?

Do you use screen-based equipment in other aspects of your life?

How does the screen in the voting machines compare with that you usually use?

Would you have preferred a touch screen to the keypad?

(if no) Can you share with us, why you decided not to attempt the machines?

Did you use a CCTV in preference?

Are there improvements which would encourage your use of the machines in the future?

Did you complete your vote using the machines?

(if yes) Were you confident about the privacy that you had to be able to cast a secret vote.

Was the barcoded print-out explained to you?

Did you have any concerns about the coding/decoding of your vote?

How difficult was it to verify the accuracy of your vote?

Did any of you vote below the line for the Senate?

Do you usually vote below the line?

Did you managed to cast a vote that reflected your voting intentions? (This is to determine whether voting below the line using the machines was just too daunting)

(if no) What means did you use to complete your vote? Why did you use that other means?

Do you have suggestions to become more familiar with the machines?

(In Victoria, find out whether they used machines in the last State election, and whether voting in the State elections made it easier to use the trial machines in the Federal election

(For those who attended a trial site)

Final thoughts on the trial, improvements, what was good, great, poor for you?

Would you use the machines if available at the next Federal Election or referendum?

Focus Group Questions for OICs and Polling Officials from PPVC Trial Sites

Are you aware of any involvement in the trial by local support groups for the blind/low vision?

eg did they transport people to the PPVC?

Let people know about the trial through newsletters, hosting guest speakers/ a demonstration of the machines?

Did you personally notice any of the advertising for the trial?

Through what source was this?

Did many people using electronic voting travel far to use the machines?

Was this the right location in your Division to implement the trial?

What did you think the level of user acceptance of the machines was like?

Were there particular issues with the EVMs themselves?

(Prompt: earphones, clarity of instructions, use of Braille instructions, keypad, screen size, screen print and contrast)

Can you identify any improvements that you would like for the machines in their future use?

How did the practice sessions go?

One of things that I observed was that the voter had the earphones on, and the polling official did not know when to answer a question as it might distract the voter from listening to the whole of the audio instructions. Were you aware of this as an issue?

Did anyone have a CCTV at their location?

Did the voters prefer to use CCTV over the EVM?

How were the EVMS (and CCTVs) arranged?

Were the EVMs/CCTVs in a separate room from the other polling booths.

What is your view on the space that you had available in order to layout the EVMs (and CCTVs if available): Did it

Allow for easy navigation to access

Allow sufficient space to accommodate guide-dogs.

Promoting privacy to allow a secret vote

Allow the practice session to be conducted with few distractions.

Did voters find the cardboard privacy screens an issue?

How did you arrange signage to alert voters that this pre-polling centre was also a trial site for electronic voting for blind/low vision.

Did any of the voters wanting to vote electronically experience significant waits to use the machine?

Was the number of machines at your site about right?

I'd like us to discuss the support that you had for the conduct of the trial.

Did the support pack have all that you needed for the trial?

Did the technicians set the machines up correctly.

Did they test them or seek for you or one of your staff to test and check them before they left?

Did you go through the instructions that accompanied the support pack?

Were they clear, the right length, easy to implement?

Did you need to access the helpdesk?

Were they responsive/helpful?

Were there any issues with the dismantle and pack-up of the machines?

Were the machines pick up in a timely way for return to National Office?

What did you think of the training?

Did it prepare you and the other polling officials sufficiently to implement the trial at your site – to deal with the procedural aspects; to interact with people who are blind or have low vision?

Is there any part of the training that you thought you needed more of?

What aspects of the training did you most value?

Do you have any comments on having the completion of both EF070(A) and (B) as well as EF070 (prompt for time to fill in, timeliness of fill in, difficult to understand requirements)

Did you receive any suggestions, compliments or complaints about the electronic voting?

Would you like to elaborate? (from other polling officials, from blind/low vision voters, their supporters?)

Focus Group Questions for Divisional Returning Officers

Did you liaise with any of the local support groups for the blind/low vision about the trial.

Did you get any support from local support groups for the trial?

Was a CCTV available at your trial site?

Who supplied this?

Through what sources was the trial advertised in your Division?

Did you have available media shells for advertising and promoting the trial in your Division?

Did you use these media shells and how?

Were you involved in choosing the location in your Division?

With the value of hindsight, do you think that the trial location was the best one in your Division?

Was there a better site in your Division or neighbour Division which would have improved accessibility? What location or site might that be?

Did you get any feedback on the level of user acceptance of the machines?

Were there particular issues reported to you about the EVMs themselves.

(For example: earphones, clarity of instructions, use of Braille instructions, keypad, screen size, screen print and contrast, printouts)

Can you identify any improvements that you would like for the machines in their future use?

Did you get any feedback about how the practice sessions went?

Were you made aware of any issues with the practice session?

Were you involved with the layout of the space for EVMs (and CCTVs if available)?

Were the EVMs in a separate room from the other polling booths?

Do you think that the space available was suitable for electronic voting in terms of:

Ensuring access and use

Promoting privacy

Allowing the practice session to be conducted with few distractions.

What, if anything could have improved the layout.

Where was the signage to alert voters that this pre-polling centre was also a trial site for electronic voting for blind/low vision placed?

Did it confuse other voters who may have thought it was just for the blind/low vision?

What information were you given about the EVM trial?

Were you satisfied that the information given was sufficient, to allow you to assist the OICs in the conduct of the trial?

Have you any feedback about the training given to yourselves and the polling officials on the trial

– was it sufficient, at the right time, did it concentrate on the right aspects.

Was the number of machines the right number per site.

Did you receive any feedback about significant waits by people who wanted to use the machine or very little usage of the machine to justify the number of machines?

How did the delivery, set- up and dismantling pick-up of the machines go?

Were there any issues with this process?

What about help desk support?

How did the transport of the votes to the DRO go?

What about the decoding of the votes, themselves?

Were the instructions that you were given sufficient to undertake the decoding?

Were the decoding machines reliable. Were the resulting printouts easy to decipher.

Were there any issues that were experienced by the OICs or yourselves on the need to complete both the forms EF070(A) and (B) as well as EF070?

Did you receive any suggestions, complaints or compliments about the electronic voting from voters/OICs/polling officials?

What were these about?

Any suggestions to improve the trial in the future.

Independent Trial Evaluation
Summary of Findings and Recommendations

Note that references in this table refer to paragraphs in the report "Evaluation of the electronic voting trial for blind and sight impaired electors at the 2007 Federal Election".

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
3.1 Take-up for the use of EVMs for BVI electors	
850 votes were cast using the EVMs; this represented 4.2% of estimated local populations of BVI electors in the locations of the trial PPVCs,or 0.5% of the estimated total BVI population, noting that the population estimates may be subject to considerable error. (3.1.1)	
The number of votes cast at individual PPVC trial sites varied between 5 and 114 votes. Factors that contributed to this variation were accessibility and familiarity of the trial PPVCs and the level of support and/or encouragement from local BVI support groups. (3.1.3)	a) placement of EVMs at locations which are both accessible and familiar, to the extent practicable; b) continuation of seeking support from local support groups to promote EVM usage;
The ability to vote over an extended period of time with accompanying persons able to cast their vote at the same location was strongly supported. (3.1.3)	c) placement of EVMs at PPVCs rather than only at ordinary polling booths on polling day; d) extension of the right to cast a pre-poll vote to all electors accompanying BVI electors;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
88% of BVI voters recorded as attending the trial PPVCs cast their vote using the EVMs. (3.1.4) Those who took the opportunity to vote using the EVMs were younger, more likely to be involved in a support group, and have a strong commitment to the right of a secret vote. (3.1.3)	
Older, less computer-literate BVI electors were less likely to try the EVMs, but took the opportunity to use other visual aids where available. (3.1.5) Feedback indicated that the term "electronic" had discouraged a significant number of older, less computer-literate electors. (3.1.5)	e) promotion of the EVM as an accessible technology, not requiring computer literacy; f) investigate the provision of other visual aids (for example, hand-held magnifiers) at more polling places;
The extension of the EVMs to all print handicapped electors was strongly supported. (3.1.5)	g) extension of EVM voting to all who may otherwise have difficulty in reading, or filling in, ballot papers.
The number of votes cast using EVMs grew by 41% in Victoria at those PPVCs that had been used in an electronic voting trial conducted by the VEC for the 2006 State Election, strongly indicating that EVM usage will grow over time. (3.1.5)	
3.2.1 Actions taken by the AEC to increase user acceptance	
The AEC took a range of actions to increase user acceptance. These included: ▪ convening a Reference Group comprising key peak and service organisations, which provided suggestions on a range of aspects of the trial which were taken up by the	h) contract a usability expert to advise on any changes to the EVMs themselves; i) seek more lead time for the acquisition, development and implementation of the EVM solution;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
AEC, including contracting a usability expert; ▪ undertaking usability testing which resulted in a range of changes to the EVMs. (The full value of the usability testing was not fully realised in this instance as not all the issues identified could be implemented in the time available, and some have since been raised in the evaluation); ▪ holding 31 demonstrations at or near trial PPVCs, attended by 431 BVI electors; ▪ resourcing and training polling officials to assist EVM users. Part of the training was sensitivity training in interacting with BVI people, for which there was very positive feedback from BVI electors; and ▪ provision of opportunities for potential users to gain familiarity with the EVM through demonstrations and practice sessions.	j) undertake usability testing on the EVMs as early as practicable to maximise the time whereby changes arising from feedback can be incorporated in the EVMs; k) continue the resourcing and specific training for polling officials to assist BVI voters and other eligible groups (such as print handicapped) as agreed by the Government, including sensitivity training in interacting with these electors.
3.2.2 Level of acceptance of EVMs by users	
Overall satisfaction There was a **very high level of user satisfaction** with the EVMs, with 97% of survey respondents being *satisfied* or *very satisfied* with the use of the EVMs, and with 79% of respondents being *very satisfied*. There was a higher percentage of respondents who were very satisfied amongst those who voted without assistance (88%), compared with those who required assistance to vote on the	

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
EVMs (54%). The design of the EVMs allowed even those who required assistance to have an independently verifiable vote in contrast with an assisted vote with a ballot paper. EVM voters over the age of 65 years were significantly more likely to require assistance to vote. Only 12 survey respondents indicated that they were either *dissatisfied* or *very dissatisfied* with the use of the EVMs; survey responses from these individuals did not identify one or two issues that characterised this group.	
Ease of use of the EVMs Satisfaction with the ease of use of the EVMs is the aspect most likely to lead to overall satisfaction with the EVMs. There was a high level of satisfaction with the ease of use of the EVMs, with 94% of survey respondents being *satisfied* or *very satisfied* with the ease of use, and with 67% of respondents being *very satisfied*. The main feature of the EVMs which contributed to ease of use was the telephone-style key pad, with buttons assigned to scrolling and to selection of preferred candidates in preference order. A small minority of voters would have preferred the ability to enter preference numbers against candidates in any order, but the AEC's usability consultant noted that this could raise difficulties in the EVM's ease of use. Other suggestions	l) enhance the current key pad design by including tactile indicators on the scrolling keys, perhaps in the form of transparent raised arrows;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
included raised arrows on the scrolling keys, more space between the keys themselves and less stiff keys; it was noted however that the space between the keys and the force required to use the keypad were in line with the Australian's Bankers Association industry standard for ATMs.	
Braille declaration and guide 21% of EVM users used the Braille declaration and/or guide, a proportion that is significantly higher than Braille readers across the wider BVI community. There was a high level of Braille readers' satisfaction with the Braille declaration and guide, with 89% of survey respondents being *satisfied* or *very satisfied*, and with 57% of respondents being *very satisfied*. The key pad guide in uncontracted Braille, and the declaration in contracted Braille, were not offered to all Braille users by the polling officials, but when offered, the key pad guide was welcomed by those that could read Braille.	m) add a reminder on the place-mat instructions to polling officials of the importance of offering the Braille keypad guide and declaration, with both available in both contracted and uncontracted formats, if practical;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
Clarity of audio instructions The AEC put in considerable planning and resources to develop clarity in their audio instructions, including input from a usability expert, seeking pronunciation from candidates of their names and the use of professional narrators contracted through Vision Australia. There was a high level of satisfaction with the clarity of audio instructions, with 94% of survey respondents being *satisfied* or *very satisfied*, and with 77% of respondents being *very satisfied*. There was also very positive feedback on the clarity of the voices themselves.	
A small minority of voters (1.3%) wanted a hearing loop for the headphones, an aspect for which the AEC was not funded in this trial. Other potential improvements to headphones included: ▪ a larger volume control on the headphones themselves as the sole means to adjust the volume, as an alternative to the use of keypad buttons; and ▪ dual headsets including microphones to allow the polling official assisting a user to be aware of the audio, and to minimise the need to compete with the audio.	n) investigate improvements to the design of the headsets to incorporate hearing loops, a larger volume control mechanism as the only means to control volume, dual headsets, and a microphone for the polling official, the last if able to be implemented cost-effectively;
A minority of voters (2.1%) sought variation to the speed of the audio, the provision of a mute button, and other voters (2.9%) sought a “power” users’ version of audio; that is, one with less	o) incorporate a pause key into the EVM design and investigate the development of a faster speech speed or a “power” users version, the latter if it can implemented cost effectively;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
repetition and more concise instructions.	
A small number of voters sought the following changes to the audio instructions: ▪ inclusion of an audio description of the polling official's actions in bringing up the electorate and an indication of when voting could begin. This was raised by 10% of focus group participants and 1.1% of survey respondents; ▪ improvements in Senate instructions, raised by 1.3% of survey respondents, as follows: ○ a suggestion on directions if the voter tries to scroll further down at the end of a BTL grouping on the Senate paper to avoid repetition of the last name in the group, and ○ a reminder of the how to find the number of candidates still remaining to be allocated preferences when voting BTL for the Senate.	p) include the following within the audio instructions: ▪ a description of the polling official's actions in bringing up the electorate and an indication of when voting could begin, ▪ at the end of a BTL grouping on the Senate paper, a suggestion on directions if the voter tries to scroll further down, and ▪ a reminder of how to find the number of candidates still remaining to be allocated preferences when voting BTL for the Senate;
A small number of voters (1.0%) had difficulty hearing the audio because of background noise where the EVMs were located.	

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
Clarity of screen-based instructions There were 321 respondents who indicated their satisfaction with the screen-based instruction. Amongst these respondents, there was a relatively high level of satisfaction, with 83% being *satisfied* or *very satisfied*, and with 52% of being *very satisfied.*	
Usability of the screen There were 328 respondents who indicated their satisfaction with the usability of the screen. Amongst these respondents, there was a high level of satisfaction, with 86% being *satisfied* or *very satisfied*, and with 53% being *very satisfied*.	
While two font sizes were available, 17.5 pt and 30 pt, a few screen users requested larger print sizes, while others commented about their confusion in not seeing the full ballot paper on the screen, and no additional audio to highlight the need to scroll to see all options. Screen users had the option of black printing on a white background, and yellow printing on a black background. A small number of voters (0.9%) sought greater options in colours, contrasts and the use of bold fonts, but the two colour schemes chosen suited the majority of users.	q) investigate the feasibility of cost-effectively incorporating a zoom function; r) remind voters through audio instructions that not all of the ballot paper may appear on the screen at any one time;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
Privacy in using the EVMs Privacy was a key consideration in the design of the EVMs, with the use of headphones rather than speakers, encoding of the printed output, and the distribution of cardboard screens to PPVC trial sites. Further privacy was addressed in the training for the polling official assisting the EVM users. Of the 770 respondents who indicated their satisfaction with privacy in using the EVMs, there was a very high level of satisfaction. Amongst these respondents, 97% were *satisfied* or *very satisfied*, and with 79% were *very satisfied*.	

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
There were only four respondents who undertook an unassisted vote who expressed dissatisfaction with the privacy that they had. Based on survey comments and focus groups, privacy issues raised related to the value of turning off the screen if the voter did not use it, enthusiasm of polling official to assist interpreted as interfering, overhearing a polling official assist another voter, lack of assurance that decoded vote would reflect their intentions and not include identifying information, lack of assurance for BVI voter that polling official would place the declaration envelope in the ballot box; and problems angling the screen to avoid being overseen because of length of leads.	(see Recommendation (k) relating to sensitivity training for polling officials, Recommendation (n) on headsets) s) remind polling officials of the need position the computer and the screen sufficiently close to one another to allow the screen to be angled for privacy, or else increase the lead between the computer and the screen; t) include more focus in training of the option for polling officials to offer to turn the screen off for non-screen users prior to voting;; u) promote through an introductory lead in on the web-site, the role of the independent audit in providing assurance that the output from the decoded votes accurately reflects the intentions as recorded by the voter using the EVM; v) seek amendments to legislation and regulations to allow BVI voters *only* to place their records of voting in their declaration envelope and in the ballot box to the extent practicable within operational constraints of PPVCs and under the supervision of polling officials.

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
3.2.3 Impact of previous use of computers While there are only marginal differences in the proportion of those who are *(very) satisfied* with the use of EVMs across different computer usage levels, the percentage who were *very satisfied* with the use of the EVMS grows with increases in computer usage Those who do not use computers or only use them occasionally were significantly less satisfied with the ease of use of the EVMs than more regular computer users. The level of assistance required to use the EVM decreases with increased computer usage.	
3.2.4 Assistance through practice sessions 63% of survey respondents completed a practice session. There was little impact on the requirement for assistance from the completion of a practice session. The use of a practice session only impacted marginally on the proportion of those who were *(very) satisfied* with the use of EVMs. Most focus group participants were very positive about the practice sessions and the assistance they had received, providing them with an important means of familiarising themselves with the EVMs.	w) provide opportunities to increase familiarity with the EVMs in addition to practice session immediately prior to voting. The following are suggestions that the AEC could consider to achieve increased familiarity: o have AEC personnel conduct demonstrations in support group centres such as Vision Australia in the period leading up to elections, in areas adjacent to PPVCs that will host EVMs, o provide a practice session on a dial-up basis through the telephone. The main risk with such an approach could be to raise expectations that telephone voting will be available at the next Federal Election,

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
	○ provide a practice session from the AEC web-site, advising support groups of the web-site link to assist in familiarity with the EVM software prior to voting. Again care would need to be taken not to raise expectations that voting will be able to be undertaken on-line at the next election, and ○ place EVMs in the three AEC electoral education centres to raise broader public awareness in the community;
3.3 Exercise of Discretion by EVM Voters While 4% of voters voted below-the-line (BLT) on the Senate ballot paper in the 2004 Federal Election, 10% of BVI voters voted BTL in the 2007 Federal Election.	
BVI voters reported that only two candidates provided how-to-vote information in an accessible format, impacting on their ability to ensure that their vote fully reflected their intention.	x) provide the candidates and registered parties with feedback from the EVM trial on BVI voter requests for how-to-vote information in accessible formats;
The AEC did not make GVT information available in a format accessible to most BVI electors, again impacting on these voters' ability to ensure that their vote fully reflected their intention.	y) make GVT information available in formats accessible to BVI voters; z) encourage registered parties to place their GVT and how-to-vote information on their own web-sites in accessible formats to inform BVI electors.

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
4.1 Impact of the Locations of the Trial The selection of trial sites was based on a sound approach that involved consultation with local support groups to determine level of support and potential take-up for the trial as well as ensuring adequate representation across States/Territories, major metropolitan centres, including CBD and suburban locations, and major non-metropolitan, regional and remote centres. (4.1.1)	
BVI voters in metropolitan areas were more likely to have spent longer time travelling to the trial PPVC and more likely to vote outside the Division in which they are enrolled compared with those in non-metropolitan areas. BVI voters in non-metropolitan areas spent less time travelling, suggesting that few were prepared to travel between population centres. (4.1.2) Based on feedback from BVI voters in the focus groups, 76% of BVI focus group respondents voted locally or voted using GPV in the 2004 Federal Election, indicating the need for a greater number of locations to improve accessibility for BVI. (4.1.3).	aa) investigate the means to provide EVMs to the greatest number of eligible voters through allocation of EVMs to PPVCs in areas with expected high use, and through the use of mobile EVM polling in other locations;
Voting using the EVM took a median time of almost 11 minutes, excluding the time taken for the practice session. Two focus group participants and polling officials from three of the PPVC identified that some voters, particularly those who chose to BTL, took considerably longer. (4.1.4) Two machines per PPVC were generally adequate for all but one of the trial PPVCs, Kooyong. At this site, 114 electronic	bb) allocate a minimum of two EVMs per PPVC, with a third or more considered for a PPVC site that has the potential to attract large numbers of BVI or other eligible electors;

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
votes were cast, and it is considered that a third machine would have been an advantage. (4.1.4)	
In addition to the standard features of a PPVC being open for an extended period with accompanying electors able to cast their vote, the BVI voters and officials identified the following features that they valued in a PPVC, some of which did not characterise some of the trial PPVCs due to the challenges of securing suitable premises as a PPVC venue: ▪ access to public transport, ▪ access to disabled parking, ▪ familiarity with the location, ▪ easy to navigate to and within the site, ▪ quiet, private and sufficiently spacious for the EVMs, and ▪ access to power points for the EVMs, Some of the above are already included in the EF005 checklist used by DROs to assess premises. (4.1.5)	cc) amend the EF005 checklist for polling places in which EVMs are planned to include quietness, sufficiently spacious to allow EVMs to set up near power points and with sufficient privacy screening.

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
4.2 Communication Strategy to Inform Users The AEC implemented a mix of approaches to inform users of the trial, including providing information through support groups, community service groups and relevant government bodies, media releases and interviews, demonstration sessions, presentations at relevant forums, web-site information, call centre scripts, and a limited paid advertising campaign aimed primarily at Print Handicapped and Vision Australia Radio stations in the metropolitan areas, and commercial stations in non-metropolitan areas covering the locations of the trial sites, and a small number of newspaper ads. (4.2.1) Call centre scripts were not at first brought to the attention of call centre staff, but this was remedied after a complaint from a BVI elector. (4.2.1) Paid radio advertisement directed interested voters to the call centres or to the web-site for details, which did not include opening times. (6.2% of EVM voters found out about the trial by this means) (4.2.1) The majority of BVI voters found out about the trial through a support group or through means such as internet chat rooms, but the BVI voters using the EVMs are not typical of the wider BVI population. (4.2.2) The key means for further spreading information about EVMs was nominated as through various radio formats (a wider range than those selected for the 2007 Federal Election), and broader welfare agencies. (4.2.2)	dd) Implement a communication strategy that is focused on promoting EVMs through: ○ information provision not only to support groups, but more widely to more broadly-based welfare agencies; ○ a radio campaign that includes commercial stations, ABC stations and public access radio including radio for the Radio for the Print Handicapped (RPH) and Vision Australia Radio, in forms appropriate to the type of station, such as advertisements, community announcements, and interviews; ○ inclusion of reference to accessible voting for those who are print-handicapped in more general AEC communications; and ○ continuation of web-site information in accessible formation and relevant call centre scripts.

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
4.3 Cost of the trial The cost per EVM vote cast was $2,597. Forecasting of any future implementation of the trial at the next election is contingent on AEC management decisions, following Government decisions on the future of EVM voting, but may cost significant less per vote to implement.	
5.1 Compliance with Legislation Most of the sections and regulations relating to electronically assisted voting for sight impaired people were fully complied with. A limited number of incidents were reported where the EVM voter sought and was able to place their printed record of vote in the declaration envelope and/or the ballot box, in breach of sub-section 202AD (2), and regulation 48 which specifies that this must be undertaken by the DRO or the issuing officer; Four EVM voters did not consider that they/or others had full privacy in casting their EVM vote, in contrast to regulation 46, as discussed under sub-subsection 3.2.2; and Written training material did not reference the obligation of the issuing official to advise the BVI voter that they can abandon the EVM at any time up to sealing the vote in the declaration envelope and cast a vote using the ballot paper (sub-regulation 45(2)) – however, it was reported that each training session included verbal instructions on this point, and there was evidence to support that BVI voters were aware of this option.	(See Recommendation (v) regarding amending legislation to allow BVI voters to place their vote in the declaration envelope and in the ballot box under the supervision of the polling official.) ee) update training materials for polling officials assisting voters with EVMs to ensure that all legislation and regulations relating to this type of voting are covered.

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
5.2 Meeting Standards EVMs meet all of the relevant hardware and software standards specified by the Australian Bankers' Association relating to ATMs and automated telephone banking, but the following better practices were not met: ▪ speed of delivery – the use of a pause button and a faster speech speed or "power" user's version is discussed under sub-sub-section 3.2.2, with associated Recommendation (o); and ▪ option to blank out the screen – the implementation of a practice to offer users the option of turning off the screen is discussed under 3.2.2, with associated Recommendation (t).	
The current checklist used to assess the suitability of premises as a polling place, EF005, does not address the specificity of Vision Australia's *Accessible Design for Public Buildings*.	ff) consult with relevant support/service organisations that represent the interests of BVI people to made essential amendments to EF005 to take account of the key accessibility needs of BVI electors.
6.1 Managing Risks of Electoral Offences The AEC put in place a range of controls to minimise the risks of electoral offences associated with the EVMs and their use. These were subject to an independent audit with a satisfactory outcome.	

Key Findings	In any future implementation of EVMs, the following considerations are recommended:
The design of the Perspex boxes created challenges in securing them physically with tamper-evident seals.	gg) reconsider the physical security of the EVMs with a view to ensuring easy, practical implementation;
The control associated with checking and retaining end-of-day/start-of-day print-outs from EVMs was not uniformly implemented.	hh) automate the end-of-day/start-of-day print-outs and include a reminder for the need for checking and retention in large print;
The administrative requirements for the movement of vote records for decoding between locations was burdensome for a relatively small number of votes.	ii) review the placement of decoding machines and the administrative requirements for the movement of records of votes for decoding to minimising administrative burden while maintaining required controls;
The colour and size of the decoded print-out made it difficult to distinguish between HoR and Senate ballot papers, and increased the risk of not including the print-out in the count.	jj) use different colour paper for HoR and Senate decoded printed records of votes.
6.2 Allegations of Electoral Fraud arising from the EVM Trial While there were a small number of complaints related to the EVM trial (discussed previously in this report), there have been no allegations of electoral fraud arising from the trial.	