



WESTERN AUSTRALIAN
Electoral Commission



2017 Western Australian State General Election **Procedures for Technology Assisted Voting**





2017 WESTERN AUSTRALIAN STATE GENERAL ELECTION

PROCEDURES FOR TECHNOLOGY ASSISTED VOTING

A key feature of any democracy is the ability to cast a secret vote.

In the past many people with disabilities have been denied this right through the need for assistance in filling out a ballot paper.

That is no longer necessary. The innovative iVote system developed by the Western Australian Electoral Commission (WAEC) for people with a disability or incapacity, provides the opportunity to vote in secret via the Internet or by using a special telephone voting system.

The iVote procedures approved for the 2017 State general election are set out below and accord with the provisions of the *Electoral Amendment Act 2016*.

I welcome feedback on the operation of the system and suggestions for future enhancements.

David Kerslake

ELECTORAL COMMISSIONER

Western Australian Electoral Commission

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2017 WESTERN AUSTRALIAN STATE GENERAL ELECTION PROCEDURES FOR TECHNOLOGY ASSISTED VOTING

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1. LEGISLATION AND APPROVAL PROCEDURES

The *Electoral Act 1907* requires the Electoral Commissioner to approve and publish procedures in relation to technology assisted voting. Throughout this document excerpts from the Act are quoted. Where the legislation is quoted it will appear in italics prior to the written procedures.

2 ELIGIBILITY

Eligible elector means *an elector who cannot vote without assistance because the elector has insufficient literacy skills or is sight impaired or otherwise incapacitated.*

2.1 Procedures

1. Electors will be required to make a declaration that they fit the above definition. (See section 4 and section 5 below).

3. TECHNOLOGY ASSISTED VOTING - DATES AND TIMES

Date	iVote event	Action
Monday 13 February 2017	iVote registration opens 8 am W.S.T.	Acknowledgment letters or advice dispatched daily.
Monday 20 February 2017	iVote vote casting opens 8 am W.S.T.	Registered iVote electors can vote using the iVote system. Credentials with iVote number dispatched.
Friday 10 March 2017	iVote Registration closes 6 pm W.S.T.	Close of registrations.
Saturday 11 March 2017	iVote Verification Services closes 6 pm W.S.T.	Close of Verification Service.
Saturday 11 March 2017	Re-registration closes 6 pm W.S.T.	Close of process to re-register for iVote by previously registered voters
Saturday 11 March 2017	iVote vote casting closes 6 pm W.S.T.	Close of process to vote via web or IVR
Monday 13 March 2017	iVote Receipt service opens 9 am W.S.T.	Electors can check whether their vote was processed in the count.
Wednesday 15 March 2017	iVote Receipt service closes 5 pm W.S.T.	Close of process to check whether vote was processed in the count.



4. REGISTRATION

4.1 Registration of an Eligible Elector

The registration of an eligible elector before the eligible elector can vote by means of technology assisted voting.

4.2 Procedure

1. To vote using Technology Assisted Voting, an eligible elector must be enrolled on the Western Australian electoral roll and make a declaration that they meet the definition of eligible elector.

First the elector declares;

I declare that:

- I am the person identified on the roll.
- I have not previously voted in this election

If we have identified you incorrectly, or if you have already cast your vote in this election please Exit. You can contact our iVote® Helpdesk on 1300 64 86 83 for further assistance.

If your enrolled address has changed you need to advise the Australian Electoral Commission (AEC) of your new details.

Once the elector has been identified the elector must declare their eligibility and select 'Proceed with iVote'. If they cannot make such a declaration the elector should select 'Exit'.

iVote® Eligibility

- I cannot vote without assistance because I have insufficient literacy skills, or I am sight impaired or otherwise incapacitated.



Proceed with iVote®



Exit

2. Dates and times of operation will be advertised on the Electoral Commission's website and elsewhere.
3. An eligible elector may only register for Technology Assisted Voting by:
 - a) Self-registering using a web based application service on the WAEC iVote Internet site; or
 - b) Telephoning the WAEC iVote Help Desk requesting a Help Desk operator to assist with the registration.
4. At the time of registration the elector must identify themselves on the electoral roll by providing their name, date of birth and the street name for their enrolled address.



- 5 The elector will make a declaration by affirming the contents of the declaration on the screen or by listening to the declaration that is read to the applicant by the Help Desk operator and affirming the declaration verbally.
- 6 Eligible electors who are also silent electors are only required to enter their name and date of birth to register.
- 7 When registering, electors will be asked to provide one of the following:
 - a) 'Medicare number'; or
 - b) 'Australian Passport number.'

This data will enable the Electoral Commission to check the elector's enrolment details against the respective Federal databases for accuracy. If the elector has neither of the above then this can be left blank and an acknowledgement letter will be sent to their enrolled address to ensure the accuracy of the data and the bona fides of the elector.

8. When registering, electors will be prompted to provide their own Personal Identification Number (PIN) of 6 digits. The registering elector will receive a warning if the PIN entered is below recommended security standards. Electors who later forget their PIN number can re-register by telephoning the WAEC iVote Help Desk.
9. Electors will then separately be issued with a randomly generated 8-digit iVote number which should be recorded. Electors who subsequently forget their iVote number can apply to have their iVote number re-sent by telephoning the WAEC iVote Help Desk.
10. The iVote number can be issued by SMS text (preferred), email, personal phone call or post to the address nominated at the time of registration.
11. Where a personal phone call is required, the Help Desk operator who makes the call must not have been involved in the processing of that elector's registration. This will avoid a Help Desk operator knowing both the PIN and iVote number of an elector, providing an additional safeguard to protect the secrecy of each vote.
12. A registration can be blocked if during the registration process the elector fails to correctly select their enrolled address from the list of addresses displayed. In this situation the elector must contact the Help Desk to confirm their identity to the operator who, if satisfied, can authorise the registration to proceed.
13. If an elector wishing to use the personal phone call service cannot provide a telephone or mobile number that is within Australia, then the service will not be available.



14. Once the elector has registered their 6 digit PIN, a randomly generated iVote number (generated by the system) will be encrypted within the Registration System and be sent to the Credential Management System.
15. Within the Credential Management System a unique credential will be generated from the elector's ID number and cryptographically hashed PIN. The elector's electoral district and region will be attached to this credential.
16. The re-registration process is only available through the iVote Help Desk and requires the same elector authentication information as an original registration.
17. The Help Desk staff can cancel the registration of electors in the following circumstances:
 - a) An elector advises that they did not register for iVote but received an acknowledgement letter
 - b) An elector advises that they registered for iVote but now want to cancel their registration.

The elector cancelling their registration will have to identify themselves in the same method as when they first registered. If they do not have a Medicare Number or a Passport number, an acknowledgement letter confirming the cancellation will be sent to the elector's enrolled address.

18. Designated WAEC staff and Help Desk staff can block the registration of an elector if that elector has been identified as being at risk of impersonation and does not have an active registration.

It should be noted that although blocking prevents an elector from registering over the internet, they can still register via the Help Desk.

5. THE VOTING PROCESS

Where an eligible elector votes by means of an electronic device, such as by telephone or by a computer linked to the Internet.

5.1 Procedure

1. Electors must first register and declare their eligibility in accordance with the prescribed Registration procedure (see section 4)
2. At this stage, they must also make the following declaration;

I declare I have not voted before in this State
Election



3. Electors can choose to vote in one of two ways: through the Internet, or by telephone (automated IVR system).
4. The WAEC will record the names of candidates and any affiliations as they appear on the ballot paper in the order first name, last name. All names will be spoken by the same professional voice actor in an even tone without emphasis.
5. The iVote system will be made available for voting on the same day that early voting commences. Voting will extend until 6.00 pm WST on Election Day Saturday 11 March 2017. Dates and times of operation will be advertised on the Electoral Commission's website and elsewhere.
6. Any iVote registered voter who is connected to the system at the time of Internet voting closing on Election Day may remain connected for up to one hour for the purpose of completing their vote.
7. Electors access the iVote system by entering the PIN number they nominated at the time of registration followed by the 8-digit iVote registration number issued by the WAEC.
8. Any registered user who forgets their PIN number may re-register via the system Help Desk. In all such cases the original registration will be cancelled.
9. The Commissioner or his/her delegate may reject any vote cast if there is any doubt as to the authenticity of the vote or it is deemed to be a duplicate vote.
10. A record of any votes rejected will be retained together with the evidence upon which the rejection was based.

Electors using the iVote System must vote in the following ways:

5.2 For the Legislative Assembly

1. The elector votes in a sequence beginning with the number 1 alongside their most preferred candidate.
2. Design requirements will not enable electors to cast votes in an incorrect sequence (for example using the same number twice, or missing a number out of the sequence).
3. Electors may still cast an informal vote but only by leaving their ballot paper completely blank or by leaving more than one square blank. In such cases the system will alert the elector that their vote will be informal but will not prevent them from submitting an informal ballot paper.

5.3 Ballot paper instructions

5.3.1 INTERNET WORDING



The following words will appear on the ballot paper instructions for the Legislative Assembly for the **iVote for Web** service.

LEGISLATIVE ASSEMBLY BALLOT

How to cast your vote for the Legislative Assembly

Enter your voting preference numbers by double clicking on the square next to each candidate in your order of preference.

Alternatively you can move to a square by using the tab key and then pressing the letter N on the keyboard to enter your preference number.

You must vote for all candidates.

Options available after the ballot on this page are:

- **Undo last choice** – removes your last preference
- **Clear all choices** – clears all preferences from this ballot
- **My choices** – displays preferences selected
- **Previous page** – returns to previous page
- **Continue** – saves preferences and goes to next page.

5.3.2 MOBILE DEVICE WORDING

There will be a special version when accessing iVote by Web using a mobile device due to the smaller screen sizes. The instructions for this will be;

Enter your voting preference numbers by tapping on the square next to each candidate in your order of preference.

You must vote for all candidates.

5.3.3 TELEPHONE IVR WORDING

The following words will be heard for the Legislative Assembly where voting is by telephone (automated IVR system):

“You are now allocating your preferences for the Legislative Assembly.

This ballot is for the District of [district name] and contains [number] candidates, who are listed vertically.

- *To move down the list of candidates, press 8, or to move up the list, press 2.*
- *When you hear the name of the candidate of your choice, press 5 to allocate them a preference.*
- *You must allocate a preference to each and every candidate in this ballot for your vote to count.*
- *To repeat these instructions, press star 1.*



- *To start now, by hearing the first candidate in the list, press 8.”*

5.4 For the Legislative Council

1. For the Legislative Council the elector can record a single ticket vote preference above the line or preference all candidates listed below the line.
2. It will not be possible to record a vote both above and below the line.
3. If the elector wishes to cast an informal vote this can only be done by leaving the ballot paper completely blank (i.e. both above and below the line) or by leaving more than one square blank when voting below the line. The system will issue an informality alert, but the elector may still proceed to submit a completely blank or informal ballot paper if they so choose.

5.4.1 INTERNET WORDING

The following words will appear on the ballot paper instructions for the Legislative Council for the **iVote for Web** service.

You can vote either Above the Line or Below the Line. Note that the ballot paper is wide and may not be completely visible on your screen. Take care to ensure that you view the ballot across the full screen.

Above The Line

To vote Above the Line, double click on the square next to the party or ticket vote of your choice.

Alternatively, you can move from one square to the next by using the tab key and then pressing the letter N on the keyboard at the square next to the party or ticket vote of your choice.

Remember, there are [number of groups] parties, groups or individuals Above the Line and you may need to scroll right to see them all.

Below the Line

To vote Below the Line you must enter your preference numbers alongside the names of each and every candidate. To do this, double click on the square next to each candidate in your order of choice.

Alternatively, you can move to each square in your order of choice by using the tab key and then pressing the letter N on the keyboard to enter your preference number.

Remember, there are multiple candidates Below the Line. You may need to scroll right and/or down to see them all.

Do you require more help?

Important instructions if you are using a screen reader.

Further instructions on the iVote system

The Frequently Asked Questions document covers a range of topics that may answer your question.



Please contact the iVote Helpdesk on 1300 6 iVote (1300 64 86 83) or +61 8 9214 7200 (from outside Australia).

5.4.2 MOBILE DEVICE WORDING

There will be a special version when accessing iVote by Web using a mobile device due to the smaller screen sizes. The instructions for this will be;

You can vote either Above or Below the Line.

Above the Line

To vote Above the Line you must choose a single voting ticket by tapping on the square next to the party or ticket vote of your choice. You must only vote for one party or ticket vote.

Note: You will not be able to vote for a party, group or individual that does not have a ticket voting square. You can only vote for such candidate(s) if you choose to vote Below the Line.

Remember, there are multiple options from which to make your choice and you may need to scroll to see them all.

Below the Line

To vote Below the Line, you must enter your preference numbers alongside the names of each and every candidate.

To do this, tap on the square next to each candidate in your order of choice.

Remember, there are multiple candidates Below the Line and you will need to scroll right and/or down to see them all.

5.4.3 TELEPHONE IVR WORDING

The following words will be heard for the Legislative Council where voting is by telephone:

“You are now at the Legislative Council ballot for the [region name] region.

You can select to vote either “above the line” by party or group voting ticket, or “below the line” by candidate preference.

To vote above-the-line for a single voting ticket, please press 1; to vote below-the-line for each and every of the [number] candidates, please press 2.

To repeat these instructions, please press star 1.”

When choosing to vote above the line:

“You have opted to vote above the line for the Legislative Council. Groups in this ballot are arranged horizontally. There are [number] groups arranged across this ballot.

Please note: some voting tickets may only have a letter as their name.

To move right, press 6.



To move left, press 4.

To allocate your vote to a voting ticket, press 5.

You must allocate your vote to a single voting ticket.

When you have completed allocating your vote, press the hash key and you will be prompted to review your vote.

If instead you want to vote for all candidates below the line, press star 7.

To repeat these instructions, press star 1. Or to start now, by hearing the first voting ticket, press 6.”

When choosing to vote below the line:

“You have opted to vote below the line for the Legislative Council ballot.

To complete this ballot, you must assign preferences to each of the [number] candidates.

If instead you want to vote for a single voting ticket above the line, press star 7, or to continue to vote below the line, press 1.’



6. RECORD OF THOSE WHO VOTE

The making of a record of each eligible elector who has voted by means of technology assisted voting

6.1 Procedure

1. When a registered elector proceeds to vote they will be asked to enter the PIN number provided by them as well as the iVote number issued to them by the system. These will be validated against the credential stored and encrypted when they registered. They will then be prompted to cast their votes for both Houses of Parliament.
2. At the conclusion of the election, credentials that have been used for voting are exported and matched back to the voter's enrolment. This is used as a record of the eligible elector having voted by means of technology assisted voting. This is stored alongside the records of all other voting methods.

7. ELIGIBLE ELECTORS ARE ABLE TO VERIFY THEIR VOTE

The authentication of the eligible elector's vote.

7.1 Procedure

1. When an elector votes using the system they will be issued with a 12 digit receipt number.
2. This receipt number will be stored in the system as part of the encrypted vote and will also be sent to the Verification Service.
3. Prior to the close of Internet voting a user can call the Verification Service and verify their vote as follows:
 - The automated telephone service will request the iVote number, individual PIN and receipt number from the elector;
 - If validly entered, the service will read the stored ballot paper preferences to the elector;
 - If the user has any concerns about the accuracy of their stored votes, they will be able to contact the Help Desk operator and re-register, at which point their stored vote will be removed from the system enabling them to vote again.
 - A record of any instance of an elector reporting that their vote has not been correctly recorded will be entered into the Helpdesk log by the operator as the reason for re-registration.
 - If the user submitted an informal vote, the Verification Service will respond with 'You did not provide any preferences.'



4. At the conclusion of the election, once votes cast using the system have been decrypted and counted, the receipt numbers of the decrypted votes are to be loaded into the receipt checking service. Electors have a further opportunity from the Monday after Election Day to enter their receipt number and confirm that their vote was processed in the count.

8. SECURITY OF THE VOTE

The secrecy of the eligible elector's vote.

8.1 Procedure

1. After each vote is cast it will be encrypted and stored with other electronic ballots.
2. During the encryption process the votes will be randomised so that the order in which they were cast cannot be linked to the elector.
3. The elector, and only the elector, can verify their vote using the unique identifier (elector entered PIN) known only to them. No one else can access ballots and link them to individual voters, ensuring the secrecy of each user's vote.
4. Once encrypted, votes cannot be decrypted until after all polling has ceased. All votes are separated from their unique credential to preserve their anonymity.
5. As an additional security measure, a quorum of three out of five members of the Electoral Board will use their passwords to lock the system prior to going live. To open the system this same Electoral Board must use their separate passwords.

9. SECURE TRANSMISSION AND STORAGE OF VOTES

The means of ensuring that any vote cast in accordance with the approved procedures is securely transmitted to the Electoral Commissioner and securely stored.

9.1 Transmission procedure

1. For votes cast using the Internet, the Transfer Protocol will require the encryption of all information transmitted from the elector to the iVote voting system. In addition, within the secure connection, each elector's preferences will be encrypted within their web browser before transmission.
2. Voting by telephone will take place via a single line between the elector's handset and the voting system.



9.2 Storage of votes

1. Votes cast will be stored in a locked database. That database will be replicated, so that data is stored securely in two different locations, each of which will use a different encryption methodology. After system lock down, data centre equipment can only be accessed in an emergency and with the prior authorisation of the Electoral Commissioner. Any such access will be monitored and recorded, by the internal auditor.
2. A disaster recovery environment will be available for each database to ensure that they are robust against system failures.
3. The votes will be encrypted and stored using multiple complex algorithms.

10. SCRUTINY AND COUNTING OF VOTES

A candidate or the candidate's agent may appoint scrutineers to represent the candidate in observing:

- *Any production of the vote record;*
- *Any other element of the technology assisted voting process that is approved by the Electoral Commissioner.*

10.1 Procedure

1. The provision of Internet and telephone voting facilities is fully governed by the approved procedures as determined in the Act.
2. The Electoral Commissioner will correspond with the political parties and candidates and advise how technology assisted voting can be scrutinised.
3. After polling has closed, three of the five members of the Electoral Board will assemble and enter their passwords to allow the system to decrypt the stored votes.
4. An independent auditor will be engaged to compare the two databases recording the votes to verify that neither one has been compromised.
5. The vote record must not contain any means of identifying the person who cast the vote.
6. After the votes have been decrypted and checked a set of vote records is to be produced for each Legislative Assembly district and for each region of the Legislative Council. Each vote record will be uniquely numbered within a district from 1 to n).
7. For the Legislative Assembly, the vote record is to contain the Name of the District, the list of candidates showing the preferences for each candidate and the number of individual unique ballot papers that were marked with



- this combination of preferences. One vote record will be produced for each combination of preferences.
8. For the Legislative Council, separate vote records are to be produced for each above the line group or party (ticket votes) and each below the line unique group of candidate preferences.
 9. A separate total vote record will be produced for each voting ticket for above the line preferences. Each vote record is to contain the Region Name, the District Name, the group and the number of ticket votes given to that group.
 10. The vote record for below the line preferences is to contain the Region Name, the District Name, the list of candidates, the preferences for each candidate and the total number of unique ballot papers that were marked with this combination of preferences. One total vote record will be produced for each unique combination of preferences.
 11. For the Legislative Council a data file is also to be produced for each Ticket vote per district and for each unique combination for below the line ballot papers for import into the Commission's official Legislative Council counting system (CountWA).
 12. The respective Vote Records will be transmitted to the Commission's Count Centre to be included with the count of early votes and to the Returning Officer for inclusion in the full distribution of preferences
 13. For informal votes a total vote record of informal votes cast in each district will be produced for confirmation and note by the returning officer and scrutineers.

11. INDEPENDENT AUDITING

- a) *The Electoral Commissioner must engage an independent person (the **independent auditor**) to conduct audits of the information technology used under the approved procedures.*
- b) *Without limiting the content of the audit, the independent auditor must determine whether test votes cast in accordance with the approved procedures were accurately reflected in the corresponding vote record produced under those procedures.*
- c) *The independent auditor may make recommendations to the Electoral Commissioner to reduce or eliminate any risks that could affect the security, accuracy or secrecy of voting in accordance with the approved procedures.*
- d) *The results of any audit of the Technology Assisted Voting shall be published on the website of the Western Australian Electoral Commission as soon as practicable, and no later than 30 days after polling.*



11.1 Procedure

1. The Electoral Commissioner will appoint an independent auditor who will be provided by the Electoral Commission with all necessary assistance to assess the security, accuracy and secrecy of the system.
2. An initial audit will be conducted once development of the system is completed and be based on test votes cast.
3. The Electoral Commissioner will consider the results of that audit and determine whether technology assisted voting will proceed.
4. The report on the initial audit will be published on the Commission's website within 30 days of receipt by the Electoral Commissioner but no later than 30 days following the close of polling.
5. After voting closes on Election Day an expert cryptographer will be asked to compare the votes stored in the two different databases. If the two sets match there can be a high level of confidence that there has been no external manipulation of the votes cast.
6. The results of this comparison will be made available to the independent auditor to verify the integrity of the votes to be counted. If satisfied, the auditor will issue an audit certificate which will be published on the Electoral Commission's website as soon as practicable after the closing of polling but no later than 7 days after Election Day.
7. At his own discretion, the independent auditor may also prepare a final report outlining any recommendations for future enhancements. Any such report will be published on the Electoral Commission's website within 30 days of the close of polling but no later than 14 days after being issued by the independent auditor.



12. PUBLICATION OF APPROVED PROCEDURES

An approval by the Electoral Commissioner must be:

1. *In writing; and*
2. *Published on the Commission website.*

13. ELECTORAL COMMISSIONER MAY DETERMINE THAT TECHNOLOGY ASSISTED VOTING IS NOT TO BE USED AT A SPECIFIED ELECTION

The Electoral Commissioner can determine technology assisted voting is not to be used at a specific election if he has any concerns.

13.1 Procedure

1. *A determination under this section must be in writing and published on the Commission website.*

14. OFFENCES AND FALSE OR MISLEADING STATEMENTS IN RELATION TO TECHNOLOGY ASSISTED VOTING

A person must not make a statement (whether orally, in writing or by means of electronic communication) that the person knows to be false or misleading in a material particular for the purposes of or in connection with:

- a) *Making an application for registration for technology assisted voting; or*
- b) *Casting a vote by means of technology assisted voting.*

The Act provides for considerable penalties for those who interfere with any computer hardware or software, data file or electronic devices used for or in connection with technology assisted voting or for making misleading statements. These penalties range from \$1000 to 5 years in prison.