Submission 019

Law, Justice and Safety Committee
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A NEW LOCAL GOVERNMENT ELECTORAL ACT: REVIEW OF THE QUEENSLAND LOCAL GOVERNMENT ELECTORAL SYSTEM (EXCLUDING BCC)

Individual submission

by Anthony van der Craats, Melbourne.

Website http://sites.google.com/site/melbcity/submissions

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Dear Committee

It is with interest that I make the following submission in relation to the Queensland Local Government Electoral review and in particular issues related to the voting systems and models of representation under consideration.

1. Multi-Member Electorates

1.1. The total number of elected representatives on a municipal council should be odd in number. This limits the opportunity for there to be a division on the floor of the chamber and the need for the chairperson to require a casting vote in addition to their substantive vote.

1.2. Every elected representative must have an equal mandate to each other and represent equally their constituents.

1.3. Each municipal electorate should return the same number of candidates so that there is equality in the number of constituents represented (+/- 5%) and of equal importance, if not greater, the percentage required to form a quota for election.

1.4. The adoption of hybrid multiple mandate systems such as MMP or electorates where the number of elected positions vary in each electorate should be avoided as it creates a division or conflict in mandates, creating a class structure of mandates. Divisions in mandate or representation work best when there is a by-cameral chamber. They do not work in a single chamber authority.

1.5. All elected representatives in a municipality must have an equal mandate to each other representing their constituents. Ideally there should not be wards however it is realistic and sometimes desirable that a Municipality be divided into smaller constituent units/wards in order to increase the quota percentage threshold without the need for an arbitrary artificial threshold being applied.

Large constituent units may have potential for instability and a lack of accountability.

If a municipality is to be divided into wards/electorates they should be determined so as to ensure that each electorate has the same number of elected representatives as each other, by doing so ensuring that each representative has an equal mandate and responsibility.

Three wards with three elected representatives each is a good model for Local Municipal Councils.

Where it is not possible to establish multi-member wards of equal representation then consideration should be given to dividing a municipality into single member wards as opposed to establishing a hybrid representational model.

Method of voting – Single Transferable Voting

1.6. Multi-member constituencies should be determined by a system of Single Transferable Voting – Proportional Representation using the Wright System or Meeks method of counting the vote.

1.7. The Queensland Parliament should **not** adopt the system or method of counting the votes used to elect the Australian Senate or that used by the Tasmanian State Parliament or the Australian Capital Territory (ACT).

The systems used to determine the results of the Australian Senate and Tasmanian or the ACT were designed to facilitate a manual counting system and are out dated and seriously distort the accuracy and proportionality of the count.

2007 Queensland Senate Election

Analysis of the 2007 Queensland Senate Election has indicated that the results of the election did not accurately reflect the intentions or wishes of the Queensland electorate.

Analysis shows that the candidate elected in the sixth position was not the preferred candidate and that the Green's Candidate Larisa Waters should have been elected had the system been counted using a more accurate counting system such as Meeks or the Wright System (see attached analysis count sheets)

1.8. There are two main issues of concern in the system used to elect the Australian Senate

Calculation of the Surplus Transfer Value

1.8.1 The method used to calculate the Surplus Transfer value seriously distorts the one vote - one value principle as a substantial number of votes with a fractional value are allowed to increase in value disproportionally to the value of other votes that are of greater value. (See hypothetical analysis of the 2007 Victorian Senate Election results and the analysis undertaken by Antony Green, ABC electoral analyst).

To void this situation it is imperative that the formula used to calculate the Surplus Transfer value is based on the value of the vote and not the number of ballot papers.

The Surplus Transfer Value should be calculated by determining the Candidate's Surplus Value (Candidate's Total value of the vote minus the quota) and dividing the result by the Candidate's Total Value of vote and then multiplying the quotient by the value associated with of each ballot paper allocated to the candidate whose surplus is to be distributed.

Segmentation and distribution of preferences from excluded candidates.

1.8.2 The other issue of serious concern in the system used to count the Australian Senate election (and also with the Tasmanian and ACT systems) is the method of segmentation and distribution of preferences from candidates excluded in the count.

It is this issue that resulted in the distortion in the outcome of the 2007 Queensland Senate Election.

The distribution of preferences from an excluded candidate should be undertaken as though the candidate(s) excluded had not nominated.

If the 2007 Queensland Senate vote is recounted, excluding all candidates except the last seven candidates remaining, then Greens' candidate, Larisa Waters, would have been elected to the sixth position. The reason Larisa Waters was not elected is due to the distortion in the count caused by the method segmentation, and the order of distributing excluded candidates preferences.

1.9. It is recommended that the Queensland State Parliament adopt either the Meeks method of counting the vote or alternatively adopt a reiterative counting system as outlined in the Wright system (see attached appendix)

The Wright system is a linear process where as the Meeks method is non-liner.

Both methods are preferable and more accurate than the current methods used to elect the Australian Senate, Tasmanian or ACT Parliaments.

The Wright System – Reiterative Count

The Wright system is a refinement of the existing counting process taking into account the proportional calculation of the Surplus Transfer Value (1.8.1 above).

There is one transaction per candidate without the need for segmentation.

Each vote is treated in the same manner. If the number of candidates provisionally elected in a single iteration is not equal to the number of vacancies then the candidate with the lowest number of votes is excluded and the count reset and redistributed as if the excluded candidate has not stood. The process of iteration of the count continues until all vacancies are filled in a single iteration of the count.

The use and aid of computerised counting systems in counting the votes provides us the opportunity to ensure that the method of counting the vote accurately reflects the intentions of the electorate without distortion of the results arising from the system of segmentation of the vote in the counting process.

2. Single Member electorates

2.1. It is recommended that single-member electorates be determined by a system of preferential voting as used by the Australian Electoral Commission in electing members of the House of Representatives. If no single candidate has an absolute majority of primary preference votes then the candidates with the least number of votes are excluded and their votes redistributed according to the voters nominated order of preference. The process continuing until a candidate has 50% or more votes remaining in the count.

2.2. That method of counting of single-member electorates be undertaken manually and not by a system of electronic transcribed data-entry of voters preferences.

A computerised counting system for single-member elections should only be considered if the voter directly, electronically, records their allocation of preferences.

3. Computerised counting of the vote

3.1. Computerised counting of an election results has its advantages and disadvantages.

Consideration of computerised counting systems differs significantly if the system relies on a 2rd party transcribed data-entry of the vote or if the voter records their vote directly via a computerised terminal.

There is merit in using computerised counting systems for both single member electorates and multi-member electorates where the voter directly records their vote electronically without the need for a transcribed data entry process.

Computerised electronic voting systems are inherently limited in their ability to be open and transparent and are not readily subject to proper scrutiny. Preparatory procedures, administrative and technical process play an important role in public confidence and acceptance of a computerised election.

A computerised counting system is open is misuse and abuse must be properly designed and secure.

Access to detailed information and copies of voting data becomes imperative as is the need to ensure that the software used is open and transparent and subject to proper scrutiny. Stringent checks and balances and data security must be put in place when implementing a computerised voting system.

As the implementation of a fully computerised voting system is somewhat distant the issues addressed below are based on the current paper based voting systems using a system of transcribed data-entry process.

3.2. When considering support for a computerised counting system one of the main issues of concern is the deficiencies and potential for errors in the transcribed data-entry of voter's preferences. Issues in data quality, security and scrutiny of the ballot must be properly considered.

In a manual counting system the scrutiny of the counting process is relatively straight forward but with a computerised counting system the potential for errors and omissions and abuse is increased and the ability to scrutinise a computerised count is significantly less than a manual counting system (Evident by the number of errors recorded in the conduct of the 2006 Victorian State Election)

3.3. Computerised counting of single-member electorates using a transcribed data-entry process cannot be justified as it limits the opportunity for proper scrutiny of the ballot.

Any savings that can be claimed in terms of man hours comes at the expense of maintaining an open and transparent electoral process.

3.4. With multi-member electorates computerised counting system using a transcribed data-entry process or direct recoding of preferences by the voter is justified.

A well considered computerised counting system can facilitate the accuracy and viability of the counting process with the adoption of a Single Transferable voting - Proportional Representation system.

A certified electronic copy of the voter's preferences can be used to determine the results of a count back to fill any casual vacancies that may arise during the term of an elected Council thus avoiding the cost and need for a by-election.

Pre-sorting of ballot papers prior to data-entry

3.5. In order to facilitate the orderly and proper scrutiny of the ballot and the data-entry process, ballot papers should be pre-sorted into candidates' primary preferences prior to batching ballot papers ready for data-entry.

The pre-sorting of ballot papers into primary votes provides a check digit, preliminary assessment of the likely results of election and the means for scrutineers to monitor more closely selected votes of interest in an orderly fashion.

The pre-sorting and tabulation of primary preference votes facilitates the reconciliation of polling place declarations and the number of ballot papers issued and returned ensuring that all votes have been accounted and that unauthorised votes are not added or omitted from the final count.

It also provides a 'disconnect' between the data entry record and the voters list ensuring and maintaining the secrecy of the ballot.

Publication of data-entry data files

3.6. If the Parliament adopts a system of computerised counting of the vote it is essential that copies of the preference data-files used to determine the results of the election are published and that copies made available to scrutineers for independent analysis and review during the counting process. This must be outlined in any legislation and or regulations governing the conduct of the counting process.

Without access to this information it is impossible for scrutineers to properly scrutinise an electronic computerised count or independently verify the accuracy and validity of the recorded data-file.

Open and Transparency in electronic counts

3.7. The electoral authority must provide relevant information in a timely fashion as to the number of ballot papers issued and returned (Including any spoilt ballot papers) as part of a reconciliation report prior to the commencement of the data-entry/tabulation of the election results.

3.8. Review of the 2006 Victorian State Election highlighted a number of concerns pertaining to the computerised counting of ballot papers. Most of the errors identified in the 2006 Victorian election would have been avoided if the Victorian Electoral Commission had undertaken due diligence and, as requested, provided access to the above information.

3.9. Legislation governing the conduct of a computerised counting system should also ensure that the process used in the data-entry of preferences includes a double-entry verification process where the quality of the data-entry is verified.

Review of the 2006 Victorian State Election identified a number of serious issues of concern in the quality and accuracy of a single data-entry system using a random sampling data-quality checking process. The Victorian Electoral Commission, in recognising the potential for errors, has proposed the implementation of a double data-entry verification control process for the November 2010 State Election.

3.10. It is imperative that the legislation and system put in place ensures the security and integrity of the electronic voting system and that the preference data-files of the electronic voting system cannot be accessed prior to the close of the poll.

In review of the 2006 Victorian State Election there was concern that electoral officials had accessed voting data recorded at electronic voting kiosks prior to the close of the poll. (See attached copy of correspondence sent by Glenda Frazers, Victorian Electoral Commission) At the time indicated in Ms Frazers correspondence live voting records were recorded on the electronic voting kiosks.

3.11. Following the close of the poll access to electronic voting preference data files must only be undertaken in the presence of authorised scrutineers and copies of the relevant detailed preference data files MUST be provided prior to any tabulation or of the voting results.

Evidence given by the Victorian Chief Electoral Commissioner, Mr Steve Tully, to the Victorian State Parliamentary Electoral Matters Committee indicated that three electoral officials had accessed the voter's preference data-files record in the electronic voting kiosk data store in the absence of appointed scrutineers.

Backup and security of electronic data.

3.12. The legislation/regulations governing the conduct of elections must provide for the backup and protection of data-files preventing data from being deleted or altered.

The software used in the tabulation and recording of the vote must be designed so as to prevent the deletion or overwriting of data recorded (wrote once read only devices should be employed).

Evidence given by the Victorian Chief Electoral Commissioner to the Victorian State Parliamentary inquiry indicated that copies of the preference data-files associated with the 2006 Victorian Legislative Council – Western Metropolitan Region Primary count had been overwritten and destroyed during the secondary data-entry count process.

Backup copies of the data-files were not available or retained. Important information, data and audit trails related to the computerised counting of the ballot

were not available to the Parliamentary Inquiry or subjected to independent scrutiny, analysis or review.

Reconciliation of the total number of ballot papers issued and returned

3.13. In the 2006 Victorian State election – Western Metropolitan Region the total number of ballot papers (including informal ballot papers) had changed between the primary count and the secondary final count.

The primary count recorded a total number of 399964 votes with the secondary count recording only 399486 votes, a difference of 478 votes missing between the primary count and the secondary count.

The overall results of the Western Metropolitan Region election changed between the primary count and the secondary count with a margin of less than 150 votes in the final outcome.

The total number of votes between the primary count and any subsequent counts should not change.

No attempt had been made to reconcile the total number of votes recorded in the primary count with the polling place return data prior to calculating the results of the election.

3.14. The Victorian Electoral Commission, in its proposals for the conduct of the 2010 Victorian State Election, has indicated that they will seek to reconcile the total number of votes recorded in the Commission's computerised counting system with the number of ballot papers returned.

The current Victorian Local Government (Electoral) regulations requires the returning officer to reconcile the electronic records of ballot papers with the total number of ballot papers received before calculating the result.

> Regulation 110 (4) of the Local Government (Electoral) regulations states "*Before calculating the result, the returning officer must reconcile the electronic record of ballot-papers with the total number of ballot-papers received.*"

The Victorian Electoral Commission has yet to provide details of the extent and format of the proposed reconciliation report.

3.15. The Queensland State Parliament must also ensure that the total number of votes recorded in a computerised counting system reconciles with the total number of votes issued and returned as stated in the voting centre declaration returns prior to the determination of the election results.

Copyright, Certification and Open Source Software

3.16. It is recommended that

3.16.1. The Queensland Parliament, in fulfilment of its commitment to maintaining an open and transparent electoral system, should ‘open source’ all software used on the determination and counting of the ballot, as is the policy currently adopted by the ACT.

3.16.2. Any software developed in house or utilised in the counting of the vote must be duly certified and comply with the relevant ISO standards.

3.16.3. Copies and details of all certification documentation should be published on the government’s internet web site.

I would be pleased to make myself available to the committee to discuss further the issues outlined above.

Yours faithfully

Anthony van der Craats

Senior Systems Analyst (IT)
Life Member of the Proportional Representation Society of Australia

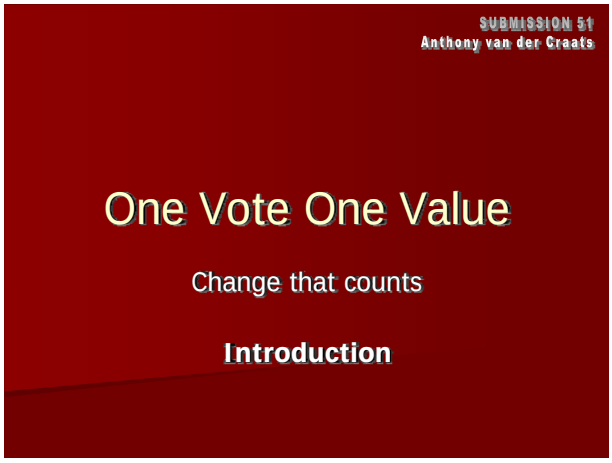
Attached.

Appendix

1. Change that Counts – One vote One Value

a. Rules and procedures for a Reiterative Proportional Single Transferable Vote - Computerised Count
https://sites.google.com/site/melbcity/MrAnthonyvanderCraatssub51_1.pdf?attredirects=0

Click on the page below to display the power point presentation



2. Change that Counts – Queensland the Stolen Election (Power Point slide Show)

Click on the page below to display the power point presentation

3. Change that Counts – Analysis 2007 Queensland Senate Election Results

a. Comparison summary sheet

2007 Queensland Senate Election

Comparsion Count Summary Report

ID	Candidate	Ticket		MEEK	WRIGHT		AEC
23	MACDONALD, Ian Douglas	J	Liberal	348286	345559		345559
24	BOYCE, Sue	J	Liberal	349882	345559		345559
25	BOSWELL, Ron	J	Liberal	363509	345559		345559
33	WATERS, Larissa	M	The Greens	351484	363089		311914
38	HOGG, John Joseph	O	Australian Labor Party	348609	345559		345559
39	MOORE, Claire	O	Australian Labor Party	351059	345559		345559
40	FURNER, Mark	O	Australian Labor Party	305705	328023		372947
			Non Transferable	*373*		*Remaining*	*5155*
						Exhausted	*970*
						Gain/Loss	*126*
Sum				2418907	2418907		2418907

b. Wright System - detailed count sheet
https://sites.google.com/site/melbcity/WrightSystem-AustralianSenate2007-QL.pdf?attredirects=0

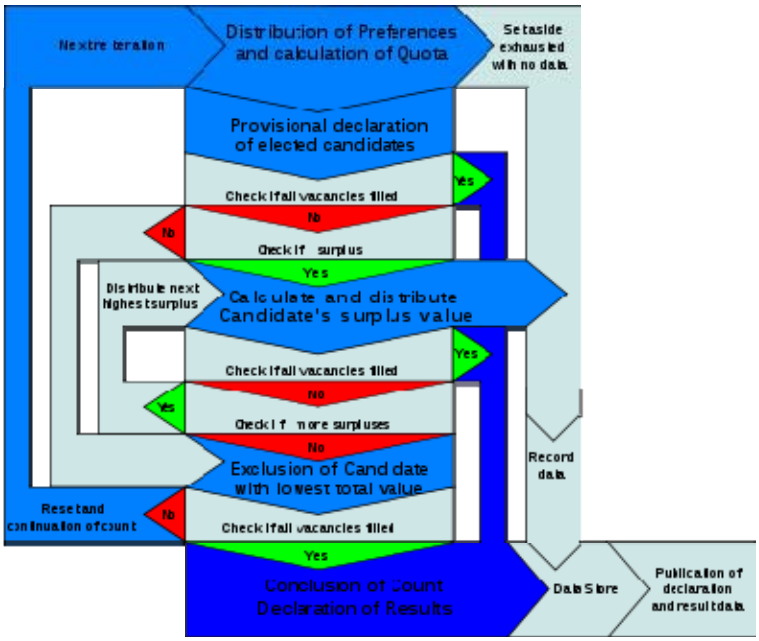
c. Meeks method - detailed count sheet
https://sites.google.com/site/melbcity/MeeksMethod-AustralianSenate2007-QLD.pdf?attredirects=0

4. Change that Counts – Analysis 2007 Victorian Senate Election Results (Hypothetical)

a. "Problems with the Senate Counting System" Anthony Green - Submission to the JSEM (Extract)
https://sites.google.com/site/melbcity/AntonyGreenJSCEM1b.pdf?attredirects=0

5. Change that Counts – Wright System Rules and procedures

The Wright system



The Wright System - Count Process Flow Chart

The **Wright system** (named after the late Jack Wright, author of the book *Mirror of a Nation's Mind* and past President of the Proportional Representation Society of Australia) is a refinement of rules associated with the Single Transferable Vote electoral system.

The aim of the system is to provide an alternative to various methods of segmentation and distribution of preferences associated with the exclusion of a candidate from the count.

The Wright System fulfills the two principles identified by Brian Meek:[1]

- ***Principle 1***. If a candidate is excluded from the count, all ballots are treated as if that candidate had never stood.
- ***Principle 2***. If a candidate has achieved the quota, they retain a fixed proportion of the value of every vote received, and transfers the remainder to the next non-excluded continuing candidate, the value of the retained total equalling the quota.

The system uses the Droop Quota (the integer value of the total number of votes divided by one more than the number of vacant positions plus one) and the Gregory method of weighted surplus transfer value of the vote in calculating a candidate's surplus transfer value which is then multiplied by the value of each vote received by the candidates whose votes are to be redistributed, as is the case in the Western Australian upper-house elections.[2]

Unlike the Western Australian upper-house electoral system the Wright System uses a reiterative counting process that differs from the Meek's method as an alternative to the method of segmentation and distribution of excluded candidates' votes.

On every exclusion of a candidate from the count the counting of the ballot is reset and all valid votes are redistributed to candidates remaining in the count.

In each iteration of the count, votes are first distributed according to the voter's first available preference, with each vote assigned a value of one and the total number of votes tabulated for each candidate and the quota calculated on the value of the total number of valid votes using the Droop quota method.

Any candidate that has a total value equal or greater than the quota is provisionally declared elected and their surplus value distributed according to the voter's nominated subsequent preference. If the number of vacancies are filled on the first distribution the results of the election are declared with all provisionally declared candidates being declared the winner of the election.

If the number of candidates provisionally declared elected is less than the number of vacancies and all candidates' surplus votes have been distributed then the candidate with the lowest value of votes is excluded from the count. The ballot is reset and the process of redistribution restarted with ballot papers being redistributed again according to the voters next available preference allocated to any continuing candidate. This process repeats itself until all vacancies are filled in a single count without the need for any further exclusions.

The Wright System takes into account optional preferential voting in that any votes that do not express a valid preference for a continuing candidate are set aside without-value and the quota is recalculated on each iteration of the count following the distribution of the first available preference. Votes that exhaust as a result of a candidate's surplus transfer are set aside with the value associated with the transfer in which they exhausted.

The main advantage of the Wright System is that it limits the distortion and bias in the vote that arises from the adopted methods of segmentation and distribution of preferences of excluded candidates. Each vote has proportionally equal weight and is treated in the same manner as every other vote.

Under the current system used in the Australian Senate a voter whose first preference is for a minor candidate and their subsequent second preference for a major candidate that has been declared elected earlier in the count is denied the opportunity to have their second preference vote allocated to the candidate of their choice. With the reiterative counting system the voter's second preference forms part of the voter's alternative chosen candidate's surplus and is redistributed according to the voters nominated preference allocation.

Rules and procedures

Candidate means the name of a person or persons seeking election and listed on the ballot paper(s) to be counted

Continuing Candidate means a candidate that has not been excluded from or declared not-elected in the process of the count

Total Vote (Tv) is the total number of ballot papers that express a valid preference allocated to candidates remaining in the count

Quota (Q) means the number determined by dividing the Total Vote (Tv) by 1 more than the number of candidates required to be elected and by increasing the quotient (disregarding any remainder) by 1 (Q = integer(Tv/(1+No of Vacancies))+1)

Value of the Vote (Vv) means the value allocated to each ballot paper as it progresses though the count.

Candidate's Total Value of votes (Ctvv) means the aggregated sum of the value of each ballot paper allocated to the candidate.

Surplus Value (Sv) means the value calculated by subtracting the Quota (Q) from the Candidates Total Value' of votes (Sv = Ctvv-Q)

Surplus Transfer Value (Stv) means the value calculated by the Surplus value (Sv) divided by the Candidate's Total Value of votes (Ctvv) and then multiplied by the Value of vote (Vv) allocated to each ballot paper ((Stv = Sv/Ctvv)*Vv)

Ballot Paper means a record of a voter's intention and allocation, in ascending order of preference, of support for a nominated candidate for election. It also refers to a vote which is a record in electronic format representing information and preference allocations of a ballot paper.

Vote means a mathematical representation and record of a ballot paper

Preference means the number in ascending order that represents the order of voter's preference attributed to a candidate for election as recorded on a ballot paper or data file.

Electronic preference data file means an electronic data file representing the allocation and record of preferences and all votes/ballot papers used in the calculation, distribution and determination of the results of the election.

Remainders represent the factional part arising from a mathematical division recorded in double precision and are to be retained with and form part of the value of the vote and/or the total value attributed to a candidate

Exhausted Votes means the aggregated value attributed to any votes that do not express a valid preference for a candidate remaining within the count. The ballot paper and it's attributed value are declared exhausted and a tally of all exhausted votes recorded.

Bulk exclusion means the method of determining the number of candidates which can be simultaneously excluded from the count

Running Sum means the progressive calculation the sum of all candidates total votes from lowest to highest in descending order

Quota Breakpoint means highest running sum value that is less than half of the *Quota*

Running Breakpoint means the candidate with a total vote value that is greater than the associated running sum of all candidates with a lower total vote.

Applied Breakpoint means the candidate with a highest total vote that is less than the associated running sum of all candidates with a lower total vote and less than the difference between the *Quota' and the value of the highest scoring candidate that is below* Quota.

Process of calculation of the results of the election

All ballot papers must be checked for formality and reconciled with the electoral roll and polling place returns following the completion of the data-entry process and prior to the commencement of the counting procedure outlined below. Any informal ballot papers must be set aside and recorded with no value.

Distribution of Preferences and calculation of Quota

Ballot Papers are distributed according to the first available preference in ascending order that corresponds to a Continuing Candidate.

(a) Any ballot paper that does not express a transferable preference for a continuing candidate is declared exhausted-without-value and recorded with a value of zero.

(b) Assign each ballot paper allocated to a Continuing Candidate a Vote value of one.

(c) Ascertain and assign the Candidate’s Total Value of the Vote (Ctvv) for each Continuing Candidate by aggregating the value of the votes allocated to each Continuing Candidate.

(d) Ascertain and assign the Total Vote (Tv) value by aggregating the total value of votes allocated to each candidate outlined in (c) above.

(e) Calculate the Quota required to elect a candidate by dividing the Total Vote (Tv) by 1 more than the number of candidates required to be elected and by increasing the quotient (disregarding any remainder) by 1 (Q = integer(Tv/(1+No of Vacancies))+1).

Provisional declaration of elected candidates

Any candidate who has received a Total value of votes (Ctvv) equal to or greater than the Quota (Q) is to be provisionally declared elected.

Number of vacancies filled

If the number of candidates provisionally declared elected equals the number of vacancies to be filled then the count is concluded (Goto Conclusion of the count)

Number of elected candidates less than vacancies

If the number of candidates provisionally declared elected is less than the number of vacancies to be elected and the number of all other Continuing Candidates is greater than the number of vacancies still remaining then the procedure of the count is as follows:-

Calculation of the Candidate's Surplus Value

In descending order of the Candidate's Total value of votes (Ctvv) for each provisionally elected candidate, starting from the candidate with the highest total value of votes whose surplus is to be distributed, calculate the Surplus value (Sv) of the candidate by subtracting the Quota from the Candidate's Total Value of the Vote and then determine, distribute and allocate the Candidates Surplus Transfer value according to the procedure outlined below (2.6 and 2.7 inclusive)

Calculation of the Surplus Transfer Value and value of the vote

The candidate's Surplus Transfer Value (Stv) is determined by calculating the quotient of the candidate's Surplus value (Sv) divided by the Candidate's Total Value of the Vote (Ctvv) and multiplying the result by the value of each ballot paper (Vv) allocated to the Candidate whose surplus is being considered. The resultant becomes the new Value of the vote allocated to each ballot paper the sum of which equals the Surplus value (Sv).

Distribution of Candidate's Surplus votes

All ballot papers allocated to the Candidate whose surplus is under consideration are to be redistributed according to the following procedure:

All ballot papers that express a preference greater than the preference allocated to the candidate whose surplus is to be distributed shall be distributed and re-allocated to the candidate that remains in the count (excluding any candidate that has already been provisionally declared elected) according to the next available sequentially highest preference recorded on the ballot paper.

Exhausted Ballot papers to be set aside

Any ballot paper that does not express a valid preference for a continuing candidate greater than the preference allocated to the candidates whose surplus is to be distributed shall be set aside and declared exhausted-with-value and its value added to the total value of exhausted ballot papers recorded for the relevant transaction in the count. Exhausted votes that form part of a candidates surplus remain in the count and form part of the initial candidate's Total Vote and surplus.

Allocate value of quota to candidate whose surplus has been distributed

The Candidate whose Surplus has been distributed is allocated a Candidate's Total Value of votes equal to the Quota.

Ascertain if any Candidates are to be provisionally elected as a result of the surplus transfer distribution

Any Continuing Candidate who has received a total value of votes equal to or greater than the quota on the completion of the transfer and distribution of all ballot papers associated with the surplus distribution shall be provisionally declared elected.

Number of Candidates provisionally elected equal the number of vacancies

If as a result of the completed surplus transfer the number of candidates provisionally declared elected equals the number of vacancies to be filled then the count is concluded (Goto Conclusion of the count)

Distribution of additional surplus votes

If the number of candidates provisionally declared elected is less than the number of vacancies to be filled and there remain candidates who have a surplus value that has not been transferred and distributed then the votes allocated to the candidate with the next highest surplus value is to be transferred and redistributed according to the procedure outlined above (2.6 and 2.7 inclusive)

Exclusion of candidates

If the number of candidates provisionally declared elected is less than the number of vacancies to be filled and there are no further candidate surpluses to be distributed then the candidate with the lowest total value of votes is to be declared not-elected and excluded from the count.

Bulk Exclusion (option)

Two or more candidates may be excluded simultaneously by determining the *Applied Breakpoint*, if the aggregated value of all candidates to be excluded is less than the value of the next lowest candidate or the value required by a candidate to obtain a quota. The calculation of *Quota Break point* or the highest associated *Running Break Point* values associated with a continuing candidate. Breakpoints assists in the determination of applying a *Bulk Exclusion* process. If the *Quota*, *Applied* and *Running Breakpoints* converge then it is generally safe to apply a *Bulk Exclusion* process to the count. Careful consideration needs to be given to ensure that candidates with a lower total value are not capable of securing a higher total vote than the candidates remaining in the count.

Tie in the value of a candidates the vote

If there are two or more candidates of equal value with the lowest total value of the vote then the candidate to be excluded from the count shall be determined by lot and declared not-elected.

Number of candidates declared elected and remaining in the count equal the number of vacancies

If as a result of any exclusion the number of candidates provisionally declared elected plus the number of remaining candidates equals the number of vacancies to be filled then the count is concluded and all candidates that remain in the count are all declared provisionally elected (Goto Conclusion of the count)

Reset and continuation of the count

If the number of Continuing Candidates, including candidates that have been provisionally elected, is greater than the number of vacancies plus one following the exclusion of any candidate, the ballot shall be reset and the distribution of preferences shall be restarted according to the procedures outlined above in sections 2.1 to 2.10 excluding all candidates that have been declared not-elected and excluded from the count.

Reiteration of the count

The count continues to proceed according to the procedures outlined above until either the number of provisionally declared elected candidates or the number of candidates remaining in the count equals the number of vacancies to be filled in which case all Continuing Candidates are declared provisionally elected.

Conclusion of the count

At the conclusion of the reiterative count all candidates that have been provisionally elected in the final count reiteration are declared elected following the publication of the election results and a certified copy of the detailed electronic preference data file used in tabulating the results of the election.

6. Correspondence from Glenda Frazer, Victorian Electoral Commission dated Friday November 27, 20006

From: Glenda Frazer

Sent: Friday, November 24, 2006 8:37 AM
Subject: Late update to results

A late update to all regarding the votes taken at our 6 E Centres and Melbourne Airport. Each centre mentioned will be taking votes for all Districts in the State, additionally each of these centres will be counting all votes taken on election day. ***After analysing the number of voting centre results entered last night for 1st prefs (District and Region) and 2 CP*** *we have realised that everyone could be waiting around all night for what would be dribs and drabs that we do not anticipate would make an impact on the result. Because of this we have decided that we will* ***not*** *be entering* ***these small results on election night****. These will be entered on Sunday during the day.*

Many apologies for those people who I have misinformed this afternoon, as I said this is a late change.

We do not anticipate large numbers of votes from these centres. I will keep in touch with progress reports.

Regards – Glenda

One Vote One Value

Change that counts

Queensland
The Stolen Election

Change that counts

In 2007, The Australian Queensland Senate election resulted in 3 ALP and 3 Liberal senators being elected.

Analysis of the voting data indicates that the Greens' Candidate, Larissa Waters, should have won the sixth senate seat.

Change that counts

Not all votes are treated equal.

The reason Larissa Waters did not win is due to the way in which the Australian Government distributes the preference votes of excluded minor candidates.

The system is designed to distort the proportionality of the count.

Change that counts

The system can readily be tested.

If you recount the Queensland vote excluding all candidates except the last seven (3 ALP, 3 Liberal and 1 Green) Larissa Waters is elected as Queensland sixth candidate.

Change that counts

Each ballot paper should be treated equally and of equal value.

Under current the Australian Senate system ballot papers are not equally treated and do not have equal value.

One Vote One Value

Change that counts

The solution is simple – Fix it.

Change that counts

New Zealand was aware of the problem and they fixed it.

Australia needs to follow New Zealand's lead

New Zealand uses the Meeks Method of counting the vote.

Change that counts

The current system was designed to facilitate a manual counting process

With the use of computer aided counting systems there is no excuse to maintain an inaccurate method of counting and proportioning out the vote.

Western Australia and Victoria have taken steps towards reform but the Federal Government has its head stuck in the sand and refuses to change

Change that counts

Votes must be equal in value and allocation.

The Federal Government needs to reform the system used to count the votes.

We must adopt a re-iterative counting process or implement the Meeks method of counting the votes for our elections to be fair and just.

Change that counts

The “Yes Minster” approach, if you do not ask the question you do not have to provide an answer.

The Federal Government is in denial and the AEC refused to undertake proper and detailed analysis of the Queensland result.

Antony Green, ABC Electoral Analyst, also failed to review of the system, had he done so he would have had to acknowledge the flaws in the system..

One Vote One Value

Change that counts

Change that must be implemented if we are to have a fair and just electoral system.

One Vote One Value

Change that counts

Calculation of the Surplus Transfer Value

Change that counts

The formula currently used in the senate count to calculate a candidate's surplus transfer value seriously distorts the proportionality and value of the vote:

- It divides the value of the surplus by the number of ballot papers even though some ballot papers hold a fraction of value of others
- The formula was used to primarily aid a manual count and the reduce the number of mathematical calculations that were required.
- It fails the one vote one value principle.
- Major party ticket votes are increased in value at the expense of minor party candidates that have been excluded from the count.
- It has the potential to effect the overall results of the election disproportional to the vote.
- The problem is magnified when the same system is used in smaller electorates that do not use above-the-line voting.
- With the use of computer based technology there is no longer any justification for retaining the system and formula used

Change that counts

To demonstrate the effect of the current problem.

- ***Hypothetical***: Victoria's Senate Election 2007 Change "One Nation's" Ticket vote placing the Liberal Party ahead of the ALP before the Greens by swapping One Nation's ALP-Liberal parties ticket preferences. This reduces the Australian Labor Party's vote and forces a distribution of the Liberal Party's third candidate's surplus.

  * *Reference: Antony Green's detailed analysis in his JSCEM supplementary submission (62.1)* ***"Problems with the Senate Counting System"*** *dated 23 July 2008*

Change that counts

- ***Hypothetical outcome***: Under the current method used by the AEC, the Greens Candidate is bolstered by an additional 7,000 vote bonus votes delivered by the system due to the distortion in the calculation of the Surplus Transfer Value.
- With the Weighted "Inclusive Gregory" the transfer value of each vote is calculated at correct proportion to its original value

* *Reference: Antony Green's detailed analysis in his JSCEM supplementary submission (62.1)* ***"Problems with the Senate Counting System"*** *dated 23 July 2008*

Change that counts

Question:

If 91% of ballot papers (Major Party's Ticket Vote) represent 74% of the value of the vote and

9% of ballot papers (Minor Parties and BTL votes) represents 26% of the value of the vote

Do you transfer those votes based on the number of ballot papers (91:9) or on the value of the vote (74:26)?

If you have 9% of shareholders who own 26% of a company's assets and you are liquidating the company...

Do you divide the assets of the company equally between the number of shareholders or based on the value of their shares?

Answer:

The value of their shares. Why not the value of the vote?

Change that counts

The solution is simple.

Change the formula used to calculate the surplus transfer value.

- ✗ Instead of dividing the value of the surplus by the number of ballot papers.
- ✓ Divide the value of the surplus by the candidate's total vote times the value of the vote.

Change that counts

Change the formula used to calculate the surplus transfer value – adopt the Gregory Inclusive Weighted vote method.

Western Australia has adopted it. Victoria has recommended it

- Total value of candidates surplus votes divided by the total value of the candidates vote times the value of each vote

Change that counts

The Federal Joint Standing Committee on Electoral Matters has failed to act to correct this obvious disparity in the way the senate vote is counting.

Of great disappointment was Victoria's member of parliament for Melbourne Ports, Michael Danby, who failed to address this issue. Michael Danby is at odds with the Victorian Parliament who has recommended the adoption of the West Australian model and the adoption of a weight transfer system.

One Vote One Value

Change that counts

Segmentation of the count

Change that counts

Segmentation what is it?

- It is an outdated process that was adopted to determine the order in the distribution of excluded candidates voter's preferences.
- A wrong trying to fix a wrong, it was designed to primarily aid a manual count, minimise the number of ballot paper transfers and the reduce the distortion in the vote arising from a "paper based" surplus transfer system.
- A trade off between accuracy, voters choice, democratic representation to facilitate the ease of a manual count.
- Arbitrary, having limited basis of logic or fairness.
- Electoral lotto, its implementation is hit and miss.
- Does not reflect the voters intentions and in the process disenfranchises voter's choice.

Change that counts

What are the alternatives and solution to the current system of segmentation?

- Full segmentation of each transfer *(FIFO)*
- Individual candidate's primary votes *(FIFO)* and aggregated non-primary vote transfers
- One single transaction per candidate
- Last bundle

✓ **Better still - abolish it**
and replace it with a reiterative count or the Meeks Method as used in NZ

One Vote One Value

Change that counts

The Reiterative Count
“Wright System”

Change that counts

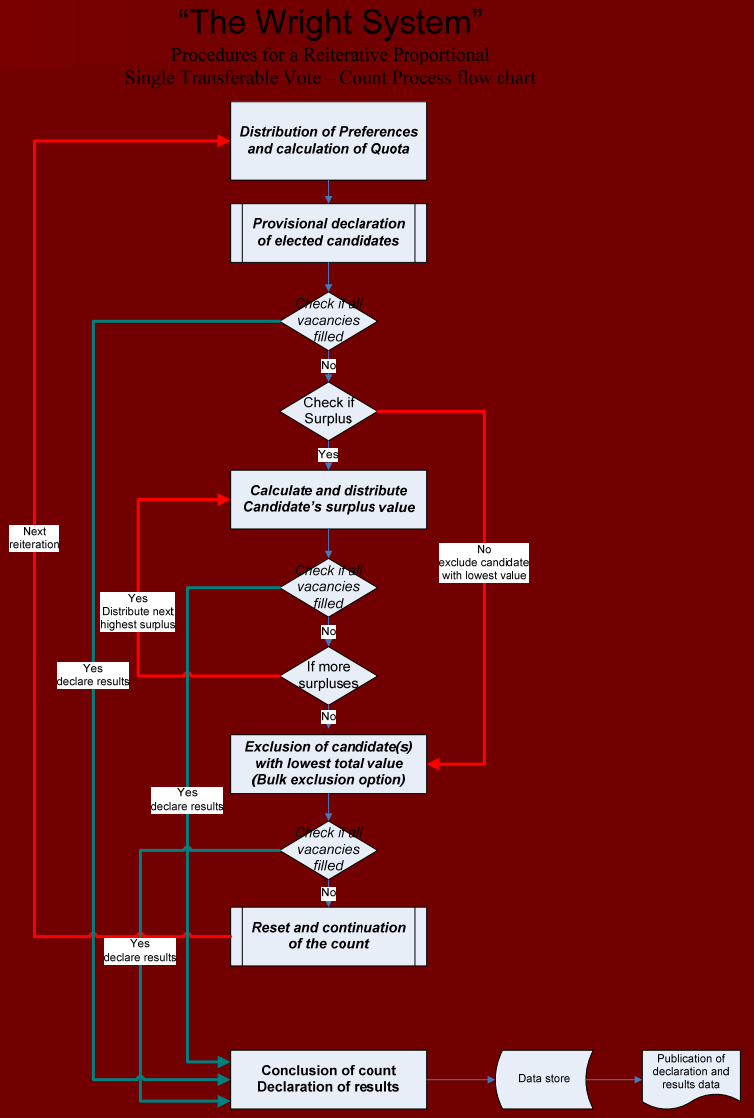
The Wright System is a re-iterative counting system based on a modified Australian Senate Electoral system with a Inclusive Weighted Gregory Surplus Value Transfer method, single segmentation. One transaction per candidate.

- It is a linear reiterative counting system.
- On every exclusion of minor candidates the count is reset and restarted.
- Each vote is treated equal and in the same manner..

Change that counts

Process Flow Chart

- **On every exclusion the count is reset and all votes are redistributed to all remaining candidates.**
- **Candidates' surpluses are also redistributed.**
- **The count continues its progressive cycle until all vacancies are filled.**



Change that counts

Process Flow Chart

- **The quota for election is recalculated at every reiteration following the initial distribution.**
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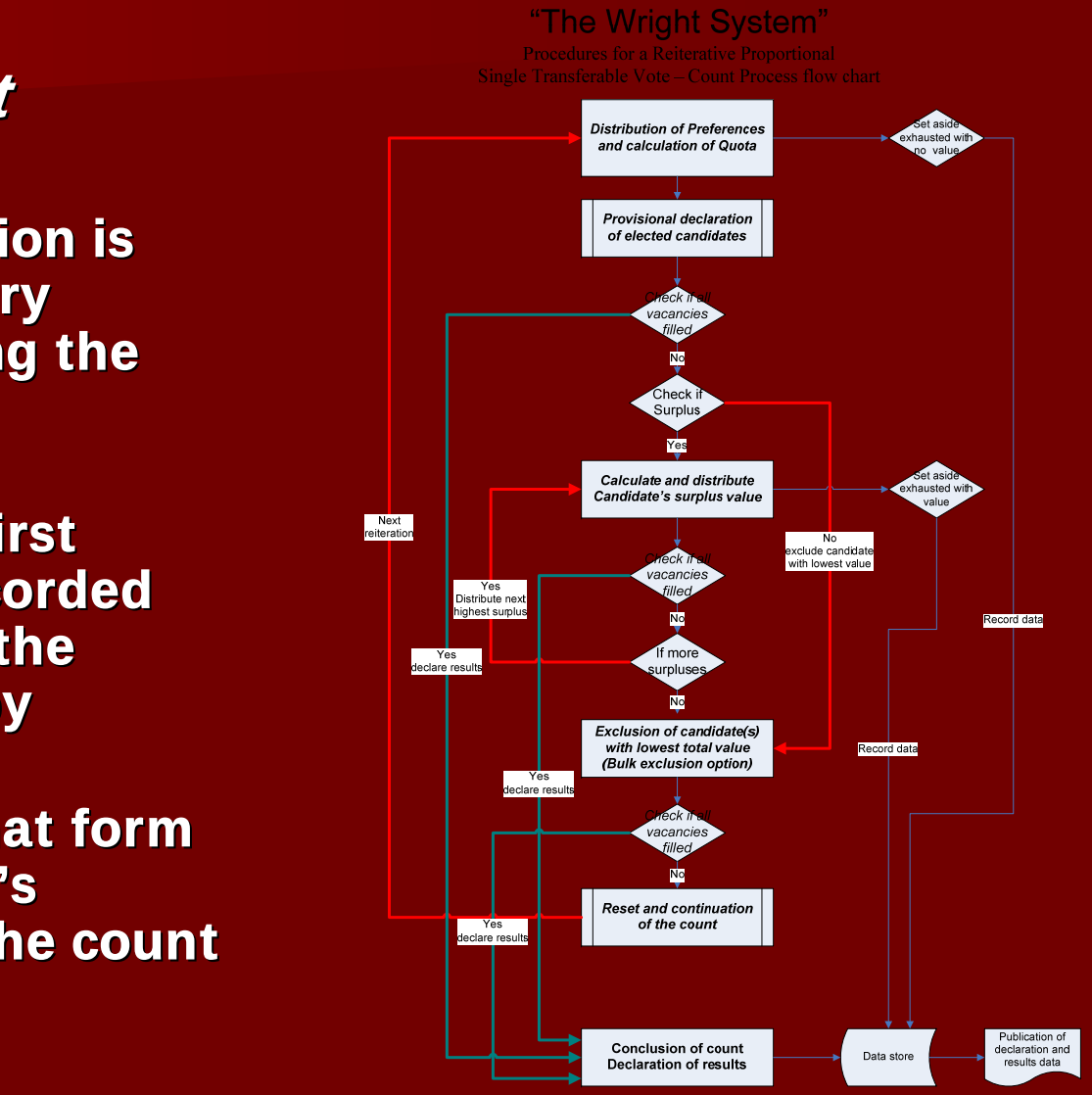

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Process Flow Chart

- ✓ It is a reiterative count process
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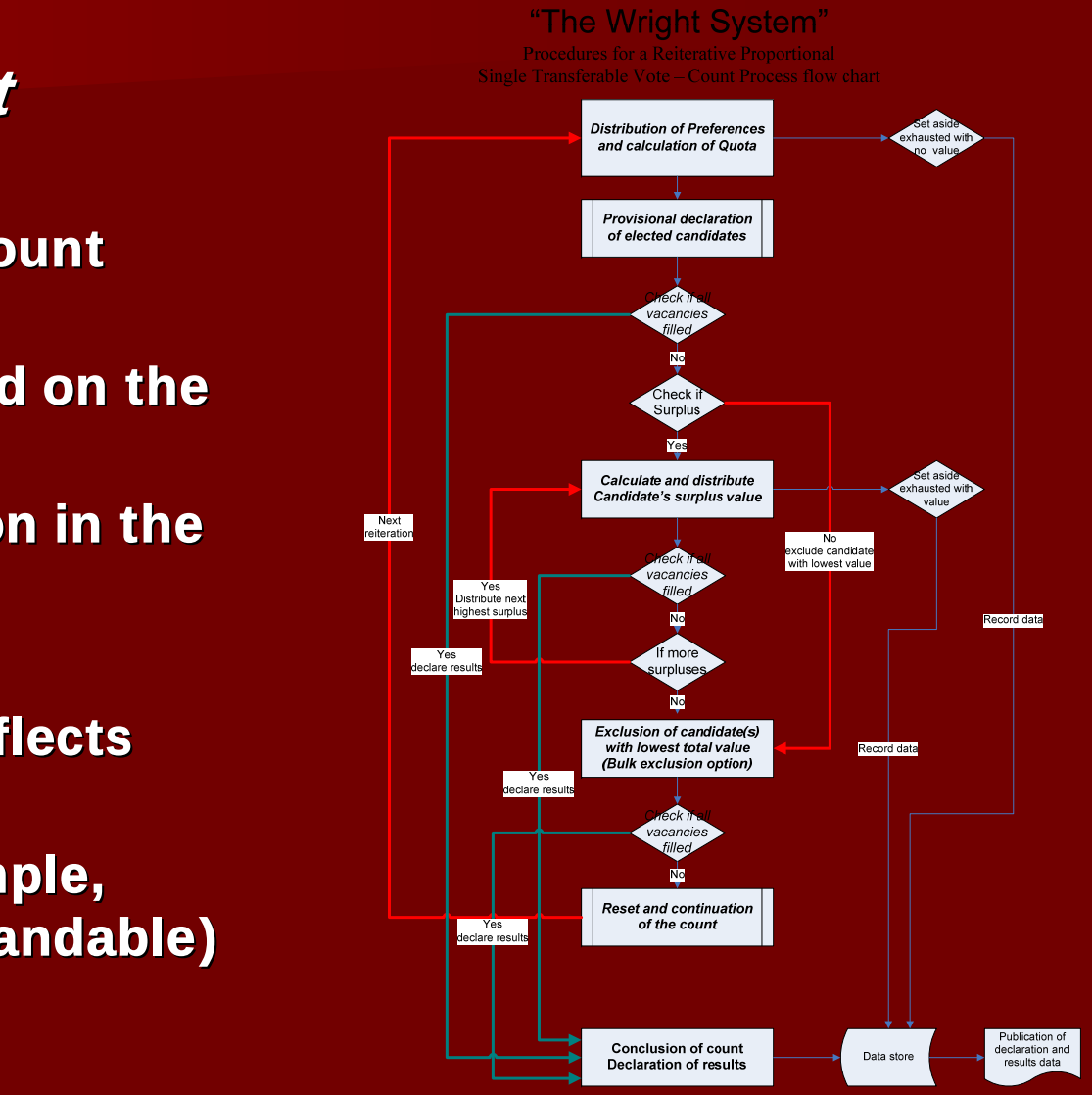

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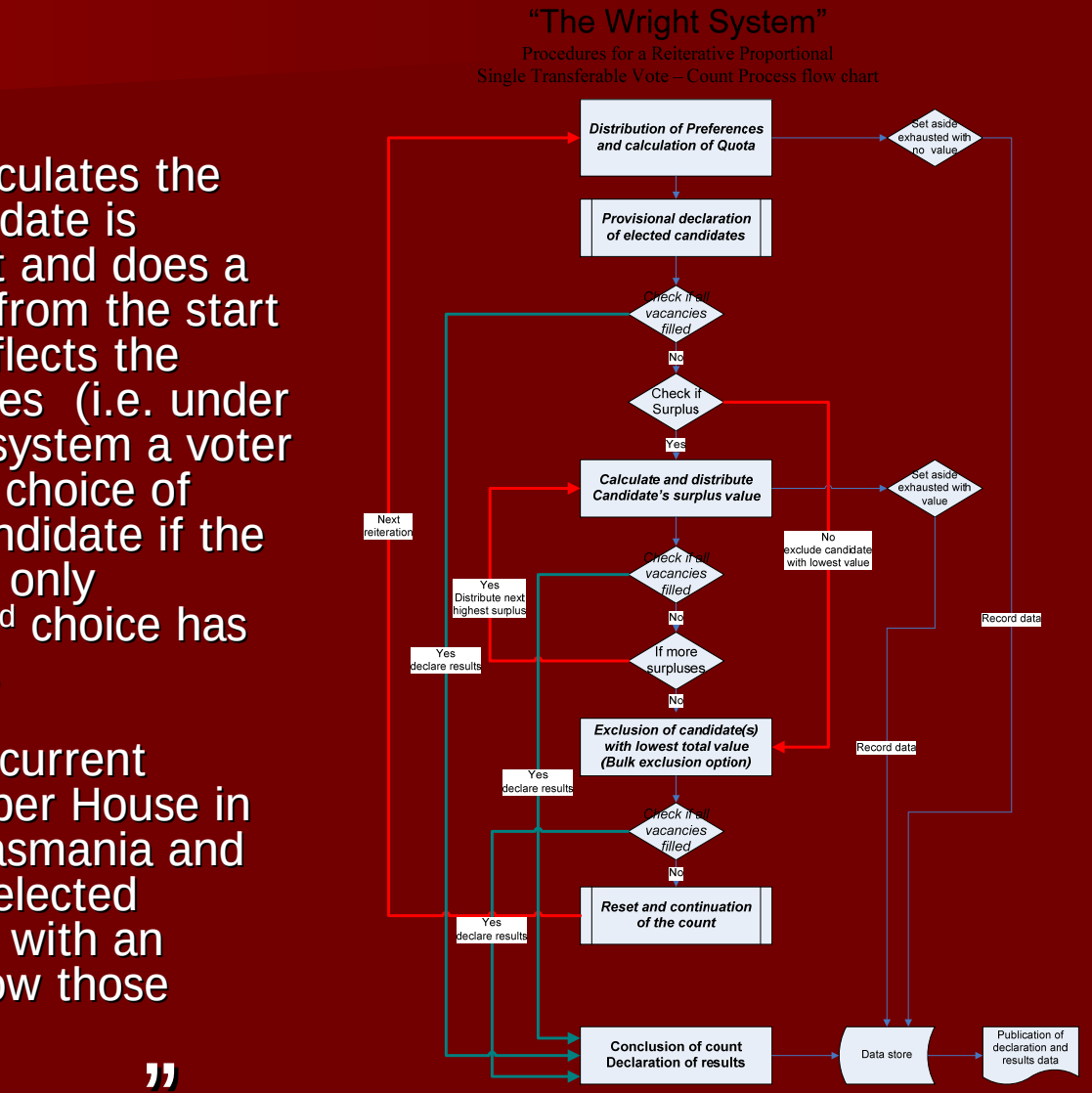

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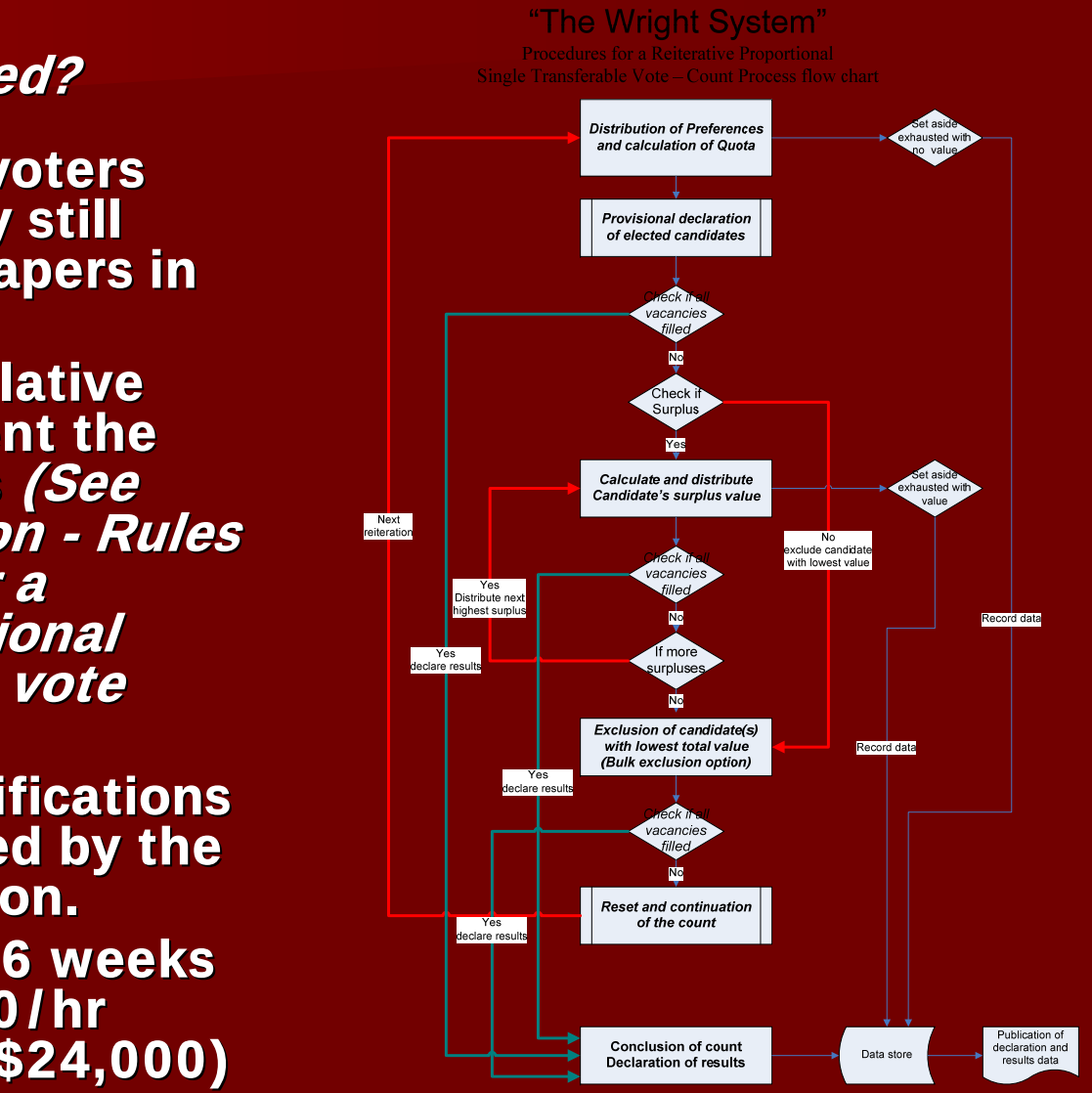

One Vote One Value

Change that counts

SUBMISSION 51
Anthony van der Craats

One Vote One Value

Change that counts

Introduction

Change that counts

Topics

- Calculation of the Surplus Transfer Value
- Segmentation of the count
- The Reiterative Count “Wright System”
- Online Virtual Scrutiny of Electronic Data

One Vote One Value

Change that counts

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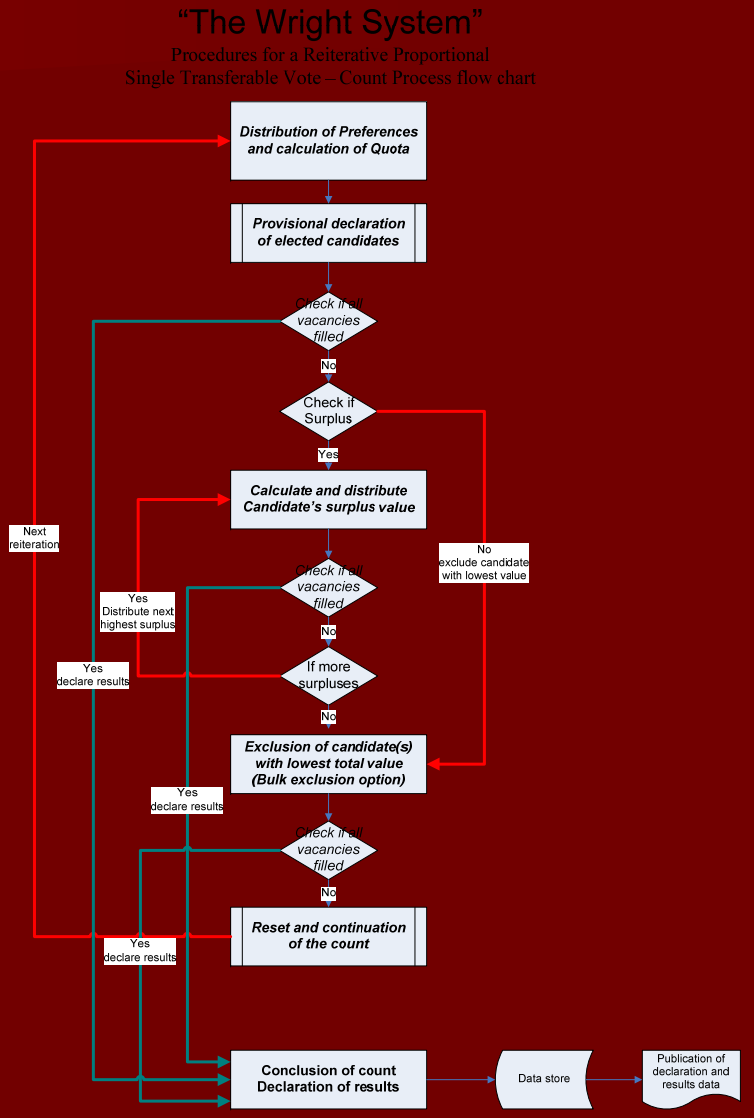

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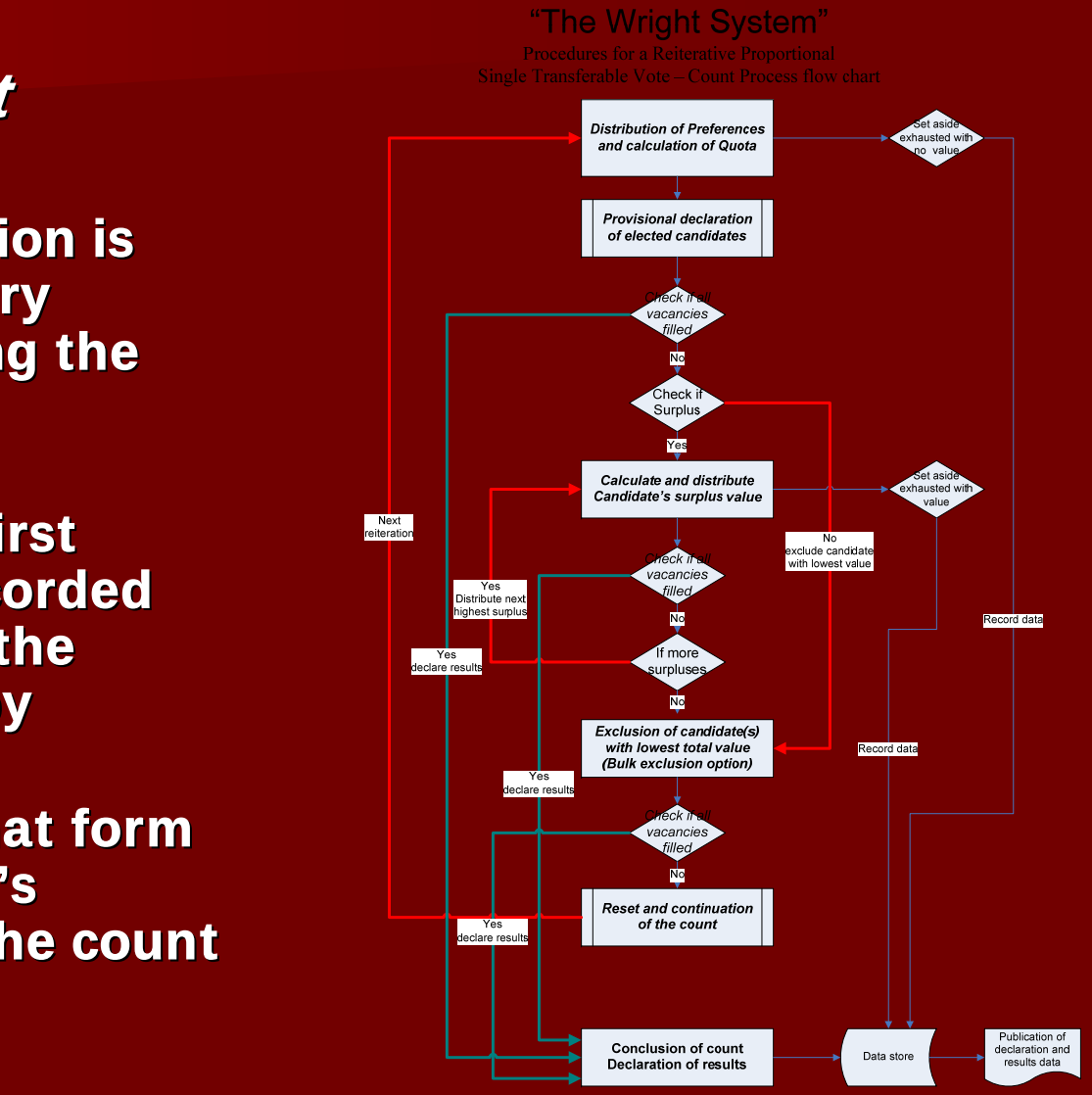

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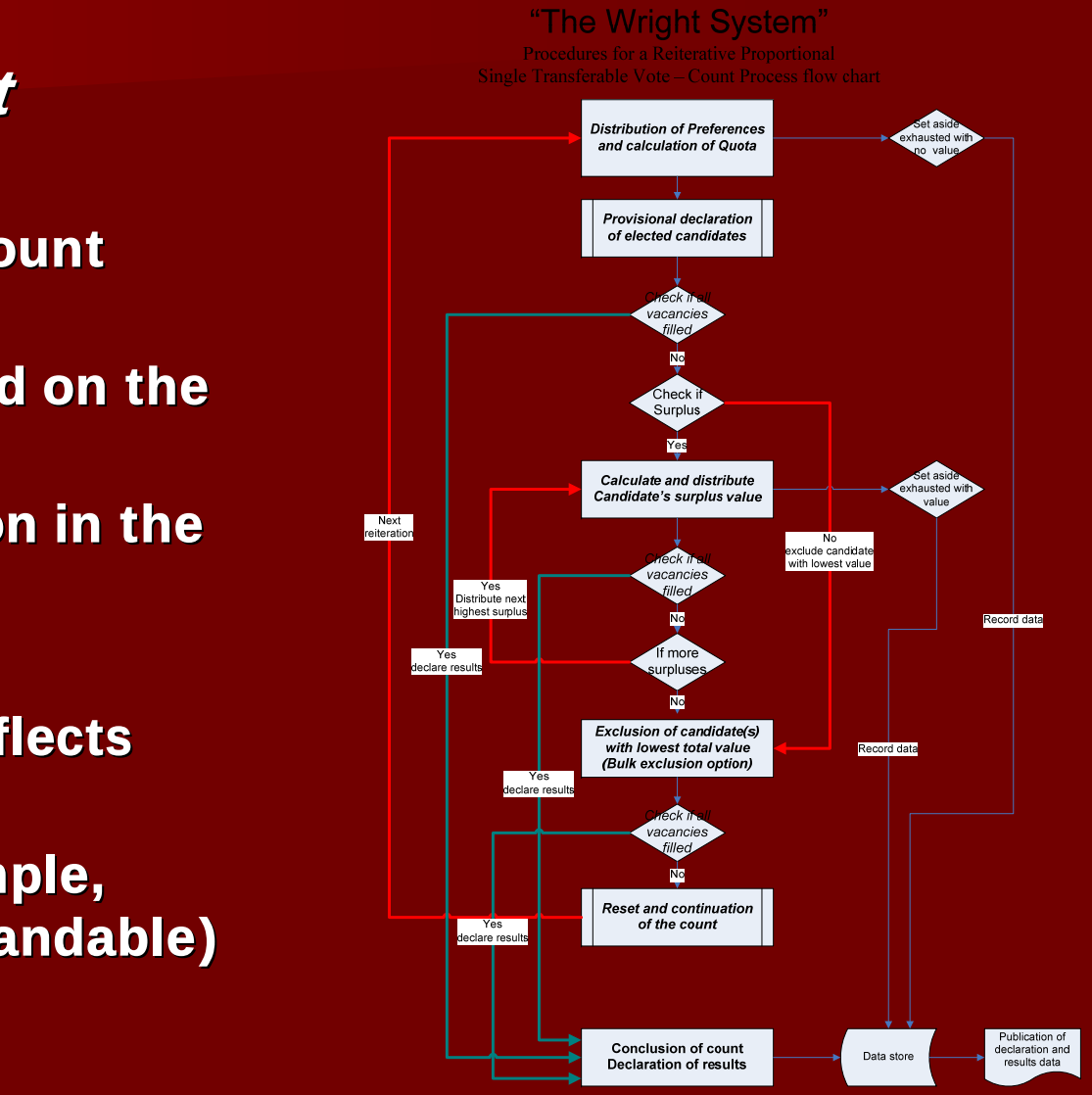

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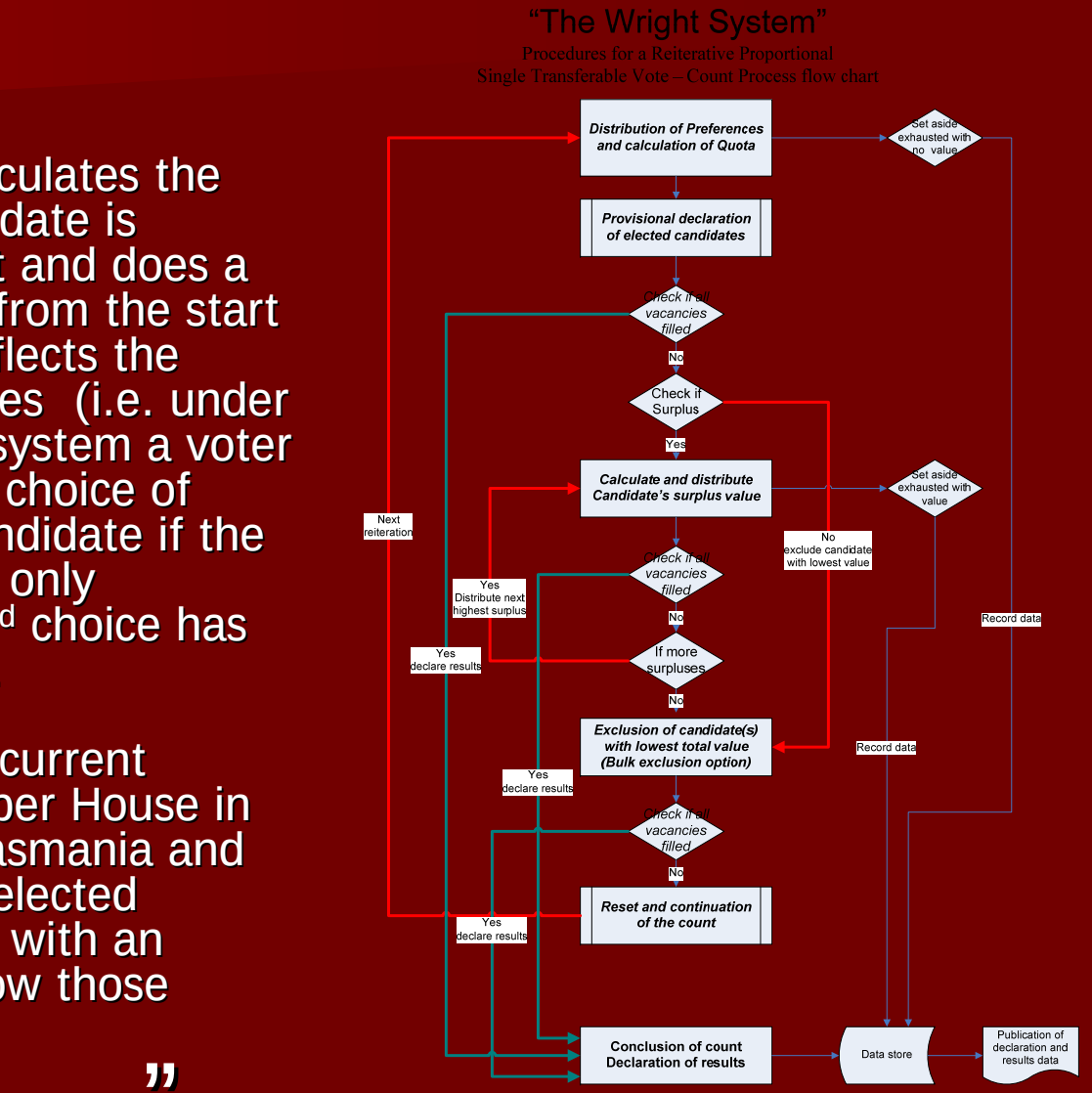

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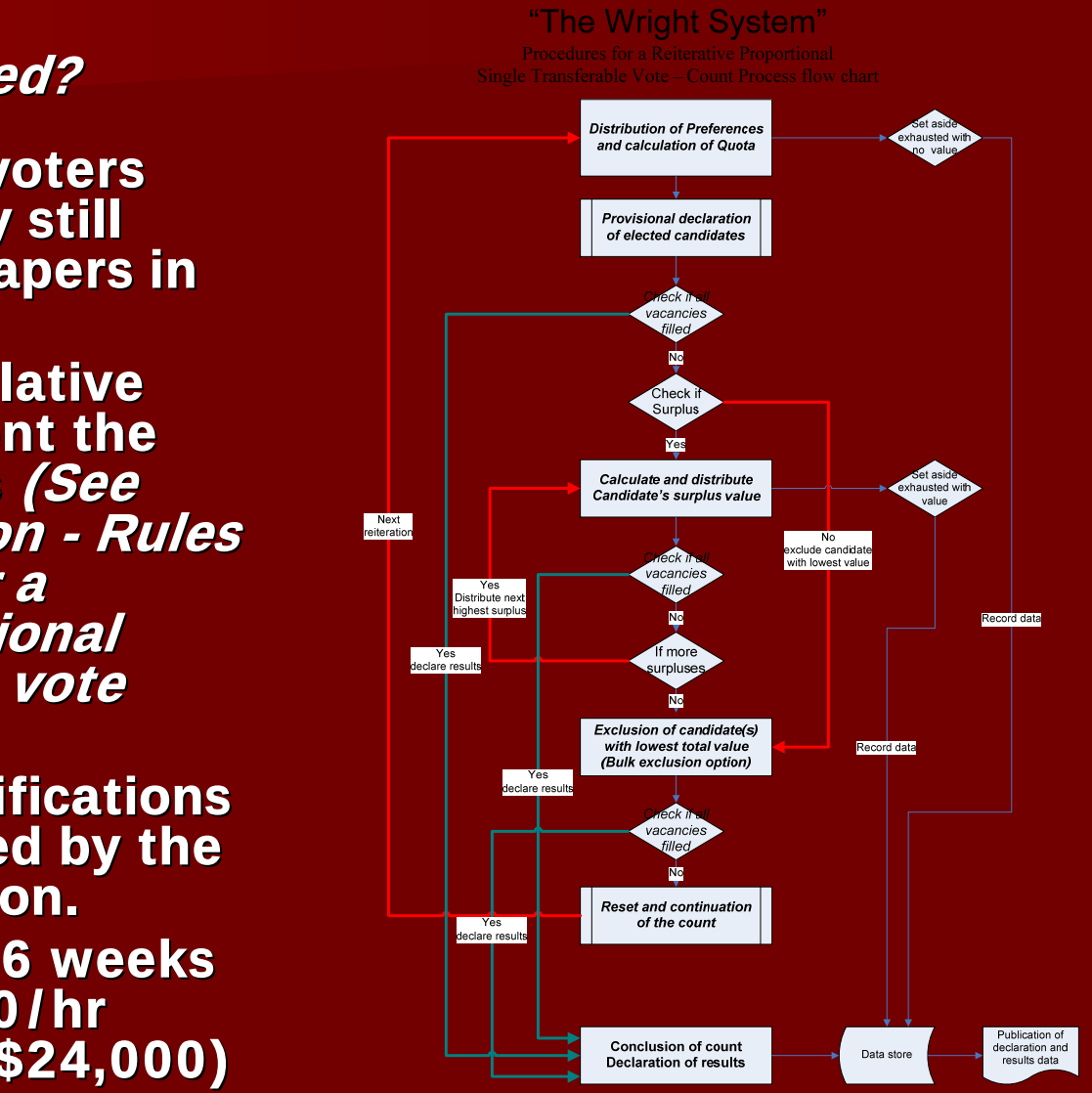

One Vote One Value

Change that counts

Online Virtual Scrutiny of Electronic Data

Change that counts

The Australian Electoral Commission overall provided a professional, open and transparent electoral process. There is room for improvements in the detail, quality and timeliness of information required for effective scrutiny of the ballot.

Change that counts

Information and data is the key to an effective scrutiny of an electronic count

- Online access to detailed, up to date, polling place return data *(No later then 24 hours after the close of the poll)* and detailed vote statistics, as and when they become available, is essential.
- Better use of the internet to provide public access to information in real time.

Change that counts

Better information should be provided online showing

- Polling Place return statistics.
- The number of postal votes, pre-poll votes issued and received back per-electorate (Prior to polling day).
- The number of absentee and section votes issued per polling place for each electorate.
- The number of voters recorded as having voted marked off the roll per polling place.
- The AEC did provide some of this data, in part, but much more should be done to ensure that this information is up to date and correct. The number of ballot papers issued for each voter type should be fixed and reported on within 24hrs from the close of the poll as it is included in the polling place return – There should be no surprises with unreported bundles of votes arriving later in the count. Postal vote arrivals being an exception.
- **This information is essential for reconciling the vote and avoiding the mistakes of the Victorian State 2006 election.**

Change that counts

Senate Preference data files

- One of the biggest criticisms of the AEC's 2007 election count is that it took them 3 months to make available and publish the detailed preference data files used in the Senate Counts.
- The preference data file should have been available immediately after the close of the data-entry process and published on the AEC's web site prior to the execution of the computerised count process with certified copies being required to be published as part of the declaration requirements.
- **Without access to this information it is virtually impossible to properly scrutinise the election.**

One Vote One Value

Change that counts

Thanks to: Antony Green (for his detailed review and analysis of the hypothetical), Geoff Goode, Lee Naish (Proportional Representation Society of Australia) and various commentators who reviewed and contributed to this submission and proposal for change.