



Parliament of New South Wales

# Joint Standing Committee on Electoral Matters

Report 3/56 – November 2017

Inquiry into preference counting in local government elections in NSW



New South Wales Parliamentary Library cataloguing-in-publication data:

New South Wales. Parliament. Joint Standing Committee on Electoral Matters.

**Inquiry into preference counting in local government elections in NSW / Joint Standing Committee on Electoral Matters. [Sydney, N.S.W.] : the Committee, 2017. [48] pages ; 30 cm. (Report ; no. 3/56).**

Chair: The Hon. Dr Peter Phelps, MLC.

"November 2017".

ISBN 9781921012532

Local government—New South Wales.

Local elections—New South Wales.

Preferential ballot—New South Wales.

Title

Phelps, Peter.

Series: New South Wales. Parliament. Joint Standing Committee on Electoral Matters. Report ; no 3/56.

324.6509944 (DDC22)

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# Membership

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## Chair's Foreword

I am pleased to present the Joint Standing Committee on Electoral Matters' third report of the 56<sup>th</sup> Parliament, and my first as Chairman of the Committee. This report contains the Committee's comments and recommendations in relation to the *Inquiry into Preference Counting in Local Government Elections in New South Wales*. In particular, the Committee closely examined the current process of distributing preferences by random selection in local government elections.

The Committee strives to enhance the integrity of the electoral system. The electoral system is one of the cornerstones of democratic institutions. The electoral process affords voters the democratic right to be heard. It must also afford candidates the confidence that the system provides a fair, accurate, and consistent result without giving an advantage to any particular candidate or party. Accordingly, it should reflect the voice of the voters and do so in a transparent and consistent manner.

Many of the problems that arose out of this inquiry surrounded the fairness and accuracy of the voting process. It was found that the randomisation process currently used in local government elections is out of step with the understanding and the reasonable expectations held by many voters and candidates.

Overall, the Committee's view is that every measure should be taken to ensure that the electoral system instils confidence that a result is fair and accurate. Consequently, the Committee's comments and recommendations have been made to reflect these expectations and can be broadly split into three categories:

- Recommendations that the current preference counting method involving random sampling be removed and replaced with the weighted inclusive Gregory method;
- Recommendations to increase the transparency of the electoral system and improve the scrutineering process; and
- Recommendations to remove inconsistencies between the local and State electoral systems.

The Committee's recommendations aim to modernise the legislative framework of the local government electoral system and uphold voter expectations.

The Committee was pleased to undertake a review of the electoral system and legislative framework that prescribe the preference counting procedures for local government elections in New South Wales. This review was particularly important as it coincided with the September 2017 local government elections which, in turn, demonstrated the persistence of the problems in the current system.

On behalf of the Committee, I would like to thank each of the individuals and organisations that made submissions to this inquiry and gave evidence at the Committee's public hearing. Their contribution has been extremely valuable to the Committee in furthering its understanding of the matters of concern, and formulating our comments and final recommendations.

I would also like to thank my committee colleagues, The Hon. Robert Borsak MLC, Mr Adam Crouch MP, The Hon. Ben Franklin MLC, Mr Andrew Fraser MP, The Hon. Courtney Houssos MLC, The Hon. Peter Primrose MLC, Mr Jai Rowell MP, Mr Mark Taylor MP, and Ms Anna Watson MP, for their diligence, insight and collegial cooperation throughout this inquiry.

Finally, I would like to thank the Committee staff for their excellent work in assisting and organising throughout the inquiry, and in the preparation of this report.

**The Hon. Dr Peter Phelps MLC**

Chair

## Recommendations

### Recommendation 1

That the Government removes the random sampling of ballots when transferring preferences when a candidate receives more than a required quota to be elected.

### Recommendation 2

That the Government introduce the weighted inclusive Gregory method to conduct future local government elections.

### Recommendation 3

That the NSW Electoral Commission works with relevant stakeholders to develop a policy that makes it easier for scrutineers to examine paper ballots, electronic records and data entry records.

### Recommendation 4

That the Office of Local Government ensures that councils which administer their own elections be required to adhere to any scrutineering policy developed by the NSW Electoral Commission.

### Recommendation 5

That an audit process be introduced to ensure that data entry of ballots is accurate in every local government election count that uses electronic counting. The Committee also recommends that scrutineers be allowed to observe this audit process and the results.

### Recommendation 6

That the Government outlines minimum levels of data, including full preference data, which is to be released following a local government election regardless of whether the election is run by the NSW Electoral Commission, a private provider, or a council themselves.

### Recommendation 7

That the source code of counting software used in local government elections, whether those elections are conducted by the NSW Electoral Commission or a private provider, be subject to an external audit at least once every five years, subject to reasonable restrictions which protect the Intellectual Property of the organisations involved.

### Recommendation 8

That the Government remove the provision whereby a candidate can pay for a recount in an election in which they were involved.

**Recommendation 9**

**That the NSW Electoral Commissioner maintain the authority to conduct a recount at the request of any candidates in the election or on their own initiative.**

**Recommendation 10**

**That the cap of four digits for a decimal fraction when calculating transfer values involved in preference counting in local government elections be removed.**

# Chapter One – A new system for allocating preferences

## The Local Government electoral system and random selection

- 1.1 NSW Local Government elections use a type of proportional voting system, referred to as Proportional Representation by Single Transferable Vote (PR-STV). This means that voters number their preferences to elect multiple candidates to a certain number of seats in their ward.
- 1.2 The provisions outlining the method of counting for local government elections are contained in Schedule 5 of the *Local Government (General) Regulation 2005* ('the Regulation'). To be elected, a candidate must gain a quota of the formal votes. Once the first preferences have been counted and allocated, any votes for candidates that have already reached the quota ('surplus votes') are distributed to the remaining candidates according to the numbered preferences on the ballot paper.<sup>1</sup>
- 1.3 The Regulation requires that the proportional representation count is to be distributed using a randomly selected sample of surplus votes. Based on the preferences of the randomly selected sample, the total votes are distributed to other candidates in the same preference order. Once these votes have been distributed, the candidates that have achieved the required quota are elected.
- 1.4 The NSW Electoral Commission summarised the distribution process as follows:
- (1) Where a candidate is elected on first preferences alone, all of the elected candidates' ballot papers are looked at and distributed;
  - (2) Where a candidate is elected on a combination of first preference votes and one or more subsequent transfer of surplus votes, only the ballot papers in the last transfer are re-examined and distributed to the continuing candidates;
  - (3) A transfer value is calculated to determine how many actual votes each remaining candidate will receive;
  - (4) This number of ballot papers are selected at random and given to that remaining candidate;
  - (5) The rest of the ballot papers go back to the elected candidate to be held as their quota;
  - (6) This process is repeated until candidates reach the quota and are elected.<sup>2</sup>

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<sup>1</sup> NSW Electoral Commission website, 'Counting the vote: Councillors', [http://www.elections.nsw.gov.au/voting/counting\\_the\\_votes/councillors](http://www.elections.nsw.gov.au/voting/counting_the_votes/councillors) (viewed 23 October 2017).

<sup>2</sup> NSW Electoral Commission, Submission 17, p3.

## Why does NSW use random selection?

- 1.5 The process of random selection originates from the need to simplify a manual count. Random selection reduces the manual workload of having to distribute every ballot at a different value and, instead, only requires electoral staff to count a partial sample of the ballots.<sup>3</sup> Once the sample has been counted, all ballots are transferred accordingly at their 'full vote' value, rather than keeping track of a fractional vote value. This also means that ballot papers that were originally assigned as first preference votes, excluded candidate votes, or surplus votes retain the same (full) value and do not need to be examined again.<sup>4</sup> These votes are then transferred in one distribution, which significantly simplifies the process.
- 1.6 However, in present local government elections, most ballot counting is performed by computer data-entry, and software algorithms conduct the randomised selection process. Computerised counting procedures were largely adopted to ensure the randomisation process was being done correctly and complied with the technical and legal electoral requirements. This is particularly important as provisions for above-the-line voting reduced the number of different preference sequences filled out on ballot papers.<sup>5</sup>
- 1.7 The Committee heard that only a very small number of councils still perform manual counts for local government elections.<sup>6</sup> In the most recent 2017 local government elections, only one council – Maitland City Council – did not employ the services of the Electoral Commission.<sup>7</sup> Instead, this council used a private company with its own vote-counting software.<sup>8</sup> This means that no council used manual counting in the 2017 local government election.
- 1.8 As random selection is required by the Regulation, electronic vote counting must also be programmed for randomisation. Consequently, the Committee heard that the random selection process can produce election results that are legally correct and accurate, but may not properly reflect the intention of all voters. Mr Ben Raue, data analyst, emphasised that:
- When a "random" sample of ballot papers are taken from a surplus to distribute as preferences, there is no guarantee that this sample will be representative of the total surplus.<sup>9</sup>
- 1.9 The Committee notes that random selection is not used in any other local government election in Australia.

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<sup>3</sup> Mr Antony Green, Transcript of Evidence, 9 October 2017, p24.

<sup>4</sup> Mr Antony Green, Submission 23, p4.

<sup>5</sup> Mr Antony Green, Submission 23, p5.

<sup>6</sup> Ms Donna Rygate, Chief Executive, Local Government NSW, Transcript of evidence, 9 October 2017, p35.

<sup>7</sup> NSW Electoral Commission website, 'Council elections index', [http://www.votensw.info/is\\_my\\_council\\_having\\_an\\_election/council\\_elections\\_index](http://www.votensw.info/is_my_council_having_an_election/council_elections_index)

<sup>8</sup> Australian Election Company online, <http://www.austelect.com/elections/2017-nsw-local-government-election-maitland-city-council/> (viewed 26 October 2017)

<sup>9</sup> Mr Ben Raue, Submission 14, p2.

## Arguments against random sampling

- 1.10 The Committee heard several arguments stating that random sampling was no longer justified and almost unanimous agreement that random sampling should be removed from the preference counting process in local government elections.<sup>10</sup>

### Reproducibility

- 1.11 Random sampling prevents the election count from being reproducible, as the selection of a different sample of votes may distribute preferences in a different way from the first count. There is no guarantee that this sample will be representative of the total surplus.<sup>11</sup> This may not pose a problem in elections with large margins between candidates, although the vote totals may change slightly. However, in cases where there is a tight margin, small differences in the random sample of ballot papers could change the election result.

- 1.12 Mr Ian Brightwell, who has experience in IT and information security, noted that the randomisation requirement makes it impossible to reproduce the exact same result in an election. Instead, re-runs of the count by academics can produce a statistical probability of the likelihood that a candidate is elected.<sup>12</sup> This was echoed by Mr Ben Raue who stated that:

...there may not be any errors in the tabulation of vote totals for each candidate, or in the recording of preference data – there may simply be a different result due to a different random sample.<sup>13</sup>

- 1.13 Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne, also noted that an analysis of the 2012 local government election data produced numerous cases where a candidate was elected despite a different candidate being more likely to have won that seat.<sup>14</sup> Therefore, there may be multiple possible outcomes for the one election, and all are technically and legally correct under the Regulation.

### Recounts

- 1.14 This is particularly problematic in cases of recounts. Currently, recounts cannot be conducted in a reproducible way because the Regulation requires a different random selection of ballots be chosen each time. This can lead to significant differences in the count, regardless of whether there were any errors in the first count. Mr Ben Raue noted that:

<sup>10</sup> Mr Antony Green, Submission 23, p5; Mr Ben Raue, Submission 14, p1; Mr Ian Brightwell, Submission 8, p4; Local Government NSW, Submission 13, p1.

<sup>11</sup> Mr Ben Raue, Submission 14, p2.

<sup>12</sup> Mr Ian Brightwell, Submission 8, p4.

<sup>13</sup> Mr Ben Raue, Submission 14, p2.

<sup>14</sup> Mr Andrew Conway, Michelle Blom, Lee Naish and Vanessa Teague, 'An analysis of New South Wales electronic vote counting', *Department of Computing and Information Systems – University of Melbourne*, November 2016, p1.

There is no guarantee that this new sample of votes will produce the same proportion of preferences – even if there has been no change in the underlying vote totals.<sup>15</sup>

- 1.15 This may produce an entirely different result that is not necessarily better than the first.<sup>16</sup> This also creates a situation where both election results are technically correct, but elect different candidates, upon which the second (and final) recount is used to declare the result.<sup>17</sup>
- 1.16 An example of this occurred in the most recent September 2017 local government elections in the Greystanes ward of Cumberland Council. Three seats were to be filled and two candidates were elected after the first count. The surplus votes of these two candidates were distributed to the remaining candidates, which then elected Candidate A (Mr Glen Richardson) by a margin of 15 votes.<sup>18</sup>
- 1.17 A recount was granted by the Electoral Commission due to an administrative error on the floor of the counting centre that saw the data entry of votes before the arrival of scrutineers. Upon a second count, an additional 17 primary votes were identified for candidate B, while the primary vote for the Liberal party dropped by 20 votes. Although the quota remained the same, the distribution of the surplus votes elected Candidate B (Mr Eddy Sarkis) with a margin of 17 votes.<sup>19</sup>
- 1.18 The NSW Electoral Commission acknowledged that while the recount did result in a significant increase in the number of informal ballots, this was unlikely to have had an effect on the election result. Therefore, 'the randomisation of preferences most likely played a role in changing the outcome of the election'.<sup>20</sup>
- 1.19 This problem was highlighted by Mr Ben Raue, who noted that the recount had not necessarily identified any errors in the original count but rather a different candidate was elected due to a different sample. Both results could be considered correct but the candidate elected in the recount was successful. Mr Raue argued that:

... both candidates polled strongly and came very close to winning. But it is ridiculous that we cannot say definitively that the second count produced the correct result, because the first count's random sample was just as correct as the recount's random sample, and would have produced a different result.<sup>21</sup>

### Countbacks

- 1.20 This lack of reproducibility also affects the ability to conduct countbacks to fill a casual vacancy. The *Local Government Act 1993*, under section 291A(6), outlines

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<sup>15</sup> Mr Ben Raue, Submission 14, p2.

<sup>16</sup> Mr Ben Raue, Transcript of Evidence, 9 October 2017, p1.

<sup>17</sup> Mr Ben Raue, Submission 14, p2.

<sup>18</sup> NSW Electoral Commission, Submission 17, p10.

<sup>19</sup> NSW Electoral Commission, Submission 17, p11.

<sup>20</sup> NSW Electoral Commission, Submission 17, p 11.

<sup>21</sup> Mr Ben Raue, Submission 14, p2.

the process for a countback election to be held instead of a by-election in certain circumstances.

1.21 This section was introduced in response to this Committee's 2014 report that recommended that councils have the option of a countback mechanism, rather than a by-election, when a casual vacancy arises within 18 months of the original election.<sup>22</sup> It allows vacancies to be filled rapidly and economically.<sup>23</sup>

1.22 The fact that random selection means that a different sample of votes is used for each count, makes it difficult to comply with the countback requirements.<sup>24</sup> Mr Ben Raue told the Committee:

I think the issue of reproducibility, which comes up when there is a council recount, could just as much come up if you were trying to do a countback. You may get different votes that come out and you may produce results where a different candidate gets elected for a different seat; it may not even be for the seat that is being filled. But it makes it much less reliable having the system that we have now.<sup>25</sup>

1.23 Mr Ian Brightwell also noted that this is a possible result from a countback and asserted that 'there is a danger that a recount with some candidates removed might "unelect" persons who were elected on the original count'.<sup>26</sup>

1.24 The NSW Electoral Commission outlined that currently, countbacks could be possible either by introducing this element of chance or by 'locking in' the distribution used at the last count.<sup>27</sup> However, should the last distribution be locked in, an issue of transparency arises. Representatives from the Electoral Commission indicated that they would not be comfortable with this lack of transparency. Mr John Cant, Executive Director, Information Services, NSW Electoral Commission commented that:

One of the issues, particularly with the locking of the random selections in place, is around visibility and if there is a set of information sitting in a computer system that is not publicly available, visible, that will determine what the output of that countback process is. At least from my perspective there are some concerns around having a system. If we did go to a countback process where random selection is in place and we wanted to fix it, I would push quite strongly for us to publish the random distribution files so that that set in concrete piece was available so that there is no question that the data has been either altered or fixed or tampered with from when the election was carried out to when the countback was conducted.<sup>28</sup>

1.25 The Electoral Commission noted that this provision is not yet in operation:

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<sup>22</sup> Joint Standing Committee on Electoral Matters, Inquiry into the 2012 Local Government Elections, March 2014, p48.

<sup>23</sup> Mr Ian Brightwell, Submission 8, p6.

<sup>24</sup> Mr Ian Brightwell, Submission 8, p6.

<sup>25</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p2.

<sup>26</sup> Mr Ian Brightwell, Submission 8, p7.

<sup>27</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p44.

<sup>28</sup> Executive Director, Information Services, NSW Electoral Commission, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p44.

Section 291A(6) provides that the countback section does not apply to a casual vacancy in the office of a councillor if the vacancy occurs before the day prescribed for the purposes of the section by the regulations. To date, the regulations have not prescribed a day for the purposes of s 291A.<sup>29</sup>

- 1.26 It appears that the difficulties in conducting recounts using the random sampling method are probably contributing to the delay in this policy being implemented.

#### **Public confidence in the electoral system**

- 1.27 The Committee also heard concerns that the randomisation element and lack of reproducible results has reduced public confidence in the integrity of the local government electoral system.<sup>30</sup>

- 1.28 Local Government NSW expressed concerns that local government representation was suffering because of questions about the validity of election results. They highlighted the fact that random sampling can be seen to discount certain people's votes. They stated that:

The integrity of local government representation in NSW is undermined by any system of preference counting that potentially elects councillors other than those with the most community support.<sup>31</sup>

- 1.29 Candidate Miranda Korzy also expressed concerns that the current system undermined her confidence in its ability to deliver a fair result.<sup>32</sup> Ms Korzy reiterated that as a candidate in a ward with a large number of candidates, complicated preference flow, and having been eliminated on a small margin she did not have confidence in the outcome of the count or its fairness.

- 1.30 The Committee heard that the Electoral Commission received requests for recounts from candidates based largely on the grounds of media coverage about the random selection element in the distribution of preferences and the potential for different candidates to be elected.<sup>33</sup>

- 1.31 The Electoral Commission also commented that due to media comments and observations by candidates, it appears that there is a lack of knowledge in the community as to how the currently legislated vote counting system operates – particularly random selection. They observed that:

There is a risk that the perceived chance or 'lottery' nature of the random selection distribution process could undermine elector confidence in the electoral process and its results.<sup>34</sup>

- 1.32 The Committee considers that there is a need for reproducible results to give voters assurance that their individual preferences have been taken into account

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<sup>29</sup> NSW Electoral Commission, Submission 17, p. 8.

<sup>30</sup> Local Government NSW, Submission 13, p1; Miranda Korzy, Submission 18, p2.

<sup>31</sup> Local Government NSW, Submission 13, p1.

<sup>32</sup> Miranda Korzy, Submission 18, p2.

<sup>33</sup> NSW Electoral Commission, Submission 17, p6.

<sup>34</sup> NSW Electoral Commission, Submission 17, p6.

and reassure candidates that the result is not a ‘fluke’.<sup>35</sup> The Committee supports the arguments of Mr Ben Raue that, it is crucial to our democratic system that election results are reproducible and that ‘random luck’ is not capable of changing the election result.<sup>36</sup>

### Random sampling does not advantage smaller councils

- 1.33 Although the rationale for random selection is based on the simplification of a manual count, the Committee heard evidence that random selection does not make it easier to conduct manual counts. Mr Ben Raue stated that to conduct a manual count accurately and fairly, electoral administrators require specific training and must have a good understanding of difficult processes. The additional step of requiring random selection for the distribution process in a proportional representation system is an extra burden that complicates the count.<sup>37</sup>
- 1.34 The smaller councils that provided evidence to the inquiry did not support random sampling. Bland Shire Council expressed concerns that the system does not deliver fair results for smaller councils where the majority of candidates are not aligned to any political party and do not nominate in a ‘group’.<sup>38</sup>
- 1.35 Similarly, Mr Raue provided evidence that supports this concern. He pointed out that random selection can have a disproportionate impact where candidates’ preferences are passed on to candidates not on the same ticket. This is usually the case in rural and regional areas that have more independent candidates. He argued that:
- Random sampling is more likely to have an impact on the result of an election when preferences are passed on to a candidate not on the same ticket. ...This means that differing random samples are more likely to decide results when preferences flow between a larger number of groups or where there are no groups standing. This is a particular problem in regional and rural areas, where political parties are less likely to run and most candidates do not stand as part of a group.<sup>39</sup>
- 1.36 Mr Ian Brightwell also acknowledged this possibility and stated that ‘where there have been several truly independent candidates, the preferences of the independent-minded voters may not form much of a pattern’. There may be a deviation from traditional proportional representation principles in this case.<sup>40</sup>
- 1.37 As manual counting is no longer widely used for local council elections, and they are instead conducted by computer data-entry, the justification for retaining random selection is no longer relevant.<sup>41</sup>

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<sup>35</sup> Miranda Korzy, Submission 18, pp2-3.

<sup>36</sup> Mr Ben Raue, Submission 14, p2.

<sup>37</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, pp5-6.

<sup>38</sup> Bland Shire Council, Submission 9, p1.

<sup>39</sup> Mr Ben Raue, Submission 14, p3.

<sup>40</sup> Mr Ian Brightwell, Submission 8, p6.

<sup>41</sup> Mr Ben Raue, Submission 14, pp1-2.

- 1.38 The argument against random sampling in an age where computers are ubiquitous was stated by Mr Antony Green:

The final thing I would say is simply there is no reason to use random sampling when you are computerising the count. It is simply a matter of deciding which system you want to move to and how you want to change the system. But you should not continue with the random sampling.<sup>42</sup>

- 1.39 The Committee recognises that the present counting method of random sampling does not provide reproducible election results and wards with tight margins between candidates can be affected by chance. This equally affects the ability to provide certainty when conducting recounts and countbacks, which has created public doubt in the electoral system from both candidates and voters.

- 1.40 The Committee notes that issues about random sampling, including irreproducible results and lack of public confidence, derive from the requirements outlined in the Regulation. This requires the Electoral Commission and any other body conducting a local government election to use random sampling despite being able to use other counting processes that include the preferences of all ballots. The Committee commends the work of the Commission in conducting accurate elections according to the legislated voting system. The shortcomings of random sampling do not reflect on the work of the Commission.

- 1.41 The Committee is of the view that, based on the evidence gathered, random sampling creates issues of reproducibility and undermines public confidence in the electoral system.

### **Recommendation 1**

**That the Government removes the random sampling of ballots when transferring preferences when a candidate receives more than a required quota to be elected.**

## **A new model for local government election counting**

### **Fractional transfers**

- 1.42 An alternative to distributing preferences by random sampling is to use a fractional transfer system. Under fractional transfer systems, all ballot papers of the elected candidate are used to distribute the surplus. The ballot papers are distributed at a reduced rate by applying a transfer value.

- 1.43 In its simplest terms, the transfer value is calculated using the following formula:

- $\text{Transfer value} = \text{Surplus} / \text{Votes received}$

- 1.44 For example, if a required quota is 600,000 votes and a candidate receives 1,000,000 votes, the surplus is 400,000. The transfer value of this candidate's votes would be:

- $400,000 / 1,000,000 = 0.4.$

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<sup>42</sup> Mr Antony Green, Transcript of Evidence, 9 October 2017, p26.

- 1.45 All of the candidate's ballot papers are then re-examined to determine the number of votes for second choice candidates. If this candidate's ballot papers gave 900,000 second preferences to another candidate, then that other candidate would receive 360,000 votes – that is 900,000 multiplied by the transfer value of 0.4.
- 1.46 Candidates are elected when they reach the quota following this transfer of preferences or through the transfer of preferences from excluded candidates. Different jurisdictions deal with further transfers of surplus in different ways. This will be discussed in detail below.
- 1.47 The Committee notes that currently most Australian jurisdictions use some form of fractional transfer for the distribution of preferences under proportional representative electoral systems, including the:
- Commonwealth Senate;
  - Victorian Legislative Council;
  - South Australian Legislative Council;
  - Tasmanian Legislative Assembly;
  - Australian Capital Territory Legislative Assembly; and
  - Western Australian Legislative Council.<sup>43</sup>
- 1.48 It was argued that fractional transfers can be seen as a more equal and fairer method of distributing preferences as all voters' ballots will be included. Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne, emphasised that:

The answer in Victoria and in the Senate is we take the whole pile of votes and we change their value so that all of them have a slightly smaller—in some cases much smaller—value so that the total value of the pile equals the excess and then we redistribute the whole pile. That is a good thing for a number of reasons. It means that in some sense every vote that had been counted towards that candidate is treated equally, as opposed to the New South Wales situation where you ... take a random sample.<sup>44</sup>

### *Reproducibility*

- 1.49 Another benefit of fractional transfers is that the system allows for perfect reproducibility of the count, provided that the underlying data doesn't change. This means that, unlike elections run with random sampling, recounts can be run and the same candidates will be elected every time. Mr Antony Green argued that:

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<sup>43</sup> Electoral Council of Australia, Proportional Representation Voting Systems of Australia's Parliaments. <http://www.ecanz.gov.au/systems/files/2-proportional-representation-voting-systems.pdf> (viewed on 23 October)

<sup>44</sup> Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne, Transcript of evidence, 9 October 2017, p11.

There should not be random sampling. If you do a count of the same votes, you should get the same result every time. You should not have a system that can produce a different result, depending on how it is counted.<sup>45</sup>

1.50 When asked whether under a fractional transfer system, reproducibility is 100 per cent, Mr Green replied 'Absolutely, yes'.<sup>46</sup>

1.51 The Committee considers this reproducibility to be a key factor in favour of introducing a fractional transfer system to local government elections in New South Wales. The Committee was concerned to hear that the Electoral Commissioner's decisions on whether to hold a recount have been influenced by the fact that a recount could lead to a different candidate being elected solely through the chance element of random sampling. When discussing requests for recounts in the recent local government elections Mr Greg Copson, Election Operation Manager, NSW Electoral Commission, explained that:

It is Commission policy for the Commissioner not to direct a recount simply because the result is close, because of the random selection. Someone could easily be granted a recount, we run the count again and a different person gets elected, not because there is anything wrong with the count but the random selection could result in a different person being elected.<sup>47</sup>

#### *Countbacks*

1.52 The reproducibility of fractional transfers would also be useful in situations where councils are required to conduct a countback to fill a casual vacancy. As discussed previously, in certain situations, councils may conduct countbacks to fill casual vacancies in the office of councillor. Using the current random sampling method makes countbacks difficult.

1.53 However, in a fractional transfer system, the perfect reproducibility makes countbacks a much more viable prospect. Mr Ben Raue, made the point that introducing a fractional transfer system would allow for a countback system to be used:

If you wanted to use the system, which I think is probably superior, where all votes are recounted with the candidate, who has resigned for whatever reason, removed, that would be much easier to do if you had a fractional transfer system because you could count all votes. I think the issue of reproducibility, which comes up when there is a council recount, could just as much come up if you were trying to do a countback. ... I think it would make it much easier and would give the Government a better range of options in terms of which countback method to use if we used the system of fractional transfer instead of random.<sup>48</sup>

1.54 Similarly, Mr Ian Brightwell pointed out that a fractional transfer system 'will make it easier ... to properly implement s 291A of the [Local Government] Act'.<sup>49</sup>

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<sup>45</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p26.

<sup>46</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p26.

<sup>47</sup> Mr Greg Copson, Election Operation Manager, NSW Electoral Commission, Transcript of evidence, p38.

<sup>48</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p2.

<sup>49</sup> Mr Ian Brightwell, Submission 8, p7.

Given that this Committee recommended the introduction of a countback system, it would welcome any changes that would facilitate its implementation.

*A change is manageable*

- 1.55 The Committee was pleased to hear that the two organisations that have run recent local government elections – the NSW Electoral Commission and the Australian Election Company – would both be able to adapt to a new counting system.
- 1.56 The Electoral Commissioner, Mr John Schmidt, told the Committee that ‘if a system is put forward we will work with anybody then to work out the logistics of implementing it’.<sup>50</sup>
- 1.57 Similarly, Mr Duke Ellis, Technical Manager at the Australian Election Company, when asked whether they could afford to make the necessary changes to adapt to a new counting system stated that, ‘We would have to afford it. ... We would not have any option’.<sup>51</sup>
- 1.58 The main issue for both organisations is in adapting the counting software, which is currently set up to conduct counts using the random sampling method. This would require some significant programming changes to be able to conduct counting using a fractional transfer method. Mr John Cant, Executive Director Information Services, NSW Electoral Commission explained that:
- ... from a systems perspective, which is where the majority of the impact is, is that we would have to rewrite our proportional representation computer count [PRCC] code that currently does the proportional representation count, so there would be a software change required.<sup>52</sup>
- 1.59 The Australian Election Company also uses their own specific counting software when conducting elections. The Company told the Committee that while the counting software code wouldn’t require a complete rewrite, it would take a significant amendment to ensure that it could properly calculate transfer values.<sup>53</sup>
- 1.60 The Electoral Commission also stressed that the changes to their systems would be substantial. Furthermore, they highlighted other aspects of developing a new counting method including testing the software, training relevant stakeholders and communicating the changes.
- 1.61 However, the Electoral Commissioner assured the Committee that, based on what he was aware of so far, he saw no reason why a new counting system could not be implemented for the 2020 local government elections, if it were legislated for in 2018.<sup>54</sup>

<sup>50</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p41.

<sup>51</sup> Mr Duke Ellis, Technical Manager, Australian Election Company, Transcript of evidence, 9 October 2017, p18.

<sup>52</sup> Mr John Cant, Executive Director Information Services, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p41.

<sup>53</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p23.

<sup>54</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p41.

## The weighted inclusive Gregory method

- 1.62 The fractional transfer system which received the most support from stakeholders is the weighted inclusive Gregory method. This method of transferring votes surplus to a quota is currently used in elections for the Western Australian Legislative Council.
- 1.63 Two aspects in particular led to the weighted inclusive Gregory method being recommended as the preferred fractional transfer method. Firstly, it considers all votes held by a candidate when distributing their surplus, regardless of which stage of the count they are elected. Secondly, it differentiates between votes which are transferred more than once.

### Problems with the last parcel

- 1.64 When a candidate achieves the quota in New South Wales local government elections, only the ballot papers that a candidate received in the count in which they were elected are examined to transfer the surplus. This is sometimes referred to as the 'last parcel' method. Of those ballots, a random sample is chosen, as described earlier.
- 1.65 The Committee was concerned to hear that this method could lead to a bias in the transfer of preferences. If only the last parcel of votes which are received by a candidate are examined then this could include a much higher proportion of preferences from one party rather than another. As has been previously discussed, it can also be argued that these votes are given more prominence than those which stay with the candidate. Mr Antony Green explained how the last parcel method can affect the transfer of preferences:

The example I use is there is a quota of 100,000 and party A has 230,000 votes and party B has 90,000 votes, so party A elects two candidates and then has 30,000 votes as a surplus and, say, they go to party B. Under ... the New South Wales system the only bundle looked at is the 30,000 votes that are transferred, so all of the votes in the surplus from party A and none of party B's 90,000 votes are looked at.<sup>55</sup>

- 1.66 Dr Vanessa Teague also argued against the last parcel method. As well as treating some votes differently, Dr Teague noted that creating software with the particular requirement of distributing preferences from only the last parcel is a challenge. She recommended:

... removing the notion of "last parcel" altogether, because it arbitrarily selects some votes (but not others) for distribution, and because it introduces complexity into the code that makes it difficult to implement correctly. Even when correctly implemented, it can distort the result.<sup>56</sup>

- 1.67 Dr Teague told the Committee that she had previously discovered a software bug in the computation of the 'last parcel' in Griffith City Council election in 2012. This caused the official distribution of preferences to be incorrect and could have

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<sup>55</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p25.

<sup>56</sup> Dr Vanessa Teague, Submission 6, p4.

disadvantaged one of the candidates.<sup>57</sup> Dr Teague notified the Electoral Commission who acknowledged the error and fixed the software accordingly.<sup>58</sup>

### Weighted transfers

1.68 The other feature of the weighted inclusive Gregory method is that it applies a weighting to votes which are transferred numerous times. This report does not intend to go into detail on the specifics of the weighted inclusive Gregory method.<sup>59</sup> Simply, the weighted method applies an additional formula each time preferences are distributed in a surplus. This weighting reduces the transfer value of votes which have already elected one or more candidates.

1.69 This is in contrast to the unweighted inclusive Gregory method where all transfers of surpluses are done at the same full value, irrespective of how many times a vote is transferred. This system is currently used in the Senate and the Victorian Legislative Council.

1.70 The weighted inclusive Gregory method received strong endorsement from the majority of stakeholders, who highlighted various benefits.

1.71 Mr Ian Brightwell supported the concept that as a vote is transferred numerous times, its value should be reduced to reflect this. He stated that:

... the counting rules should spell out that when transfer values are calculated, the previous transfer value of votes is taken into account. That is, on successive transfers of surpluses the transfer values should be multiplied, further reducing the value of those that had already had a fractional value. ... where the values are multiplied at successive stages it is called the Weighted Inclusive Gregory Method.<sup>60</sup>

1.72 During a discussion about the different counting methods used in Australian jurisdictions, Mr Antony Green indicated that the weighted inclusive Gregory method was preferable as it does not favour parties which receive a much larger vote. This means that it gives a fairer reflection of voters' individual preferences. He indicated that:

In my view, if you go down the path of looking at all ballot papers... the Weighted Inclusive Gregory is the best way to go, because it does not distort the vote for a party with a huge surplus. The basic Inclusive Gregory method has a bias in favour of a party that gets a huge vote, as opposed to a party with a small vote. This really only affects the count where someone reaches a quota in the middle of a count, but it still has an important impact.<sup>61</sup>

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<sup>57</sup> Dr Vanessa Teague, Submission 6, p4.

<sup>58</sup> NSW Electoral Commission, Response to academic research about NSW's proportional representation electronic vote counting, 14 June 2016.

<sup>59</sup> For a detailed discussion on the various different methods of distributing preferences, see, Determining the Result: Transferring Surplus Votes in the Western Australian Legislative Council, Western Australian Electoral Commission, July 2002.

<sup>60</sup> Mr Ian Brightwell, Submission 8, p6.

<sup>61</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p25.

- 1.73 Dr Vanessa Teague also highlighted the weighted inclusive Gregory method as the best counting method when compared to other jurisdictions. She reflected that:

... the unweighted transfer method that is used in the Senate and in Victoria is not ideal, and so the weighted Gregory method is definitely an improvement. I am sure you have already heard that if you take the whole pile, there might be different weighted groups that come into that pile, and the approximation in the Senate and in Victoria, where you assume that they are all the same and make them all the same weight on the way out, obviously distorts the relative weight of those votes, which is wrong. Definitely a weighted transfer is better than an unweighted transfer.<sup>62</sup>

- 1.74 The Committee notes Mr Ben Raue's arguments that the weighted inclusive Gregory method is better for minor parties and independents. This is because major parties are more likely to achieve large quotas and elect numerous candidates. Therefore, when these preferences are distributed, it is fairer that it is done at a reduced rate. He observed that:

In the example of a Campbelltown Council election we say that a bundle of Labor votes elected a cascade of five or six candidates and they have effectively been reduced in value. There might be a single surplus that has elected an Independent and those votes end up in the same place. The unweighted system would put a lot more value on those Labor votes because there is a larger population group, even though the reason they have been reduced in value is that they have had their say multiple times. I think it is more about the relative say that individual voters have, and saying that the transfer value is there for a reason. It is reducing the value of the person's vote because they have had their say already. Effectively that is what a transfer value is; it is discounting a vote's value because it has already had a say in electing someone.<sup>63</sup>

- 1.75 A reason why some jurisdictions use an unweighted counting method is that it is easier to conduct such a count manually. However, the Committee notes Mr Antony Green's claim that, 'the Weighted Inclusive Gregory method is harder for manual counting but is fairer and should be used for computer counts'.<sup>64</sup>

- 1.76 A similar point was made by Mr Ben Raue who expressed the view that with the current levels of technology, the focus should be on making counting as fair and accurate as possible. He observed that the weighted inclusive Gregory model:

... is definitely a system in which a fairer account can be conducted now that we have computer technology that allows us to do that, particularly if we have kind of accepted that it is now a reality that all of these counts will happen on computers. We can come up with various methods to make sure that that is fair and verifiable. I think it is a correct move to use more technology in the count...<sup>65</sup>

- 1.77 The Committee recognises that changing to a weighted inclusive Gregory model will make conducting a manual count extremely difficult. However, the Committee understands that councils which conduct manual counts are

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<sup>62</sup> Dr Vanessa Teague, Transcript of evidence, 9 October 2017, p13.

<sup>63</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p4.

<sup>64</sup> Mr Antony Green, Submission 23, p8.

<sup>65</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p3.

exceedingly rare and considers the benefits of this system to outweigh any difficulties in transitioning to a fully computerised count.

### First past the post

1.78 Due to the complexity of the current system, two councils who made submissions to this inquiry supported changing the election system in local government elections to a 'first past the post system'. In this system, voters would be asked to mark as many candidates as there are positions to fill (in no order of preference), and the candidates with the most votes would be elected.

1.79 These councils supported the first past the post system as they considered it to be simpler and more appropriate for smaller councils.<sup>66</sup> It was pointed out that smaller councils often have more independent candidates who are less likely to give directions on where to allocate preferences.<sup>67</sup>

1.80 However, other stakeholders explained the shortcomings of the first past the post system. Mr Ben Raue explained that in a proportional representation voting system, more people's votes are likely to be taken into account in electing a candidate. This is not always the case in a first past the post system where some people's votes will effectively have a greater effect on the election than others. He noted that first past the post:

... would tend to produce a result where some people's votes would elect multiple candidates and other people's votes would not elect anyone. I know that a lot of local councils do not have partisan elections but I still think that there are differences of opinion and there are different interests to be represented in the community. And if you have a system where you tick nine boxes and the nine candidates with the most votes get elected, you will tend to produce a system where the majority, or even a large minority, that group of people ends up electing most of their candidates.<sup>68</sup>

1.81 Similarly, Mr Antony Green told the Committee that first past the post systems tend to lead to situations where one party or faction can easily dominate a council without necessarily being the most popular with voters. He observed that:

If people vote on party lines, even if they are not listed as a party on the ballot paper, there is a likelihood that without proportional representation they would win all the vacancies. Whereas the proportional representation, through the single transferable vote counting system, tries to get the most popular collection rather than deliver all the seats to one party. I can understand that but the minute a council started to get factions on it you get the situation where one faction could win all the seats, if you used the first past the post multi-member system.<sup>69</sup>

1.82 The Committee agrees with the arguments of these witnesses and does not support a move away from a proportional representation voting system in New South Wales local government elections. For the reasons outlined above, the

<sup>66</sup> Goulburn Mulwaree Council, Submission 3, p1.

<sup>67</sup> Bland Shire Council, Submission 9, p1.

<sup>68</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p7.

<sup>69</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p33.

Committee supports changing to a fractional transfer system when distributing preferences of candidates who receive more than the required quota of votes. The Committee is also pleased to note that the NSW Electoral Commission and the Australian Election Company would be prepared to work towards implementing any such change.

- 1.83 The best of these systems appears to be the weighted inclusive Gregory method. This method offers the most accurate and fairest distribution of preferences and does not favour major parties over minor parties and independents. The Committee accepts that such a change will make manual counting extremely difficult, but does not see this as a reason to choose a less effective method. Currently available technology is capable of conducting exceedingly complex calculations and it would be prudent to make the most of these capabilities.

### **Recommendation 2**

**That the Government introduce the weighted inclusive Gregory method to conduct future local government elections.**

## Chapter Two – Improving transparency

- 2.1 This chapter examines issues that were raised concerning the transparency of the count in local government elections. The Committee makes recommendations for improvement, regardless of whether the counting method is changed.

### Improving the situation for scrutineers

- 2.2 Both the NSW Electoral Commission and the Australian Election Company rely heavily on computer software to conduct the count in local government elections. Voters' preferences are entered into a program which then distributes the preferences accordingly.
- 2.3 The Electoral Commission uses a manual data entry process. Firstly, they collect all ballot papers which have only a '1' above the line. These are entered in bulk. The remainder of the ballots are given to data entry staff. A person doing data entry is given data from an entire polling place to enter. These ballot papers are then given to a second, different person, the data is re-entered and, if the data does not match, there is a reconciliation process.<sup>70</sup>
- 2.4 The Australian Election Company use more digital scanning and optical character recognition [OCR]. They do not scan ballot papers which they consider to be 'obviously informal' such as those that are blank. Nor do they scan ballot papers with only a '1' above the line as they enter them in bulk in a similar way to the Electoral Commission. All other ballot papers are scanned and, where possible, preferences are entered automatically through an OCR system. If the system is not certain on the formality of a paper, for example an illegible number, a number outside a box, or duplicate numbers, that ballot paper will be flagged for a manual check and data entry.<sup>71</sup>
- 2.5 In these situations, it can be difficult for scrutineers to properly examine whether votes are being allocated correctly. It was pointed out that current legislation dealing with scrutineers was developed before electronic counting was prevalent. Mr Ian Brightwell, who has experience in IT and information security, noted that:
- ... legislation was devised for situations which involved only manual counting of ballots and it did not envisage the use of a computer to capture ballot preferences and perform a count.<sup>72</sup>
- 2.6 The Committee notes that both the Electoral Commission and the Australian Election Company make efforts to accommodate scrutineers in the electronic

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<sup>70</sup> NSW Electoral Commission, Submission 17, p4 and Mr Greg Copson, Election Operation Manager, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p40.

<sup>71</sup> Mr Duke Ellis, Technical Manager, Australian Election Company, Transcript of evidence, 9 October 2017, p18 and 22.

<sup>72</sup> Mr Ian Brightwell, Submission 8, p9.

counting process. They both allow scrutineers to observe the data entry process and do their best to facilitate this by directing them to the appropriate areas.<sup>73</sup>

- 2.7 It was highlighted, however, that the data entry aspect of the count is conducted by a very large number of people. It is therefore difficult for the process to be monitored carefully. Mr Ben Raue, data analyst, observed that:

I know some of the issues are less to do with the computers and more to do with the fact that the ballot papers are huge and it takes a long time, and you are in a warehouse with 100 data entry workers. It is very hard even for the larger parties to have enough people to effectively scrutineer.<sup>74</sup>

- 2.8 Similarly, Mr Greg Copson, Election Operation Manager, NSW Electoral Commission, recognised that the number of people doing data entry for a particular council or ward does not make it easy for scrutineers. He stated that:

Scrutineers come through the count centre, they go to a particular data entry team and they know that that team is doing that particular council or ward. Granted there are 20 data entry operators in a team so it is difficult for a scrutineer to audit 20 data entry people who are all data entering at the same time.<sup>75</sup>

- 2.9 It is possible for scrutineers to have a more detailed look at the data entry process and its accuracy. Both the Electoral Commission and the Australian Election Company outlined that, if it was requested, scrutineers could examine a selection of ballot papers and check them against the corresponding data entry reports for those ballots.<sup>76</sup> In the case of the Australian Election Company, there was also an opportunity for scrutineers to check the accuracy of a scanned document against the original.

- 2.10 However, the Committee notes that this option does not appear to be well known. One stakeholder claimed that while the Electoral Commission performs checks of physical ballot papers against data entry reports, this is not offered to be witnessed by scrutineers.<sup>77</sup> The Committee also understands that not all scrutineers are being offered this as an option.<sup>78</sup>

- 2.11 The Committee was pleased to hear that the Electoral Commission was aware of the difficulties faced by scrutineers as more technology is being used in elections. While it related to the separate topic of iVote, the Electoral Commission reported that it was conducting a review which would consider the matter of scrutineering. They also suggested that they would be open to doing more work in this area. Mr John Schmidt, NSW Electoral Commissioner informed the Committee that:

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<sup>73</sup> Mr Greg Copson, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p39 and Mr Duke Ellis, Technical Manager, Australian Election Company, Transcript of evidence, 9 October 2017, p21.

<sup>74</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p5.

<sup>75</sup> Mr Greg Copson, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p39.

<sup>76</sup> Mr Greg Copson, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p39 and Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p21.

<sup>77</sup> Mr Ian Brightwell, Submission 8, p9.

<sup>78</sup> The Hon Peter Primrose MLC, Transcript of evidence, 9 October 2017, p39.

I fully support any opportunity we can get for political participants to engage with the technology and be comfortable with its integrity.

We have this review which is just kicking off now to look at iVote and one of the terms of reference there is what we can do about improving scrutiny. I think the same basic arguments apply here. ... What should it look like? Not a hundred per cent sure. But I am more than happy to work further on this to see what we can do. ... I think we need to have that engagement.<sup>79</sup>

- 2.12 Given the importance of independent scrutiny to the integrity of any electoral system, there should be a formal policy to ensure that scrutineers are given as much opportunity as possible to be involved in the counting process. The Committee appreciates that the increase in technology requires new approaches to allow worthwhile scrutineering to take place. As the Electoral Commission has already begun working in this area, it is appropriate for them to be the lead agency in developing such a policy. They should be able to liaise with the major parties and come up with an effective way to allow scrutineers to examine original ballots, and the corresponding electronic information.

### Recommendation 3

**That the NSW Electoral Commission works with relevant stakeholders to develop a policy that makes it easier for scrutineers to examine paper ballots, electronic records and data entry records.**

- 2.13 For consistency across the state, it is also important that scrutineers be given the same opportunities regardless of who conducts a local government election. The Committee was pleased to hear that both organisations currently conducting elections work with scrutineers to accommodate them. However, the Committee was concerned that not all scrutineers are being given the same opportunity, even between councils which choose the same organisation to run their elections. The Committee also notes the arguments of the Electoral Commission that any additional requirements to allow scrutineers to observe a process should be adhered to by all organisations which run local government elections.<sup>80</sup> Therefore, if a policy is developed, it should apply to all local government elections.

### Recommendation 4

**That the Office of Local Government ensures that councils which administer their own elections be required to adhere to any scrutineering policy developed by the Electoral Commission.**

#### Auditing the count

- 2.14 In addition to allowing scrutineers better access to the electronic counting process, the Committee is also supportive of improving the transparency of all local government elections that use electronic counting. There would be a benefit in introducing an audit system into the count, regardless of whether it was requested by scrutineers.

<sup>79</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p43.

<sup>80</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p43.

- 2.15 The most effective way to do this would be for someone to check the original paper ballot against the information entered into the system. Where relevant, the scanned document can also be checked to ensure that the data properly reflects what was on the ballot paper. This process should also be available to scrutineers, regardless of any other opportunities the Electoral Commission identifies as a result of recommendation 3.
- 2.16 This idea was put forward by Mr Ben Raue, who also noted that it would be cumbersome to examine every ballot. He put forward that there should be scrutiny of:
- ... batches of the physical ballot papers that would be pulled out, presumably late in the counting process. An Electoral Commission staff member would look at each individual ballot in that batch, look at the equivalent data for that ballot paper and be able to compare them and scrutineers can watch that and check it.<sup>81</sup>
- 2.17 Given that both the Electoral Commission and the Australian Election Company told the Committee that this form of checking is available to scrutineers on request, it should not be difficult to formalise the process. Indeed, staff at the Electoral Commission indicated that they would be 'amenable' to formalising some form of audit of paper ballots and electronic data as part of the counting process.<sup>82</sup>
- 2.18 In implementing this system, the Committee notes the evidence from Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne. Dr Teague observed that there are some statistical considerations on the number of ballots which would need to be audited before one could be confident that any significant errors would have been identified. She reflected:
- Then you need to ask statistical kinds of questions. I had a certain number of ballots; I have audited a certain number of them at random; what can I say about the confidence that I have that, if there had been a big enough problem to change the election, I would have detected it, based on the amount of random auditing I did?<sup>83</sup>
- 2.19 The required number of ballots would increase for close elections but Dr Teague advised that for the majority of councils you would be able to 'get quite a high level of confidence with not too much auditing for those councils that happen to have a comfortable margin'.<sup>84</sup>
- 2.20 As previously discussed, the use of technology in the counting process is only likely to increase, particularly if the more complex weighted inclusive Gregory method is introduced. Furthermore, the Australian Election Company uses OCR and the Electoral Commission is trialling its introduction.<sup>85</sup>

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<sup>81</sup> Mr Ben Raue, Transcript of evidence, 9 October 2017, p4.

<sup>82</sup> Mr Simon Kwok, Executive Director, Elections, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p39.

<sup>83</sup> Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne, Transcript of evidence, p15.

<sup>84</sup> Dr Vanessa Teague, Transcript of evidence, p15.

<sup>85</sup> Mr Simon Kwok, NSW Electoral Commission, Transcript of evidence, 9 October 2017, pp44-45.

- 2.21 Therefore, in order to maintain public confidence in the electoral system, it is prudent to have checks in place which prove to people that the votes they cast are being accurately recorded.

### Recommendation 5

**That an audit process be introduced to ensure that data entry of ballots is accurate in every local government election count that uses electronic counting. The Committee also recommends that scrutineers be allowed to observe this audit process and the results.**

### Ensuring sufficient data is available after an election

- 2.22 Releasing data on the count and the preference breakdown improves the transparency of elections and therefore improves public confidence in the system. Various stakeholders told the Committee that they were able to perform analysis and examine election results because of the information that was made available. In particular, the Committee commends the Electoral Commission for its efforts in making data publically available.

- 2.23 Mr Antony Green explained that he was able to find all the material he required on the Electoral Commission's website. This allowed him to present it in a format that was easier to understand for the general public. Mr Green reported that:

The commission had all the information I needed. I was quite happy with what the commission did. ... Why I ran, like I did, a local government website was just to present the information in a slightly easier format, which people are more used to looking at. I can do things like accumulate by party. That is something I can do, which is not really the job of the commission to do, in some senses.<sup>86</sup>

- 2.24 Similarly, Dr Vanessa Teague noted that while she had found some errors in the Commission's software and had highlighted the problems caused by conducting preference counting through random sampling, this was only because the Commission makes their data available. This means that errors can be identified and fixed. Dr Teague reflected that:

All of the errors and problems that we have found have been in NSW Electoral Commission administered counts, but to a large extent that is because the NSW Electoral Commission administered counts are much more transparent than the others. It is because they put their data up that the data can be examined and, if there are errors, those errors can be found.<sup>87</sup>

- 2.25 The Commission highlighted that the interest of third parties in their data was a contributing factor in their decision to release it. They told the Committee that releasing preference information has helped lead to a more transparent election process. Mr John Cant, Executive Director, Information Systems, NSW Electoral Commission, emphasised that:

<sup>86</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p31.

<sup>87</sup> Dr Vanessa Teague, Transcript of evidence, 9 October 2017, p15.

Improving transparency

A lot of the scrutiny that Vanessa Teague and Antony Green have been able to carry out is because those preference files are available, which, at least in my view, has led to a better outcome and more openness of the way our systems operate.<sup>88</sup>

2.26 However, when councils choose not to employ the services of the Electoral Commission, it is less clear what information is available and whether it is available to the general public.

2.27 The Australian Election Company produces a document which outlines various stages of the count for elections that they administer. They provided the Committee with this document for the recent election of councillors in Maitland City Council East Ward. They also told the Committee that the election manager at Maitland had the documents. However, when asked if this information was available on a website, a representative from the Australian Election Company did not know.<sup>89</sup>

2.28 Other stakeholders reported that the information made available by these councils was not as comprehensive as that released by the Commission. Dr Vanessa Teague told the Committee that, in contrast to her experience of accessing data from the Commission, she has not been able to conduct the same analysis of elections conducted by those councils which did not employ the services of the Commission. This means that there is a risk that similar errors are present but that they are not being discovered. Dr Teague noted:

I know nothing at all about those councils that run their own counts. The fact that nothing is known should not be taken as an indication that there are not problems; quite the contrary.<sup>90</sup>

2.29 Mr Antony Green also found that he could not find all the information he required:

On the private election company, I used that data from Maitland but it was impossible for me to, for instance, work out what was the number of ticket votes as opposed to the number of candidates for the first candidate on the list, because of the way they publish their report. It did not have all the information there I am used to getting hold of.<sup>91</sup>

2.30 The Committee is very supportive of the work done by psephologists to help improve the transparency of elections and explain some of their intricacies to the general public. The Committee considers that they should have access to as much information as is reasonable following an election. At the minimum, this should include the full preference data, not just the distribution of preferences. Further information to be released should be decided upon following discussion with relevant stakeholders.

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<sup>88</sup> Mr John Cant, Executive Director, Information Systems, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p44.

<sup>89</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p19.

<sup>90</sup> Dr Vanessa Teague, Transcript of evidence, 9 October 2017, p15.

<sup>91</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p31.

- 2.31 Again the Committee recognises that there needs to be consistency across councils regardless of who runs their elections. Therefore, a minimum standard of information should be created that all councils must adhere to. The Committee was pleased to hear that the Australian Election Company would be ‘quite happy’ to increase the amount of information they provide into the public domain in the same way as the Electoral Commission currently does.<sup>92</sup>

### Recommendation 6

**That the Government outlines minimum levels of data, including full preference data, which is to be released following a local government election regardless of whether the election is run by the NSW Electoral Commission, a private provider, or a council themselves.**

### Making the source code for the counting software available

- 2.32 As has been established, current counting systems are usually conducted electronically, using specialised software. A number of stakeholders have argued that the source code for this software should be made publically available. This would allow interested parties to check the code for errors or bugs which might affect the outcome of an election.
- 2.33 Dr Vanessa Teague has argued that making the source code available would improve the integrity of elections. If people were able to examine the code, they would be able to identify bugs prior to an election taking place so they could be fixed before they caused any problems.<sup>93</sup>
- 2.34 As previously noted, Dr Teague identified some errors in the Electoral Commission’s code by using the data they publish and running it through different software. However, the error could only be verified after sufficient data was available. If the source code was available, the errors could have been discovered sooner. Dr Teague explained that:
- Arguably our results on error finding in NSWEC code are a good justification of source code openness. We were able to identify them because NSWEC is very open about the vote data. When we first identified an error in the 2012 count we suspected there were more, because our probabilistic results diverged slightly from those of NSWEC. If we'd had the code then, we would probably have been able to find the next two errors before the 2016 local government elections. As it was, we had to wait for more data, which only came after the election had run again on incorrect software.<sup>94</sup>
- 2.35 The Electoral Commissions in Victoria and the Australian Capital Territory make their codes available on their website. Dr Teague also observed that openly available source code is a key part of internet voting systems in Norway and Estonia and all e-voting systems in Switzerland.<sup>95</sup>

<sup>92</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p20.

<sup>93</sup> Mr Andrew Conway, Michelle Blom, Lee Naish and Vanessa Teague, ‘An analysis of New South Wales electronic vote counting’, *Department of Computing and Information Systems – University of Melbourne*, November 2016.

<sup>94</sup> Dr Vanessa Teague, Answers to questions on notice, 6 November 2017, p1.

<sup>95</sup> Dr Vanessa Teague, Answers to questions on notice, 6 November 2017, p2.

- 2.36 The Committee notes the evidence of Dr Teague that academics from the Australian National University ‘conducted a formal analysis of the ACT counting code, which had been published online. They found three bugs, at least one of which was acknowledged and fixed’.<sup>96</sup>
- 2.37 However, both the Electoral Commission and the Australian Election Company highlighted the fact that there were intellectual property [IP] issues to consider before their codes could be released.
- 2.38 The Electoral Commission indicated that ‘public scrutiny of the code is not a bad thing’, but they wanted to ensure that their rights, and the rights of the company that created the code were protected.<sup>97</sup> The Australian Election Company was also hesitant to allow too many people to access their code due to the amount of money they had invested in its development.<sup>98</sup>
- 2.39 Both organisations also stressed that their software was thoroughly checked by third parties. The Australian Election Company stated that they had their system audited prior to the 2012 local government elections.<sup>99</sup> The Committee does note, however that it had not been tested since then.<sup>100</sup> The Electoral Commission also told the Committee that ‘prior to every major election event, we both audit the software and have it certified by independent third parties’.<sup>101</sup>
- 2.40 The Committee appreciates the concerns of these organisations and commends their efforts to ensure that their software functions properly. However, the Committee notes that Mr Antony Green is also supportive of making this software more accessible and considers that there should not be a problem with sensitivity. He told the Committee:

On accessibility of the code, I think we should move towards a system where the counting process is available as source code. I do not think any of the commissions use anything wildly proprietary in the software. In terms of confidence in the system, I think we should move towards something like that which is auditable.<sup>102</sup>

- 2.41 It was also pointed out that several errors were found in the Electoral Commission’s code despite the fact that it had been examined by independent experts. A similar situation occurred in Western Australia. Dr Vanessa Teague highlighted the fact that in New South Wales:

[Independent experts] had apparently certified the 2015 iVote run without noticing a serious security problem ... Someone presumably certified the 2017 WA run, without noticing that the DDoS protections hadn’t been properly configured. The counting

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<sup>96</sup> Dr Vanessa Teague, Answers to questions on notice, 6 November 2017, p1.

<sup>97</sup> Mr John Cant, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

<sup>98</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p20.

<sup>99</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p18.

<sup>100</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p20.

<sup>101</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p37.

<sup>102</sup> Mr Antony Green, Transcript of evidence, 9 October 2017, p31.

software we have found numerous errors in [in NSW] had been certified, and indeed was re-certified after the first error we found.<sup>103</sup>

- 2.42 Nevertheless, it was not suggested that expert analysis not be undertaken, rather that it be done in addition to allowing other interested parties the opportunity to examine the source code.<sup>104</sup>
- 2.43 The Electoral Commission explained that it had previously tried to work with academics by allowing them access to their code under a non-disclosure agreement [NDA]. However, this NDA was considered too restrictive by academics who questioned the value of examining the software if they were unable to publish their findings.<sup>105</sup>
- 2.44 As a result, the Commission told the Committee that it was open to reconsidering its NDA policy so that there would be a benefit for those people who were given access to the code. Mr John Cant, NSW Electoral Commission advised:
- What I would propose is that we have a lot less constricting NDA in place so that an academic can actually make use of the information that they gather through a review to publish a paper or whatever.<sup>106</sup>
- 2.45 The concept of allowing people to examine software under sufficient confidentiality provisions was also put to the Australian Election Company who told the Committee that they did ‘not believe that would be an issue’.<sup>107</sup>
- 2.46 The Committee recognises that the Electoral Commission and the Australian Election Company use specific proprietary software in the counting process. Certain aspects of this software need to be kept confidential for commercial and intellectual property reasons.
- 2.47 However, the Committee considers that the counting process in elections should be made as transparent as possible. This will become even more important if the counting system is changed to the more complicated, weighted inclusive Gregory method. By allowing more people to look at the code, it lowers the risk of bugs and errors going unnoticed. It also ensures that confidence in the system is maintained if the accuracy of the software can be further verified.
- 2.48 The Committee acknowledges that it may not be appropriate to direct organisations that run local government elections to make all their source code publically available. However, experts in the field should be given an opportunity to analyse the software and make any findings public, subject to sufficient protection of the rights of the organisations involved. It may be that an official list of interested parties is given access to certain parts of the code. The details of how this occurs will need to be discussed with relevant stakeholders.

<sup>103</sup> Dr Vanessa Teague, Answers to questions on notice, 6 November 2017, p2.

<sup>104</sup> Dr Vanessa Teague, Answers to questions on notice, 6 November 2017, p2.

<sup>105</sup> Mr John Cant, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

<sup>106</sup> Mr John Cant, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

<sup>107</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p23.

- 2.49 It is also important for these checks to happen sufficiently regularly. The Committee considers it appropriate that counting software used by any organisation that runs local government elections goes through a private and public auditing process every at least once every five years.

**Recommendation 7**

**That the source code of counting software used in local government elections, whether those elections are conducted by the NSW Electoral Commission or a private provider, be subject to an external audit at least once every five years, subject to reasonable restrictions which protect the Intellectual Property of the organisations involved.**

## Chapter Three – Removing inconsistencies

- 3.1 This chapter discusses additional inconsistencies that were identified within the electoral system and makes recommendations on how to remedy them.

### Candidate-funded recounts

- 3.2 In local government elections, candidates may pay for a recount without giving any grounds. This is even in cases where a formal recount has been denied by the Electoral Commissioner.

- 3.3 The Committee heard that there are two avenues for a recount to be conducted. The first is where a candidate makes a request to the Electoral Commissioner.<sup>108</sup> Generally, these are granted where there is a serious allegation of misconduct or administrative errors in the counting process that challenges the integrity of the election. Mr John Schmidt, NSW Electoral Commissioner stated that a candidate requesting a recount on the basis on randomisation is not a valid ground for a recount:

If there was a significant allegation of misconduct or errors in counting that challenges the basis of the election I would be minded to give a recount in those cases. But simply the fact that it was a close result and randomisation is available for a possible change of that outcome is not enough.<sup>109</sup>

- 3.4 The second reason for a recount to be conducted is where the candidate chooses to fund the cost of the recount. The Committee heard that, if this avenue is chosen, there is no requirement that the candidate have sufficient grounds for a recount to be conducted - only that they are able to pay for it. The Electoral Commissioner reflected that:

If you pay for it, under the local government legislation you do not have to give a reason. You do not even have to come to me and ask for a recount. You can just turn up and say, "I want a recount. Tell me how much it is. I will pay it over." If I am successful, I will get my money back. If I am not successful, I lose it.<sup>110</sup>

- 3.5 Candidates may choose this option regardless of whether the Electoral Commissioner has declined a request for a recount. Under the provision, a recount must be conducted if the candidate pays a deposit to cover the cost.<sup>111</sup> The candidate is refunded the money if the recount results in them being elected. It was noted that 'there can only be one candidate who requests and is granted a recount'.<sup>112</sup> This means that a candidate could pay for a recount if they believe the vote is close enough that randomisation may have an effect on the distribution of preferences. The Electoral Commissioner explained that:

<sup>108</sup> *Local Government (General) Regulation 2005 s353 (1)(a)*

<sup>109</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p46.

<sup>110</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p46.

<sup>111</sup> *Local Government (General) Regulation 2005 s353 (3)(a)*

<sup>112</sup> Mr Greg Copson, Election Operation Manager, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p38.

There is a lottery element because you can run the count again, and probability says if you run it a million times, you will get different results. Then, of course, you have the issue that if you are willing to pay and it is close enough, maybe it is worth putting your money on the table and seeing how you go.<sup>113</sup>

- 3.6 This avenue is more accessible to some candidates than others, as the size of the electorate may affect a candidate's ability to pay for it. The Electoral Commission explained that the cost of a recount is about \$53 per 100 ballots and, consequently, costs can vary from a few thousand dollars up to tens of thousands of dollars.<sup>114</sup> The Commissioner identified this as an issue as it could potentially be exploited by a few who find themselves in this position:

You should not be able to purchase a recount. On equity grounds I can see arguments against it, in that a well-heeled person might endeavour to seek a recount on that basis alone.<sup>115</sup>

- 3.7 In the 2017 local government elections, two requests for recounts were made. A request for a recount of the Parramatta ward was declined and the candidate subsequently paid for the recount to proceed. On the first count, the margin between the elected and non-elected candidate was 135. On the second, and final count, this margin increased by 151. Although the final result did not change, the Electoral Commission acknowledged that the randomisation of preferences most likely contributed to the increased margin of votes between the candidates.<sup>116</sup>

- 3.8 That a candidate may pay for a recount that may produce a different result raises issues of uncertainty about the integrity of the electoral system. The Electoral Commissioner stated, in reference to paid recounts:

...it is there and they [the candidates] are perfectly entitled to do it—but it raises a degree of uncertainty. It concerns me that it might throw into doubt in the public mind the basis on which an election result is arrived at.<sup>117</sup>

- 3.9 The Commissioner also acknowledged that candidate-funded recounts may have been permitted as an avenue to challenge a decline of a recount on equity grounds. However, the Commissioner did not support retaining this provision – particularly in a different electoral system that involved the full counting of preferences, such as the weighted inclusive Gregory method.<sup>118</sup>

- 3.10 The Committee notes that candidate-funded recounts allow people to act upon the 'lottery element' that comes into play with random sampling and tight margins between votes. That candidates are permitted to direct a recount be conducted, even in circumstances where the Electoral Commissioner has denied this action, bypasses the authority of the Commission and, consequently, subverts the inbuilt safeguards within the electoral system.

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<sup>113</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p37.

<sup>114</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p37.

<sup>115</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p45.

<sup>116</sup> NSW Electoral Commission, Submission 17, p10.

<sup>117</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p37.

<sup>118</sup> Mr John Schmidt, NSW Electoral Commissioner, Transcript of evidence, 9 October 2017, p45.

- 3.11 The Committee recognises that this feature can undermine confidence of both voters and candidates in the electoral system to produce a fair result. Allowing candidate-funded recounts to occur within an electoral environment that is already affected by public confidence issues should not be continued. If the counting system is changed to the weighted inclusive Gregory method then this should also present less of an impetus for candidates to seek a recount as elections will be entirely reproducible.
- 3.12 The Committee is of the opinion that candidate-funded recounts create public doubt in the election result, undermine the integrity of the electoral system, and should be removed. The authority to conduct a recount should remain with the Electoral Commissioner. This will align local government elections with current State elections.

### Recommendation 8

**That the Government remove the provision whereby a candidate can pay for a recount in an election in which they were involved.**

### Recommendation 9

**That the NSW Electoral Commissioner maintain the authority to conduct a recount at the request of any candidates in the election or on their own initiative.**

### Transfer values

- 3.13 The Committee heard evidence that there are inconsistencies in the number of decimal places used for transfer values in local government elections.<sup>119</sup> Schedule 5 of the *Local Government Regulation 2005* provides that the transfer value can be calculated by either using a fraction or rounding it to four decimal digits. However, it does not outline which one is to be used.<sup>120</sup>
- 3.14 It was highlighted that different calculation processes are provided in State elections using proportional representation. The electoral rules for the Legislative Council permit transfer values to be calculated using a fraction but do not specify how many decimal points this shall go up to.<sup>121</sup>
- 3.15 The Australian Election Company stipulated that because there are a larger number of votes involved in those calculations, more decimal points may provide greater accuracy. The Company argued that the local government regulation regarding decimal places for transfer value calculations should be the same as those for the Legislative Council.<sup>122</sup>
- 3.16 The Electoral Commission told the Committee that it has a policy of calculating transfer values to twelve decimal places for Legislative Council elections.<sup>123</sup> The

<sup>119</sup> Mr Duke Ellis, Technical Manager, Australian Election Company, Transcript of evidence, 9 October 2017, p17.

<sup>120</sup> *Local Government Regulation 2005*, Sch 5 s 7(4)(b).

<sup>121</sup> *Constitution Act 1902*, Sch 6 s 10(a) and (d).

<sup>122</sup> Mr Duke Ellis, Australian Election Company, Transcript of evidence, 9 October 2017, p17.

<sup>123</sup> Mr John Cant, Executive Director Information Systems, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

Commission agreed that the inconsistency between the numbers of decimal points could affect the calculation of transfer values from an administrative point of view, as developers can experience issues with the artificial reduction of the number of decimal places.<sup>124</sup>

- 3.17 The Committee notes that both the Electoral Commission and the Australian Election Company consider the restriction of four decimal places to be problematic. The Commission indicated that they 'would definitely not be against' this restriction being removed.<sup>125</sup>
- 3.18 The provision requiring that transfer values in local government elections be calculated to four decimal points creates an arbitrary constraint that requires additional administrative and technical resources to comply with the provision. In particular, as the Electoral Commission uses twelve decimal points for Legislative Council elections, this provision creates inconsistent calculation processes between the two proportional representation election systems used in NSW.
- 3.19 Furthermore, the Committee recognises that additional decimal places allow for potentially greater accuracy of transfer values. In line with earlier observations and comments by the Committee in this inquiry, the Committee is in favour of measures that improve the accuracy of the preference voting system. This extends to the calculation of the transfer value fraction. This will become even more important should the weighted inclusive Gregory method be introduced as the calculations for transfer values will be more complex.
- 3.20 The Committee considers that there should be consistency when calculating transfer values in elections to local government or the Legislative Council.

### **Recommendation 10**

**That the cap of four digits for a decimal fraction when calculating transfer values involved in preference counting in local government elections be removed.**

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<sup>124</sup> Mr John Cant, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

<sup>125</sup> Mr John Cant, NSW Electoral Commission, Transcript of evidence, 9 October 2017, p42.

# Appendix One – Terms of Reference

## **Inquiry into preference counting in local government elections in NSW**

### **Terms of reference**

That the Joint Standing Committee on Electoral Matters inquire into and report on:

- a) the current system of ‘random selection’ in the counting of preferences in local government elections,
- b) whether this system delivers fair results in all cases for candidates,
- c) whether there are any alternative methods of ballot counting which would produce more accurate preference flows, and
- d) any other related matter.

That the Committee report by 14 November 2017.

## Appendix Two – Conduct of Inquiry

The Joint Standing Committee on Electoral Matters (the Committee) was initially established in 2004, and re-established for the 56<sup>th</sup> Parliament on 28 May 2015 and 2 June 2016 by resolution of both House of Parliament.

On 9 August 2017, the Legislative Council resolved that the Joint Standing Committee on Electoral Matters inquire into and report on preference counting in local government elections in New South Wales. The initial report date was 14 November 2017, which was then extended to 30 November 2017 by a further resolution of the Legislative Council.

The Committee particularly examined the current system of ‘random selection’ used in the distribution of preferences in local government elections, whether this delivered a fair result, and whether any alternative ballot counting methods could produce more accurate results.

The full terms of reference for this inquiry have been set out at in Appendix 1.

The Committee called for public submissions by issuing media releases and writing to key stakeholders to make a submission. The closing date for submissions was 29 September 2017.

The Committee received 23 submissions from stakeholder organisations and individuals. A complete list of the submissions received can be found in Appendix Three.

The Committee held a public hearing on 9 October 2017 at Parliament House, Sydney. Ten witnesses provided oral evidence to the Committee. These included representatives from the NSW Electoral Commission, the Australian Election Company, and Local Government NSW. The Committee also heard from academic experts in the field and election analysts and psephologists. A list of the witnesses who appeared before the Committee can be found in Appendix Four.

## Appendix Three – Submissions

1	Mr Luke Diggins
2	Mr Roderick Chalmers
3	Goulburn Mulwaree Council
4	Moree Plains Shire Council
5	Port Macquarie-Hastings Council
6	Dr Vanessa Teague
7	Mr Andre De Michiel
8	Mr Ian Brightwell
9	Bland Shire Council
10	Mr Maurice Campbell
11	Electoral Reform Australia
12	Mr Gregory Olsen
13	Local Government NSW
14	Mr Ben Raue
15	Christian Democratic Party (Fred Nile Group)
16	Mr Greg Butler
17	NSW Electoral Commission
18	Ms Miranda Korzy
19	Blacktown City Council
20	Nambucca Shire Council
21	Canterbury Bankstown Council
22	Australian Election Company
23	Mr Antony Green

## Appendix Four – Witnesses

**MONDAY, 9 OCTOBER 2017 – JUBILEE ROOM, NSW PARLIAMENT**

<b>Witness</b>	<b>Organisation</b>
Mr Ben Raue	
Dr Vanessa Teague <i>Senior Lecturer</i> <i>Department of Computing &amp; Information Systems</i>	The University of Melbourne
Mr Duke Ellis <i>Technical Manager</i>	Australian Election Company
Mr Antony Green	
Ms Donna Rygate <i>Chief Executive</i>	Local Government NSW
Mr Shaun McBride <i>Senior Strategy Manager</i>	Local Government NSW
Mr John Schmidt <i>Electoral Commissioner</i>	NSW Electoral Commission
Mr John Cant <i>Executive Director - Information Systems</i>	NSW Electoral Commission
Mr Simon Kwok <i>Executive Director - Elections</i>	NSW Electoral Commission
Mr Greg Copson <i>Election Operation Manager</i>	NSW Electoral Commission

## Appendix Five – Extracts from Minutes

### **MINUTES OF MEETING No. 15**

11:30am, Thursday 17 August 2017

Room 1136, Parliament House

#### **Members Present**

The Hon Dr Peter Phelps MLC (Chair), The Hon Robert Borsak MLC (Deputy Chair), Mr Adam Crouch MP, The Hon Ben Franklin MLC, and, The Hon Peter Primrose MLC.

**via teleconference:** Mr Andrew Fraser MP, Mr Mark Taylor MP, and Ms Anna Watson MP

**Officers in Attendance:** Mr Jason Arditì, Ms Derya Sekmen and Ms Caroline Hopley.

#### **1. Apologies**

Apologies were received from Ms Houssos and Mr Rowell.

#### **2. Minutes of Meeting No. 14**

Resolved on the motion of Mr Franklin, that the minutes of meeting No. 14, held on 17 August 2017, be confirmed.

#### **3. \*\*\*\***

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#### **4. New inquiry- preference counting in local government elections in NSW**

The Committee considered draft Terms of Reference for an inquiry into preference counting in local government elections in NSW.

Resolved, on the motion of Mr Franklin, seconded by Mr Borsak, that:

- the Committee adopts the draft terms of reference for an inquiry into preference counting in local government elections in NSW.
- the Committee advertises the inquiry and asks for submissions with a closing date of 29 September 2017.
- the Committee writes to appropriate stakeholders inviting submissions; and
- the Chair issues a media release announcing the inquiry and publish details of the inquiry on the Committee's webpage.

#### **5. General business**

- Members discussed dates for a one day public hearing in October 2017; committee staff to canvass possible dates.
- Additional names added to the stakeholder list.

#### **6. Next Meeting**

The Committee adjourned at 11:37am until a time and date to be determined.

## **MINUTES OF MEETING No. 16**

9:57am Monday, 9 October 2017

Jubilee Room, Parliament House

### **Members Present**

The Hon Dr Peter Phelps MLC (Chair), Mr Adam Crouch MP, The Hon Ben Franklin MLC, Mr Andrew Fraser MP, The Hon Courtney Houssos MLC, The Hon Peter Primrose MLC, Mr Jai Rowell MP, Mr Mark Taylor MP, and Ms Anna Watson MP

### **1. Apologies**

An apology was received from Mr Borsak

### **2. Minutes of Meeting No. 15**

Resolved on the motion of Mr Taylor, seconded by Mr Franklin, that the minutes of meeting No. 15, held on 17 August 2017, be confirmed.

## **Inquiry into preference counting in local government elections in New South Wales**

### **3. Submissions**

Resolved, on the motion of Ms Houssos, seconded by Mr Rowell, that Submission 10 be published to the Committee's website following redaction of certain details.

Resolved, on the motion of Ms Houssos, seconded by Mr Crouch, that Submission 18 be published to the Committee's website following redaction of certain details.

Resolved, on the motion of Ms Houssos, seconded by Mr Franklin, that, with the exceptions of Submission 10 and Submission 18, Submissions 1 – 22 be published to the Committee's website with the following redactions:

- Personal contact details including residential addresses, personal telephone numbers and personal email addresses
- Signatures.

### **4. Public hearing – Monday 9 October 2017**

Resolved, on the motion of Mr Primrose, seconded by Mr Crouch, that the Committee invites the witnesses listed in the notice of hearing for Monday, 9 October 2017 to give evidence in relation to the inquiry into preference counting in local government elections in New South Wales.

#### **4.1 Media**

Resolved, on the motion of Ms Watson, seconded by Mr Rowell, that the Committee authorises the audio-visual recording, photography and broadcasting of the public hearing on 9 October 2017 in accordance with the NSW Legislative Assembly's guidelines for coverage of proceedings for parliamentary committees administered by the Legislative Assembly.

#### **4.2 Answers to questions take on notice**

Resolved, on the motion of Ms Houssos, seconded by Mr Crouch, that witnesses be requested to return answers to questions taken on notice and supplementary questions within 21 days of the date on which the questions are forwarded to witnesses.

The deliberative meeting concluded at 10:01 am

Witnesses and the public were admitted. The Chair opened the public hearing at 10:02 am.

Mr Ben Raue, was affirmed and examined.

Mr Raue made an opening statement.

The Committee commenced questioning the witness. Evidence concluded and the witness withdrew.

Dr Vanessa Teague, Senior Lecturer, Department of Computing and Information Services, University of Melbourne was affirmed and examined.

Dr Teague made an opening statement.

The Committee commenced questioning the witness. Evidence concluded and the witness withdrew.

The Committee took a short adjournment at 11:27 am and resumed the public hearing at 11:47 am.

Mr Duke Ellis, Technical Manager, Australian Election Company was sworn and examined.

Mr Ellis made an opening statement.

The Committee commenced questioning the witness. Evidence concluded and the witness withdrew.

Mr Antony Green, was affirmed and examined.

Mr Green made an opening statement.

The Committee commenced questioning the witness. Evidence concluded and the witness withdrew.

The Committee adjourned at 1:13 pm and resumed the public hearing at 2:03 pm.

Ms Donna Rygate, Chief Executive and Mr Shaun McBride, Senior Strategy Manager, Local Government NSW were sworn and examined.

Ms Rygate made an opening statement.

The Committee commenced questioning the witnesses. Evidence concluded and the witnesses withdrew.

Mr John Schmidt, Electoral Commissioner, Mr Greg Copson, Election Operation Manager, and Mr Simon Kwok, Executive Director Elections, NSW Electoral Commission were affirmed and examined.

Mr John Cant, Executive Director, Information Systems, NSW Electoral Commission was sworn and Examined.

The Commissioner made an opening statement.

The Committee commenced questioning the witnesses. Evidence concluded and the witnesses withdrew.

The public hearing concluded at 3:12 pm.

**5. Post hearing deliberative meeting**

The Committee commenced a deliberative meeting at 3:14 pm.

**5.1 Publication of transcript**

Resolved, on the motion of Ms Houssos, seconded by Mr Fraser, that the corrected transcript of public evidence given today be authorised for publication and uploaded on the Committee's website.

**5.2 Tendered documents**

Resolved, on the motion of Ms Houssos, seconded by Mr Fraser, that the document provided by Mr Antony Green at the public hearing be accepted as a submission by the Committee and published to the Committee's website.

**6. Next Meeting**

The Committee adjourned at 3:17 pm until a time and date determined.

**MINUTES OF MEETING No. 17**

11.01 Monday, 20 November 2017

McKell Room, Parliament House

**Members Present**

The Hon Robert Borsak MLC (Deputy Chair), Mr Adam Crouch MP, The Hon Ben Franklin MLC, The Hon Courtney Houssos MLC, and The Hon Peter Primrose MLC

**via teleconference:** The Hon Dr Peter Phelps MLC (Chair)

**1. Apologies**

Apologies were received from Mr Fraser, Mr Rowell, Mr Taylor and Ms Watson.

**2. Minutes of Meeting No. 16**

Resolved, on the motion of Mr Crouch, that the minutes of meeting No. 16, held on 9 October 2017, be confirmed.

**Inquiry into preference counting in local government elections in New South Wales****3. Answers to questions on notice**

Resolved, on the motion of Mr Primrose, that the answers to questions on notice from the following witnesses be accepted and published on the Committee's webpage:

- NSW Electoral Commission
- Mr Duke Ellis, Australian Election Company
- Mr Ben Raue
- Dr Vanessa Teague

**4. Consideration of Chair's draft report**

The Committee agreed to consider the Chair's draft report on preference counting in local government elections in NSW as a whole.

Resolved, on the motion of Mr Primrose, that Recommendation 4 be amended to remove the words 'Division of Local Government' and replace with 'Office of Local Government'.

Resolved, on the motion of Ms Houssos, that Recommendation 6 be amended to insert the words 'regardless of whether the election is run by the NSW Electoral Commission, a private company, or a council themselves'.

Resolved, on the motion of Mr Primrose, that the words 'The Committee recommends' be deleted from Recommendations 3 – 10.

Resolved, on the motion of Mr Primrose, that paragraphs 3.21 – 3.33 and Recommendation 11 be deleted.

Resolved, on the motion of Mr Franklin, seconded by Mr Borsak, that the report as amended be the report of the Committee, and that it be signed by the Chair and presented to the House.

Resolved, on the motion of Mr Primrose, that the Chair and committee staff be permitted to correct stylistic, typographical, and grammatical errors.

Resolved, on the motion of Mr Primrose, that once tabled, the report be uploaded to the Committee's webpage.

The Chair thanked the staff for their work in preparing the report and presenting complex information in an easy to understand manner.

**5. Next Meeting**

The Committee adjourned at 11.09 sine die.

## Appendix Six – Glossary

JSCEM	Joint Standing Committee on Electoral Matters
LGNSW	Local Government NSW
MLC	Member of the Legislative Council
MP	Member of Parliament
NSW	New South Wales
OCR	Optical Character Recognition
PRCC	Proportional Representation Computer Count
PR-STV	Proportional Representation by Single Transferable Vote