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SUPPLEMENTARY SUBMISSION TO JSCEM
Response to matters raised by the Committee

SUMMARY: This submission responds to four matters raised by JSCEM members on 15 April 2014. We consider that each of these matters is of a much lower significance and priority in remedying the deficiencies of the method of single transferable vote proportional representation used for Senate polls than is the far more pressing need to change the formality requirements from the present full preferential marking to a form of optional preferential marking, and to abolish Group Voting Tickets and the associated *above-the-line* voting option. We stress that in our responses below.

1. Proper systems of transferring preferences do not result in 'having two bites of the cherry'

At the JSCEM hearing on 15 April 2014, Mr Griffin asked us, "What about the argument that simply by having Inclusive Gregory or Weighted Inclusive Gregory what you are effectively doing is allowing people two bites of the cherry in terms of the value of their vote?"

It is essential for value to flow via transfers for the electoral system to achieve proportional representation. Without the transfer of votes, each major party would typically get one only senator elected from each State because, due to the regimented voting that Dr H V Evatt mentioned, so few first preference votes are cast for the 2nd, 3rd and subsequent candidates in those parties' columns.

We discuss this using Table 1 in Farrell and McAllister's 2003 paper we tabled at the hearing:

	Shirley's ballot papers		
	First count: Shirley's 35,000 first preferences	Second count: 100,000 ballot papers from Tom	Third count: 25,000 ballot papers from Dick
Gregory method			
Incoming value	1	0.1	1
Outgoing value	0	0.1	0.8
Contribution to surplus (%)	0	0	100.0
Inclusive Gregory method			
Incoming value	1	0.1	1
Outgoing value	0.125	0.125	0.125
Contribution to surplus (%)	21.9	62.5	15.6
Weighted inclusive Gregory method			
Incoming value	1	0.1	1
Outgoing value	0.286	0.029	0.286
Contribution to surplus (%)	49.9	14.5	35.6

Note: Calculations are subject to rounding errors.

Table 1 from Page 486 of Farrell and McAllister's 2003 paper

Of the transfer systems, only the Unweighted Inclusive Gregory involves 'a second bite of the cherry', which is its major flaw, as indicated in Farrell and McAllister's 2003 paper *(and first indicated by the PRSA's inaugural National President, Jack Wright, as his letter in a 1983 Senate Hansard shows).* In their example, Tom's papers have already used 0.9 to elect someone and contribute 0.1 * 10000/70000 = 0.014 to get Shirley elected, and still have a value of 0.125 transferred, a total value of 1.039. It is clear that some papers can inevitably have value of less than one, but no papers should ever get a value of greater than one. Here Tom's voters clearly are 'getting more than an equal vote'. This arbitrary Senate system is inferior to both the Original and the Weighted methods.

The general consensus is that the Original Gregory Transfer (last parcel) is less fair than the Weighted Inclusive Gregory Method, which is in turn less fair than Meek (see Section 2 below). We believe the distinction between these systems is **far less important** than the distortions created by Group Voting Tickets and *above-the-line* voting.

2. Comparison between the Meek Surplus Transfer Method and other Surplus Transfer Methods

There are two main differences between the Meek method and the other Gregory Transfer methods discussed at the JSCEM hearing on 15 April 2014 (the Original Gregory or "last parcel" method, the Unweighted Inclusive Gregory method, and the Weighted Inclusive Gregory method). The first difference concerns the calculation of transfer values. At the hearing, the example in Table 1 of the 2003 paper by Farrell and McAllister was distributed to facilitate discussion of transfer values.

With a quota of 50,000, Shirley had 35,000 first preference ballot papers (each with value 1), then received 100,000 ballot papers from Tom, each with value 0.1, and then received 25,000 ballot papers from the exclusion of Dick, each with value 1. Meek would result in similar figures to Weighted Inclusive Gregory at this stage of the count. However, a significant difference between Meek and the other methods is revealed if the next stage of the count excludes Harry, who has 25,000 first preference votes, all of which show a second preference for Shirley. In the other methods, given that Shirley has been declared elected, all these votes are transferred to the next available preference after Shirley, and no value contributes to the quota that elects Shirley.

Under Meek, the transfer values for Shirley are recalculated as shown in Table 2 (we include an additional row, which is the total outgoing value – that is the outgoing value times the numbers of ballots). Note that both Dick and Harry have been excluded, and both had the same number of votes of the same value with Shirley as the next preference. Meek treats these votes in the same way - they each contribute around 53% of their value to help elect Shirley, and 47% gets transferred to help elect later preferences. With Meek, the progress totals at a particular point in the count are independent of the order of previous exclusions. This is not the case with the other methods mentioned above, though Anthony van der Craats's so-called "Wright" method (AvdC's) also has this property. Under both Meek and AvdC's method, after a candidate is excluded, it is as though the count starts again from the beginning (indeed, that is the way AvdC's algorithm is described).

	Shirley	Tom	Dick	Harry
MEEK Method				
Incoming value	1	0.1	1	1
Outgoing value	0.474	0.047	0.474	0.474
Total outgoing value	16,579	4,737	11,842	11,842
Contribution to surplus (%)	36.8	10.5	26.3	26.3

Table 2

Another, more subtle aspect of Meek is that the running totals are also independent of the order in which candidates are declared elected (AvdC's method does not have that property). Let us assume that Tom received 55,555 first preference votes, each of which had a second preference for Shirley (that is consistent with the value of votes transferred to Shirley in Table 2 though not the figures, which depend on the number of ballot papers). The figures for Meek in Table 2 assume that none of Shirley's surplus had later preferences for Tom, so Tom's surplus helps elect Shirley, but Shirley's surplus is of no use to Tom. However, suppose Shirley's surplus had some preferences for Tom.

For the other methods (including AvdC's), Shirley's surplus would never contribute to Tom, as Tom was declared elected earlier. Under Meek, the transfer values are recomputed so Shirley's surplus helps elect Tom, and Tom's surplus helps elect Shirley. Tom's transfer values will be decreased somewhat, and Shirley's will be increased somewhat, so they each retain exactly one quota, but there is no discrimination between the votes on the basis of which candidate was elected first.

At the JSCEM hearing on 15 April 2014, Mr Goode stated that the New Zealand regulation prescribing the use of the Meek system referenced Dr Brian Meek's academic paper, but he has since discovered that it appears that the regulation was altered in 2004 to describe much more of the method within the body of the regulation itself.

More technically (and not important for an overview of the method), Meek is normally described in terms of "keep values" rather than "transfer values". Transfer values are the absolute value of ballots that are transferred, whereas keep values are the fraction of the value that is not transferred. At each stage of the count, each non-excluded candidate has a single keep value. It is 1 if the candidate has not yet been declared elected (so no value is transferred). For elected candidates it is one or less (exactly one quota is kept and the remaining value is transferred). Keep values are computed using an iterative method, which finds closer approximations to the mathematically correct values until the desired precision is achieved. Once the keep values have been computed in this way, they can be manually verified very easily. Thus a correct count using Meek is relatively hard to compute, but easy to verify. The complexity of the algorithm for computing keep values therefore does not detract from transparency of the vote counting system.

Meek retains a memory of all the important events, both candidates being elected, whose keep values can decline later, and those excluded, whose keep values thereafter remain at 0, whereas AvdC's method only attaches a significance to reaching a quota when his unilateral criterion is met, and is therefore replete with a range of anomalies and curiosities arising from the vagaries associated with exclusions.

The second difference between Meek and the other methods concerns the quota. At the hearing there was some discussion of candidates being elected without a quota of votes (with optional preferential voting), and certain counting rules that decrease the quota as votes become exhausted. Mr Goode pointed out that although this technically avoids candidates being elected without receiving a quota, it is somewhat artificial in that it is still the case that different numbers of votes are required to elect a candidate at different stages of the count. Under Meek (and also AvdC's method), the quota is recalculated whenever a candidate is excluded and the number of exhausted votes (possibly) increases. Thus all successful candidates finish with exactly a quota of votes, and the quota is the same for all those candidates.

There is one other minor technical improvement to the way the quota is calculated in modern versions of Meek. In earlier versions of STV counting rules, the Droop quota is computed as N/(V+1) + 1, where N is the number of votes and V is the number of vacancies. The second "+1" prevents more than V candidates gaining a quota. However, there is no mathematical reason why 1 is chosen

(it could be 0.5 or 0.000001), and often some rounding is specified, which is also arbitrary. The more modern variants simply drop the second "+1" and any rounding. The count ends when V candidates achieve a quota (or it can be extended by excluding further candidates to determine the "runner-up" candidate). If the last elected candidate and the runner-up achieve a quota at the same stage, some tie-breaking rule must be used (ties cannot be avoided in general). Senator Tillem's query about the earlier Hare quota is answered with an explanation at that hyperlink as to why the Droop quota has superseded it, and why few psephologists have supported the Hare quota since the 19th Century.

3. Concerns expressed by Senators Rhiannon and Tillem on candidates elected with under a quota

The scrutiny figures below for the 2014 Tasmanian Assembly elections show the following seven candidates elected without a quota, owing to ballots becoming exhausted near the end of the count.

Division	BASS	BRADDON	DENISON	FRANKLIN	LYONS
Quota (16.67%)	10,744	10,716	10,660	11,184	11,060
1st candidate elected without a quota	O'Byrne	Jaensch	Ogilvie	Harriss	Llewellyn
Party	ALP	LIB	ALP	LIB	LIB
Final progress total	9,584	9,586	7,465	10,936	10,177
Final progress total as % of a quota	89.2%	89.5%	70.0%	97.8%	92.0%
2nd candidate elected without a quota	Booth	Rylah	-	-	-
Party	GREENS	LIB			
Final progress total	9,330	8,708			
Final progress total as % of a quota	86.8%	81.3%			
Unelected runner-up	Wightman	Best	Amos	O'Byrne	Morris
Party	ALP	ALP	ALP	ALP	Greens
Final progress total	8,296	8,257	7,134	9,168	8,462
Final progress total as % of a quota	77.2%	77.1%	66.9%	82.0%	76.5%
Total no. of exhausted ballots	4,948	5,516	6,630	2,212	3,458
Percentage of ballots exhausted	7.68%	8.58%	10.37%	3.30%	5.21%

Summary of 2014 Tasmanian Assembly counts: Blue hyperlink figures access the Scrutiny Sheets.

Senator Rhiannon asked whether candidates had been elected on a "very low quota". Of the seven candidates that were elected in 2014 with less than a quota, five gained more than 86% of a quota, and another one gained more than 81%. The remaining one of those seven elected candidates gained only 70.0% of a quota but, unlike the other cases, the runner-up there was of the same party.

Tasmania's counting rules, in Schedule 4 of its *Electoral Act 2004*, result in a declaration on the filling of all remaining places being made once the number of continuing candidates is reduced to one more than the number of those places. The candidate with the lowest progress total cannot be elected and is excluded, thus leaving the remaining continuing candidates necessarily elected. That losing candidate's progress total could be transferred, but that is not necessary, as the only candidates it could go to are already necessarily elected.

The ballots that contributed to those final progress totals were cast without there being any requirement for those casting them to determine preference orders for more than 5 candidates, although they could indicate as many preferences as there were candidates standing, so it is likely that the preferences marked were the result of a considered ranking of the candidates of concern and interest to the voter. In contrast, at Tasmania's 2013 Senate poll, where the ballot paper instructions stated that an order of preference had to be marked for all 54 candidates by the 10.34% of voters that cast a formal *below-the-line* vote, it is much more likely that many of those 54 preferences were marked solely to ensure that the ballot met those onerous formality requirements,

rather than having been decided by the voter as an expression of a considered preference order.

4. Request by the Chair and Senator Kroger for views on statutory criteria for party registration

Before stating views on party registration, an overview of why that matters is needed. The requirement in Section 7 of the Constitution, that the senators for the States be *"… directly chosen by the people of the State …",* created a candidate-based electoral system for the Senate. If political parties no longer existed, or none of the candidates standing at a Senate election were members of political parties, or would disclose their membership of a political party, Senate elections would still take place, and the votes cast for the individual candidates would still be counted using the same quota-preferential (single transferable vote) form of proportional representation as presently exists.

That important requirement for direct election of senators at periodic and general elections is an important Australian addition to the wording used in the US Constitution, which lacks the word "directly". Section 7 entrenches the reality that the essence of what voters are doing at elections is electing a person to represent them, and that the party that person might belong to on election day might cease to exist during that person's term, or that person might leave that party for another, or for no party, but the senator elected will hold the seat unless it is vacated. It is the voters, and nobody else, that should decide which of the available candidates should be elected.

Political parties have only appeared in the Constitution since the 1977 alteration of Section 15 on Senate casual vacancies, and the Constitution only relates to them in regard to that section, but they have been an aspect of Senate elections since 1901, even though not referred to as such in early Commonwealth electoral legislation. Political parties' first showing in that legislation was in 1922 when the *Commonwealth Electoral Act 1918* (the Act) was amended to allow candidates' names to be grouped, by their common consent, on the ballot paper, under designations "Group A", "Group B", etc, with no other designation of a group beyond that, but for the surnames to be listed in alphabetical order down the ballot paper within each group. The order in which the groups appeared down the ballot paper was fixed by the overall alphabetical ranking of the candidates in each group. That system appeared to be informative for voters, without creating a situation where voters would tend, by default, to mark their preferences for candidates in an order that suited political parties.

The advantages that donkey voting gave to candidates appearing at the top of the list was exploited by the ALP's 1937 "four A's" ploy. Menzies' 1940 response to that was the first case of the use of a Commonwealth electoral law to facilitate the stage management by political parties of Senate ballot papers, when that law was used to enable the candidates in a group to determine the order in which their names would appear on the ballot paper, and hence facilitate the use of how-to-vote cards that allowed easy consecutive numbering of preferences for each party's regimented order of marking.

In marked contrast, Tasmanian Assembly elections, which allowed candidates to have their names appear in groups, retained the alphabetical ordering of surnames within those groups until that was replaced by a single random order in each group in 1973, and Robson Rotation in batches in 1979. Tasmania's Parliament accepted the advice of a 1979 report, "Voting – by Party Direction or Free Choice", it commissioned, and rejected proposals that it should adopt a Senate-style stage-managed ordering of names of candidates by their common consent.

The introduction of Group Voting Tickets (GVTs) and *above-the-line* voting in 1983 instituted an alternative means of marking a ballot paper with the least possible effort for *above-the-line* voters, but it maintained the maximum possible effort for voters that either found none of the tickets acceptable, or wished to mark all preferences themselves *below-the-line*, where they could see on their ballot paper where their preferences would be going.

By the 2010 and 2013 elections, the Coalition and the ALP had long each been issuing, in each

division, a single how-to-vote card whose approach differed greatly between its information for the House of Representatives and the Senate. For the House, the names of all candidates were shown, along with a recommended voting order for them, and a colour photograph of the party's candidate and, although he or she was a candidate in only one of the 150 divisions, its Lower House leader. For the Senate, voters were just told to vote "1" *above-the-line,* and that there was no need to vote *below-the-line*. No name of any of the party's Victorian Senate candidate was given. The Greens, like other smaller parties, who had greater reason to concentrate on the Senate election more, had a card, effective for undecided voters, or those with little motivation, that stated their general goal for the Senate in 2013, showed a photograph of their No. 1 candidate, and even gave her name.

It can thus be seen that political parties had grown accustomed to the way their overlay of a party approach, superimposed over the underlying constitutional position for Senate elections - where voters must be able to choose directly among individual candidates - had given them the apparent advantages, from a party manager's point of view, of concentrating on a simplified brand name, linked to a leader in the other House and, like selling cars, with corporate badging.

This convenience has resulted in a reduction - in a State like Victoria where few senators now have much public profile - in the awareness that most voters have of who their major party senators are. By contrast, many more interested voters there would know of the recent doubling of the number of Greens Victorian senators for the next three years, and the surprising election, for that period, of a senator-to-be that essentially, and validly, represents the quota of voters whose first preference vote went to candidates other than those of the Coalition, ALP, or Greens.

The convenience and obscurity of the Group Voting Ticket system has efficiently transferred a quota of voters' single "1" markings on those tickets to the ultimate beneficiary, who was assiduously kept as not a candidate of the Coalition, ALP or Greens. McKenzie's case in the High Court in 1984 established that a quota of *above-the-line* voters chooses a full list of preferences that is just as valid and effective as if each of them had validly marked all 97 preferences *below-the-line*. The *above-the-line* system was introduced by the ALP over the opposition of the Coalition in 1983, but it was not abandoned by the Coalition when it later came to have a majority in both Houses.

A position on party registration for use on ballot papers requires that the above overview is considered, as Senate ballot papers have gradually changed from their original simple form in which they showed nothing more than the bare minimum required for a Senate poll under the Constitution, with a single method for all voters to use, and with voters' not having to mark more indications of support for candidates than the number of vacancies to be filled.

Senate ballot papers now provide two alternative methods of casting a formal vote, one of which is only of use to voters whose full voting preference coincides with one of the registered Group Voting Tickets displayed. The much less onerous task involved in casting a formal *above-the-line* vote compared with a formal *below-the-line* vote is a significant discrimination against *below-the-line* voters, which can only be eliminated by abandoning the *above-the-line* voting option.

There is also discrimination between two different categories of candidates. Candidates that do not meet statutory party registration criteria will have their names appearing *below-the-line*, but they are not eligible to join with other like-minded candidates to register a Group Voting Ticket, and thus have that appear overtly *above-the-line*, or have a party name of their choice appear on the ballot paper against their name, either *above-the-line* or *below-the-line*. Such candidates are discriminated against because it is very much harder for voters to cast a formal first preference vote for them than for candidates that have accepted a position at the top of their party's GVT.

If the1983 change enabling the name of the party that a candidate is endorsed by to appear against

that candidate's name on a ballot paper had not been accompanied by the introduction of the *above-the-line* voting option, the identification of candidates with their party would have been purely informative for voters, and an unexceptionable reform, although certain problems with similarity of party names, and the possibly misleading nature of certain names could still create problems.

Unfortunately the 1983 change to the Act went much further, and gave the impression that what was being superimposed on the Senate's single transferable vote system of proportional representation was a party list system, where voters are unable to indicate a preference order for the transfer of their vote under prescribed circumstances arising in the count.

Technically that was not true, as Section 7 of the Constitution forbids that, and the High Court has ruled that a formal *above-the-line* ballot is equivalent to a corresponding formal *below-the-line* ballot.

Nevertheless, the easy task posed by *above-the-line* voting compared with the unreasonable task posed by *below-the-line* voting that can require nearly 100 consecutive preference markings (and perhaps more in future elections) to be indicated for a formal vote has understandably persuaded over 95% of voters in most Senate electorates to vote *above-the-line*, which has resulted in nearly all Australia's voters not making an explicit decision to evaluate the views and qualities of the individual candidates of even the major parties, but to just choose a party label and support that.

During our appearance, Senator Kroger's statement, just before Senator Rhiannon's last statement, asked for our opinion on party registration criteria. Section 4 of the Act states, "***Political party*** means an organization the object or activity, or one of the objects or activities, of which is the promotion of the election to the Senate or to the House of Representatives of a candidate or candidates endorsed by it." That statutory definition is straightforward, and it obviously allows a group that has the required 500 members, has an appropriate name and written constitution, and will pay the required $500 fee to successfully apply for registration. If such a group becomes registered, it could succeed in its aim of having at least one senator elected, but that will not happen unless its candidate receives a quota of votes, which is the same requirement for all would-be senators. A quota of votes will not be received unless the necessary large number of voters - which in each of the eight Senate electorates is a greater number than the absolute majority of votes after preferences, if necessary, required to elect an MHR in those electorates - is obtained. Gaining such a substantial quota should be a sufficient test to establish whether a party is a political party. The Australian Motoring Enthusiast Party has passed that test. When there are numerous parties failing that test, ballots are cluttered, but GVTs encourage that.

To reduce excessive clutter, it is reasonable to specify, as the Act does, a minimum number of members for a political party, and require an affordable fee, as measures to discourage frivolous or vexatious applications for registrations, and to attempt to have the field of candidates at a manageable size for voters. In these times of a widely-perceived diminishing willingness of citizens to associate for legitimate and constructive political activity it would seem to us to be oppressive to require that a group should need more than 500 members, although there might well be room for requiring more evidence of that membership being more substantial and genuine than the membership of some major political parties in which the practice of branch stacking is said to be rife.

The best deterrent to unwieldy fields of candidates would be the abandonment of *above-the-line* voting and the associated Group Voting Tickets, which provide the automated life support that opportunistic micro-parties require to survive. Replacing open-ended full preferential marking with a form of optional preferential marking would avoid high informality rates. Many decades of the much more satisfactory Tasmanian, and even pre-1983 Commonwealth experience, support those views.

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