P251

Revision of the election process for BSC Panel Industry Members

The Proposer wishes to improve the current Panel election process, which involves non-transferable preference votes. Arguably, the current process incentivises tactical voting and can lead to results which are not reflective of voters' choices.

Modification P251 seeks to improve the procedure for electing the Industry Members of the BSC Panel, through adopting a standard Single Transferable Voting system.

ELEXON recommends:

A **2 month** Assessment Procedure

High Impact:
The BSC Panel and participants in Panel elections

Low Impact:
ELEXON

Contents

About this document:

This document is an Initial Written Assessment (IWA), which ELEXON will present to the Panel on 11 February 2010. The Panel will consider the recommendations and agree how to progress P251.

Further information is available in the P251 Modification Proposal which is Attachment A to this document.

1   Why Change?

Current Panel Election Process

a) Nomination

The process for the election of the five Industry Panel Members is set out in <u>Annex B-2</u> of the Code. Each **Trading Party** may nominate one candidate, and each trading party group (a Trading Party and every Affiliate of that Party) may submit one set of voting papers for each Energy Account held by the voting Trading Party in that trading party group (i.e. two sets - one for the Production Energy Account and one for the Consumption Energy Account). The Panel elections are carried out using a preference voting system.

b) Voting Papers

Each submitted voting paper must indicate a first preference among the candidates. A voting paper may, but does not need to, indicate a second or third preference. However, the same candidate may not receive more than one preference in the same voting paper. Voting proceeds in a number of rounds.

Annex B-2, Paragraph 3.2.5, of Section B of the Code currently states that ELEXON will not disclose the preference votes cast by individual Trading Parties.

c) Voting Rounds

i) First Round

In the first voting round, the number of first preference votes allocated to each candidate is determined. The **qualifying total** for this round of the election is **(T/N) + 1**, where T is the total number of first preference votes in all voting papers and N is the number of Industry Panel Members to be elected. Any candidate who receives equal to or greater than the qualifying total is elected to the Panel.

ii) Second Round

In the second voting round, the remaining candidates are those not elected in the first round. <u>The voting papers with first preference votes for candidates elected in the first round are discounted.</u> The total number of first and second preference votes allocated to each other candidate on the remaining voting papers is determined. The **qualifying total** for this round of the election is now **(T′/N′) + 1**, where T′ is the number of first and second preference votes in all remaining voting papers and N′ is the number of Panel Members remaining to be elected. Any candidate who receives equal to or greater than the qualifying total is elected to the Panel.

iii) Third Round

In the third voting round, the remaining candidates are those not elected in the first or second rounds. <u>The voting papers with first or second preference votes for candidates elected in the first or second rounds are discounted.</u> The total number of first, second and third preference votes allocated to each other candidate on the remaining voting papers is determined. The **qualifying total** for this round of the election is now **(T″/N″) + 1**, where T″ is the number of first, second and third preference votes in all remaining voting papers and N″ is the number of Panel Members remaining to be elected. Any candidate who receives equal to or greater than the qualifying total is elected to the Panel.

iv) Further Round(s)

A further round is necessary if any Panel Members remain to be elected after the third round. In this round, all voting papers are counted (i.e. including all those discarded in previous rounds), and the remaining candidates are ranked in order of the number of first preference votes allocated to them. The candidate(s) with the greatest number of such votes is elected. If there is a tie in the number of first preference votes between two or

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more candidates, the tied candidate(s) with the greatest number of second preference votes is elected. If there is a tie in the number of second preference votes between two or more candidates, ELEXON draws lots to select the candidate(s) to be elected from among those tied.

A worked example has been included in Appendix A of this document.

d) Replacement of Panel Members

In the event that a Panel Member ceases to hold office not less than six months before the end of their term of office, a replacement is elected for the remainder of the term using the process described above. However, only Trading Parties that voted for the resigning Panel Member (with a first, second or third preference vote), or who did not vote for (and who are not an Affiliate of a Trading Party who voted for) any elected Panel Member still serving, may participate in the election by nominating candidates or voting. As in the full election process, each of these eligible Trading Parties may nominate one candidate and only one Trading Party may submit voting papers per eligible trading party group.

If a Panel Member ceases to hold office less than six months before the end of his term of office, the Trading Party which nominated the resigning Panel Member is entitled to appoint a replacement Panel Member for the remainder of the term. If the Trading Party does not appoint a replacement, the position remains vacant until the next full election.

Defects

Modification P206 led to publication on the ELEXON website of certain aggregated voting data,[1] without divulging the votes of individual Trading Parties. The Proposer of Modification P251 considers that, while such transparency was a step forward, the voting system currently used for the election of Industry Panel Members could itself be improved. They suggest that the method now in place, constituting a multi-winner system involving **non-transferable** preferential votes and a different 'quota' calculation to that recommended by the Electoral Reform Society can lead to an unsatisfactory outcome for voting Parties.

Currently Trading Parties elect the Industry Panel Members (no more than five in accordance with B Section 1.1.2(b)), via three standard voting rounds and a further voting round if required. The Proposer has provided analysis of the 2008 Panel election results, which is included in Appendix B to this document.

It is the view of the Proposer that, crucially, the BSC arrangements result in various shortcomings. For instance, a further round is always going to be required for all five Industry members to be elected, as the calculation used sets a high quota that makes it impossible for all the places remaining to be filled in former rounds; potentially all five might have to be decided by the further round. However:

- A further round can result in place(s) being decided by chance, even when it is clear that candidate(s) have more support than other(s), as where candidates have matching numbers of first and second preference votes, third preferences are ignored; instead lots drawn by ELEXON. Even if one of these candidates has a clear majority of third preference and thus total votes, it will be down to chance whether they are elected or not.

- This also means that third preference votes for these candidates, and all preference votes for unsuccessful candidates, will have been cast in vain.

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[1] The total number of voting papers received and not discarded, the total number of first, second and third preference votes for each candidate across all voting papers, the total number of remaining voting papers in each voting round, the number of remaining Panel Member vacancies in each voting round, the qualifying total in each round, and the total number of qualifying preference votes allocated to the remaining candidates in all remaining voting papers in each round (Annex B-2 1.3).

- Candidates with a majority of second/third preference votes can be elected instead of candidates with a majority of first/second preference votes.

- A minority of papers can select the majority of positions.

- The process is likely to encourage tactical voting.

2　Solution

How will P251 resolve the issues?

The BSC Panel exercises judgement on proposed amendments to the Code and makes direct recommendations to the Authority. The Proposer notes that it is thus highly influential, and its decisions can affect BSC Parties profoundly. As such, and in line with overall good governance principles, the election of candidates to the Panel should be an objective and transparent process. With the prospect of a greater degree of self-governance possible in the future, Parties must be confident that governance arrangements including the election of members to the Panel itself are robust.

The Proposer seeks to improve the procedure for electing the Industry Members of the BSC Panel, through adopting a standard **Single Transferable Voting** (STV) system, which is a preferential voting system designed to minimise "wasted" votes, provide proportional representation, and ensure that votes are explicitly cast for individual candidates rather than party lists. The Proposer believes that STV achieves this by using multi-seat constituencies (voting districts) and by transferring votes that would otherwise be wasted on sure losers or winners to other eligible candidates.

How does STV system work?

Each voter gets one vote, which can transfer from their first preference to their second preference and so on, as necessary. Candidates do not need a majority of votes to be elected, just a 'quota' (i.e. a defined share of the votes) determined by the size of the electorate and number of positions to be filled. If a voting Party's preferred candidate has no chance of being elected or has enough votes already, their vote is transferred to another candidate in accordance with their preferences. STV thus ensures that very few votes are wasted. A worked example has been included in Appendix C of this document.

Benefits of adopting STV

The Proposer believes that this Modification Proposal is a straightforward governance improvement: the election process itself shapes wider BSC governance and a clearer more robust election process is important.

The Proposer believes that the adoption of a standard Single Transferable Voting system would have the following benefits:

- A standard system should be more accessible for Parties and encourage participation in elections (and potentially in the Modification Process);

- Tactical voting would not be encouraged in the way that it may be by the present system; and

- Results would better reflect the votes cast, also encouraging participation and engagement.

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Applicable BSC Objectives

The Proposer believes that P251 will better facilitate the achievement of **Applicable BSC Objectives (c) and (d)**. Further details are given in the table below.

Proposer's view of benefits of P251 against the Applicable BSC Objectives	
Description of Objective	Identified benefit
a) Efficient discharge of the obligations of the Transmission Licence.	None identified.
b) Efficient, economic and co-ordinated operation of the national electricity transmission system.	None identified.
c) Promoting effective competition in the generation and supply of electricity and in the sale and purchase of electricity.	Improving the accessibility and transparency of the election process, removing the current incentive for tactical voting, and ensuring the Industry Panel membership more accurately reflects the expertise voted for by the electorate could be expected to increase engagement amongst Parties with Code administration, potentially the modification process as well as elections themselves.
d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.	Using a standard, widely recognised and robust methodology instead of the particular arrangements currently in place should make the elections more accessible for all market participants, produce an outcome that better reflects the votes of the electorate and stands closer scrutiny. This should incentivise greater participation and would improve democratic accountability, progressing towards best practice in Code Governance.

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3   Proposed Progression

We recommend forming the P251 Modification Group from members of the Governance Standing Modification Group (GSMG).

Terms of Reference

Ref	Area
P250 Terms of Reference	
1	Consider the defects of the current BSC Panel election process and determine the appropriateness of adopting the standard Single Transferable Voting system.
2	Consider arguments made by the members of related Modification Groups (e.g.P129 and P206) around the principles of BSC Panel elections.
3	Confirm that the agreed solution would ensure the Industry Panel membership more accurately reflects Trading Parties' views.
4	Consider which method for calculating the 'qualifying total' under STV is most appropriate for a Panel Election (noting that there are a number of different ways to count an STV election).[2]
5	Consider whether an Alternative Modification is required.
6	Consider the effect of P251 on Applicable BSC Objectives (c) and (d), and any other relevant BSC Objective(s).
7	Identify the most appropriate implementation approach for P251.

Timetable and costs

ELEXON recommends that P251 undergoes a 2-month Assessment Procedure.

The following page shows the full recommended timetable of activities, which includes:

- A 2-week industry consultation;

- A Transmission Company impact assessment (in parallel with the consultation);and

- 2 Modification Group meetings.

Estimated progression costs based on proposed timetable	
Meeting costs (including Modification Group member expenses)	£1,000 (2 meetings)
ELEXON resource	36 man days, equating to £8.6K

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[2] Click here for further information from the Electoral Reform Society. You can also find more information in Appendix C.

Timetable

Task Name	Duration	Start	Finish
IWA presented to Panel	0 days	Thu 11/02/10	Thu 11/02/10
Mod Group Meeting 1	1 day	Thu 18/02/10	Thu 18/02/10
ELEXON drafts Assessment Consultation	3 days	Fri 19/02/10	Tue 23/02/10
Group reviews Assessment Consultation	3 days	Wed 24/02/10	Fri 26/02/10
Industry consultation / Impact Assessment	11 days	Fri 05/03/10	Fri 19/03/10
Mod Group Meeting 2	1 day	Wed 24/03/10	Wed 24/03/10
ELEXON drafts Assessment Report	2 days	Thu 25/03/10	Fri 26/03/10
Group reviews Assessment Report/legal text	2 days	Mon 29/03/10	Tue 30/03/10
Assessment Report issued to Panel	1 day	Fri 02/04/10	Fri 02/04/10
Assessment Report presented to Panel	0 days	Fri 09/04/10	Fri 09/04/10

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4   Likely Impacts

Impact on BSC Systems and process

BSC System/Process	Potential impact
BSC Systems	None

Impact on BSC Agent/service provider contractual arrangements

BSC Agent/service provider contract	Potential impact
BSC Agent/service providers	None

Impact on BSC Parties and Party Agents

All Trading Parties (generators, Suppliers, non-physical traders, Interconnector Error Administrators and Interconnector Users) are eligible to vote in Panel elections and will be impacted by this Modification Proposal.

Impact on Transmission Company

None. The Transmission Company is not eligible to vote for Industry Panel Members, as it appoints its own member of the Panel.

Impact on ELEXON

Area of ELEXON's business	Potential impact
Panel administration	ELEXON would need to adopt the proposed solution for future Panel elections following the approval of this proposal.

Impact on Code

Code section	Potential impact
Section **B**	Annex B-2 shall be impacted as a result of updating the election process.

Impact on Code Subsidiary Documents

None

Impact on Core Industry Documents and other documents

None

Other Impacts

None

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5   Recommendations

On the basis of the initial written assessment, ELEXON invites the Panel to:

- DETERMINE that Modification Proposal P251 should be submitted to the Assessment Procedure;

- AGREE the Assessment Procedure timetable of 2 months, such that an Assessment Report will be completed and submitted to the Panel at its meeting on 8 April 2010;

- DETERMINE that the P251 Modification Group will be formed from members of the Governance Standing Modification Group; and

- AGREE the Modification Group's Terms of Reference.

6   Further Information

You can find more information in:

Attachment A: P251 Modification Proposal form

Appendix A: Worked example of the current election process

i) First Round

Assume 6 candidates for 5 Industry Panel Member vacancies; candidates A, B, C, D, E and F. Assume 20 voting papers are received, with 1st, 2nd, and 3rd preference votes assigned as in the table below (Figure 1).

Preference	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
Votes	A	C	B	A	C		D	C	B	E	B	
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	D	B	C	F	D	C	B	F	B	A
Votes	A	C		B			D	C	B	F	E	

Figure 1

The qualifying total required by candidates for election for the Panel is then:

(20/5) + 1 = 5

Where 20 is the total number of 1st preference votes in all papers and 5 is the number of Industry Panel Members to be elected.

So any candidate with 5 or more 1st preference votes is elected to the Panel. Thus, candidate A and candidate D are elected with 6 and 5 votes respectively.

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ii) Second Round

Any candidates not elected in the first round proceed to the second round. Any voting papers with 1st preference votes for elected candidates are now discounted, as illustrated in the table below (Figure 2). The remaining 1st and 2nd preference votes are counted.

Preference	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
Votes	A	C	B	A	C		D	C	B	E	B	
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	D	B	C	F	D	C	B	F	B	A
Votes	A	C		B			D	C	B	F	E	

Figure 2

The qualifying total is now:

(15/3) + 1 = 6

Where 15 is the total number of 1st and 2nd preference votes in all remaining papers and 3 is the number of Industry Panel Members remaining to be elected.

So any candidate with 6 or more 1st or 2nd preference votes is elected. Thus, candidate B is elected with 6 votes.

iii) Third Round

Any candidates not elected in the first or second round proceed to the third round. Any voting papers with 1st or 2nd preference votes for elected candidates are discounted, as illustrated in the table below (Figure 3). The remaining 1st, 2nd and 3rd preference votes are counted.

Preference	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
Votes	A	C	B	A	C		D	C	B	E	B	
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	B	B	C	F	D	C	B	E		
Votes	A	C	D	B	C	F	D	C	B	F	B	A
Votes	A	C		B			D	C	B	F	E	

Figure 3

The qualifying total is now:

(4/2) + 1 = 3

Where 4 is the total number of 1st, 2nd and 3rd preference votes in all remaining papers and 2 is the number of Industry Panel Members remaining to be elected.

So any candidate with 3 or more 1st, 2nd or 3rd preference votes is elected. Thus, candidate E is elected with 3 votes.

iv) Further Round

Candidates A, D, B and E have been elected; thus one Panel Member remains to be elected from among candidates C and F. Counting all voting papers (i.e. including all those discounted in all preceding rounds), the remaining candidates are ranked in order of the 1st preference votes allocated to them. The candidate with the greatest number of such votes is then elected. Candidate F has 2 votes and candidate C has none, so candidate F is elected to the Panel.

Appendix B: 2008 Panel election analysis

2008 Panel election results

Total voting papers				59					
Candidate				**A** **(elected)**	**B** **(elected)**	**C** **(elected)**	**D** **(elected)**	**E**	**F** **(elected)**
First preference votes				12	5	5	13	2	22
Second preference votes				11	5	1	3	12	17
Third preference votes				8	6	0	3	4	9
	Remaining number of Panel members to be elected	Remaining voting papers	Qualifying total: equal or greater than	**A**'s total preference votes	**B**'s total preference votes	**C**'s total preference votes	**D**'s total preference votes	**E**'s total preference votes	**F**'s total preference votes
1st Round	5	59	13	12	5	5	13	2	22
2nd Round	3	31	12	16	8	5		2	
3rd Round	2	1	2		1	0		0	
Further Round	2	59	N/A		5	5		2	

Proposer's analysis of the 2008 Panel election results

The Proposer believes that Parties may not realise the importance of expressing **second** and potentially **third** preference votes (notwithstanding the overlooking of the latter in any further round) under the current Panel election process. The Proposer considers that this was perhaps indicated by the 2008 Panel election.

On that occasion, 35 of 59 papers (containing 59 first, 49 second, and 30 third preference votes) led to the election of two candidates in the first round, leaving 24 papers for consideration in the second. However these contained only 31 first and second preferences, meaning that 17 of 24 had not indicated more than a first choice. One place was decided by this second round. If just 5 of these 17 had listed a second preference, a fourth candidate could also have been elected.

The election of the third Panel member in the second round, and the exclusion of the papers of all Parties who had first or second preference votes for any of these three elected members, meant that only one paper was eligible for the third round. One paper meant a further round would be needed since, whether this paper contained only a first or also second and third preference vote, the required quota could not be reached.

Luckily in this instance, there was no tie between the three remaining candidates. However, as further rounds overlook third preference votes (hence none of the third preference votes cast in 2008 were considered), a slight difference in the voting pattern could have led to 2 of the 5 industry Panel members being decided by chance.

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Voting

In STV, each voter ranks the list of candidates in order of preference. In other words (under the most common ballot design), they place a '1' beside their most preferred candidate, a '2' beside their second most preferred, and so on. The ballot paper submitted by the voter therefore contains an ordinal (ranked) list of candidates.

Counting the votes

Setting the quota

In an STV election, a candidate requires a certain minimum number of votes – the quota (or threshold) – to be elected. A number of different quotas can be used:

- The one recommended by the **Electoral Reform Society** and P251 is the formula:

    Votes needed to win = valid votes cast / (seats to fill + 1)

- The most common is the **Droop quota**, given by the formula:

$$\text{votes needed to win} = \left(\frac{\text{valid votes cast}}{\text{seats to fill} + 1} \right) + 1$$

The Droop quota is an extension of requiring a 50% + 1 majority in single winner elections. For example, at most 3 people can have 25% + 1 in 3 winner elections, 9 can have 10% + 1 in 9 winner elections, and so on.

We therefore recommend the P251 Modification Group considers the different ways to calculate the qualifying quota and determine which is the most appropriate for Panel elections.

Finding the winners

An STV election proceeds according to the following steps:

1. Any candidate who has reached or exceeded the quota is declared elected.

2. If a candidate has more votes than the quota, that candidate's surplus votes are transferred to other candidates. Surplus votes that would have gone to the winner are instead apportioned between the next preferences listed on all the papers of those who voted for the candidate.

3. If no one else then meets the quota, the candidate with the fewest votes is eliminated and that candidate's votes are similarly transferred.

This process repeats until either a winner is found for every seat or there are as many seats as remaining candidates.

There are variations in applying these STV rules, such as in how to transfer surplus votes from winning candidates and whether to transfer votes to already elected candidates. When the number of votes to transfer from a losing candidate is too small to change the ordering of remaining candidates, more than one candidate can be eliminated simultaneously.

Because votes cast for losing candidates and excess votes cast for winning candidates are transferred to voters' next choice candidates, STV is said to minimize wasted votes.

Worked example[3]

For simplicity of calculation purpose, this example adopts the '**Droop quota**' as the quota to demonstrate the principle of STV during different stages of the election.

(You can find an example which uses a different quota suggested by the Electoral Reform Society here.)

Suppose an election is conducted to make 3 appointments. There are 5 candidates, 3 of which will be chosen. The following table shows the how the 20 votes were cast.

Number of voters	4	2	8	4	1	1
1st Preference	A	B	C	C	D	E
2nd Preference		A	D	E		

First, the quota is calculated. Using the Droop quota, with 20 voters and 3 winners to be found, the number of votes required to be elected is:

$$\left(\frac{20 \text{ votes cast}}{3 \text{ seats to fill} + 1} \right) + 1 = 6 \text{ votes required}$$

When ballots are counted the election proceeds as follows:

Stage	Votes per Candidate					
	A	B	C	D	E	
1	4	2	12	1	1	• **C is declared elected**, since C has more 1st preference votes (12) than the quota (6).
2	4	2	6	5	3	• **C's surplus votes are calculated.** (12 votes – quota of 6 = 6 surplus votes) • **C's surplus votes are transferred** proportionately to D and E according to the C voters' second choice preferences. (D gets 6/12 * 8 = 4 votes, E gets 6/12 * 4 = 2 votes) • However, even with the transfer of this surplus **no candidate has reached the quota, therefore B, who has the fewest votes, is eliminated**.
3	6	0	6	5	3	• **B's votes transfer to their second preference.** (A gets 2/2 * 2 = 2votes) • With a total of 6 votes A reaches the quota. **A is elected.** • A meets the quota exactly, and therefore has no surplus to transfer.
4	6	0	6	5	3	• **Neither of the remaining candidates meets the quota, so E ,who has the fewest votes, is eliminated.** • **D is the only remaining candidate and so wins the final seat.**

Result: The winners are **C**, **A** and **D**.

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[3] The example has been taken from http://en.wikipedia.org/wiki/Single_transferable_vote, a more involved example is available at http://www.electoral-reform.org.uk/oldsite20070123/votingsystems/stvrules.htm

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