Appendix 2I

Secrecy of the Ballot

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1 Summary of conclusions

For the purposes of this section of the report, secrecy is defined as the right of voters to keep details of how they voted confidential if they so wish.

The conclusions are:

- There is a material threat to the secrecy of the vote when a voter abstains, i.e. does not press the "cast vote" button. This could be easily eliminated by putting an abstain button on the machine;
- There is no material risk to general voter secrecy arising from the proposed e-voting procedures. Any residual risk of widespread vote identification can be easily eliminated by appropriate procedures;
- The system is open to voters being pressurised, intimidated or bribed into voting in a particular way with a verification of their vote being visible afterwards. There is a way of eliminating this risk, but it has other drawbacks;
- There is some increase in the risk of identification for disabled and postal voters; and
- The voting machine 'beeps' to indicate that a voter has made an error. Some voters might find this mildly embarrassing, but it does not impinge on the secrecy of their ballot.

2 Discussion

Given appropriate procedures, for ordinary voters, there would be no increased risk to the secrecy of the ballot from implementation of the NEDAP/Powervote system. There are, however, a number of special circumstances where there is a risk to secrecy. These are discussed below.

1. **Voter does not cast vote:** The current system does not provide an option to abstain. As it is estimated that about 25% of spoiled ballots are deliberately spoiled, it is clear that in any election there will be some voters who choose to express their views by, in effect, abstaining. It is almost certain that in future elections, some of these voters will chose to exercise this right by obtaining a voting token and then not pressing the 'cast vote' button. When this happens, the official in charge of the polling station has to re-set the system for the next voter by turning a key on the control device. This action will be obvious not only to the official, but also to any nearby observer, thus revealing that the voter has 'abstained'. This infringes the right of this voter to secrecy in this action.

   There are several ways that this problem can be rectified. By far the simplest is to allow voters to abstain by activating the button on the voting machine that facilitates this. This facility is used in other jurisdictions which use this technology.

2. **Voters are identifiable from published details of votes cast.** Some commentators have expressed concern that in a small polling station with few voters, publication of even anonymous individual votes might enable election agents or others to infer how a specific individual had voted. This risk can be eliminated by either not publishing such details at all or only doing so where the number of voters is large (say over 500).

3. **Voter bribery/intimidation.** There is a small possibility that the use of lower preference signatures could be used to identify voters so as to ensure that higher preferences were in a pre-determined sequence specified by a third party. This might be done by intimidation or bribery.

   A simple solution to this is not to publish all vote preferences. For example, the first four preferences on all votes in a constituency could be published with a large sample of full votes. This would enable third parties to re-run the count (which is an important safeguard) whilst meaning that it would be impossible to determine that a specific voter voted the 'right' way.

4. **There is some reduction in secrecy in the case of postal and disabled voters.** In the case of postal voters, this arises from the fact that votes must be re-keyed by election officials. However, use of appropriate procedures can effectively eliminate this risk. The use of a trusted companion for blind or visually impaired voters will continue. We understand (verbally) from the Department of the Environment, Heritage and Local Government that the voting machine has a facility to produce audio information for the visually impaired. This could be implemented if it was considered appropriate.

   The system is less easy for voters with certain other types of disability to use in secret and it may be that some voters who are able to vote using the current paper ballot system without assistance, will need assistance to vote electronically.

5. **Widespread vote tracking.** Some concerns have been raised about the randomisation of vote storage locations on the module and that, because this is done by pseudo-randomisation, this storage sequence could be replicated and the order of voters and votes re-created. While this is theoretically possible, such a scenario is highly implausible. Apart from anything else, it would require an enormous investment of effort and resource for little tangible benefit.

3 Conclusions

With regard to secrecy, the principal issue is whether a voter has a right to abstain and to do so with the same right to secrecy as a voter who expresses preferences.

A further issue arises in the consideration of whether the rights of visually impaired and disabled people could be infringed.