

AUSTRALIAN ELECTORAL COMMISSION

SUBMISSION TWO

**TO THE INQUIRY BY THE JOINT STANDING
COMMITTEE ON ELECTORAL MATTERS INTO
CERTAIN ASPECTS OF THE ADMINISTRATION OF
THE AUSTRALIAN ELECTORAL COMMISSION –**

THE NATIONAL TALLY ROOM

29 June 2007

1. Introduction

1.1 As part of its Inquiry into Certain Aspects of the Administration of the Australian Electoral Commission, the Joint Standing Committee on Electoral Matters (JSCEM) was requested by the Special Minister of State, on 21 May 2007, “to consider whether the National Tally Room should be retained beyond the 2007 federal election”, and specifically to address:

- “- the continuing relevance of the National Tally Room to members of parliament, candidates, political parties, the media, and the general public;
- the possible alternatives to the National Tally Room flowing from advances in computer and telecommunications technologies, such as the Australian Electoral Commission's web-based Virtual Tally Room; and
- the logistics, risks and cost of providing the National Tally room.”

On 25 May 2007 the Inquiry Secretary wrote to the Electoral Commissioner, advising the Australian Electoral Commission (AEC) of the extension of the terms of reference of the inquiry. This submission is provided in response to that letter.

1.2 A National Tally Room (NTR) has been a feature of Australian federal elections for over 40 years, since well before the creation of the AEC, and for that reason it would be impracticable to seek to cover its full evolutionary history in detail in this submission. Instead, the submission is organised around, and seeks to highlight current issues arising from, the following questions:-

- (i) What is the National Tally Room, how will it function in 2007, and what services will it provide?
- (ii) How have the National Tally Room and its systems evolved?
- (iii) What are the AEC’s statutory obligations, and what are the community’s expectations of the AEC, in relation to the dissemination of election results?
- (iv) Who are the stakeholders in relation to the establishment of the NTR, and what are their expectations?
- (v) What are the advantages and disadvantages of disseminating results through the NTR?
- (vi) What alternative mechanisms are available, and what are their strengths and weaknesses?

1.3 The AEC wishes to emphasise its full commitment to providing the best possible service to the community in the dissemination of election results. The AEC is proud of the results compilation systems it has put in place, which over the last ten years have enabled the community to know, within two or three hours of the close of the polls, who would be governing for the succeeding three years.

1.4 The key issue that the AEC wishes to put before the JSCEM in this Submission is that the systems that underpin the operation of the NTR have evolved and changed so significantly over the years that the purpose of having a NTR is no longer clear-cut. Different stakeholders have expressed a range of differing views, or indicated a neutral position, about the value of and future need for a NTR and the AEC would benefit from a clear statement from the JSCEM setting out its views on the question.

2. What is the National Tally Room, how will it function in 2007, and what services will it provide?

2.1 The “National Tally Room” is the name that has historically been given to the large media centre established in Canberra for the dissemination of the results of a federal election. At the forthcoming election, the NTR will be set up at Exhibition Park in Canberra (EPIC), which has been the venue of choice for the last quarter century.

2.2 The establishment of the NTR is one of the more complex individual projects that the AEC undertakes in the course of an election. Its setup involves, among other things: rental of premises; construction of the tally board and false flooring; rental of furniture; extensive IT and telecommunications wiring; computer system configuration; detailed liaison with many media stakeholders, including the main television networks; recruitment of casual staff; security; catering; substantial system testing; a full dress rehearsal some days before polling day; and a dismantling process undertaken under tight time constraints. The NTR becomes the focus of the nation for around six hours, from 6pm to midnight on polling day. At the forthcoming election, it will operate, broadly speaking, as follows:-

- (i) Election results for each individual polling place will be telephoned by the Assistant Returning Officer (commonly known as the Officer in Charge of the Polling Place) to the relevant AEC Divisional Office, where staff will enter the figures directly into the AEC’s computerised Election Management System (ELMS).
- (ii) The main mechanism for providing access to figures, both in the NTR and elsewhere, will be the AEC’s Virtual Tally Room (VTR) system, which consists of screens, which provide information in a user-friendly “internet-like” format. After the 2004 federal election the VTR application was significantly extended to provide detailed analytical functionality. The system now produces an extensive results website that contains approximately 300 unique types of results screens. (A list of all VTR screens is at Annex 1.) The system will produce approximately 1200 individual pages of results on election night and over 20,000 pages in the post election period. The results will be updated every 90 seconds during the evening and every 15 minutes in the post election period. On the basis of ABS Internet Usage Statistics the AEC has planned on the assumption that there will be 34 million hits on the system on election night, 22 million on the VTR website, and 12 million on the AEC website.
- (iii) Large numbers of terminals connected to the VTR system will be available to media representatives throughout the NTR. A small number of terminals connected directly to ELMS will also be used by AEC staff to monitor the operations of all the NTR systems.

- (iv) Hardcopy printouts of the latest House of Representatives figures for a division, in A3 size, will be printed from ELMS and manually hung on the large wooden tally board. Senate figures will not be displayed on the tally board.
- (v) Separately, raw election results data from ELMS will be provided electronically (known as media feeds) to some major media organisations to provide their own coverage on election night and in the weeks following. The media organisations use the raw data to produce their own distinctive graphics and analysis. It should be noted that many media organisations provide their election night coverage from locations other than the NTR.
- (vi) The AEC will offer to provide the Prime Minister and Leader of the Opposition with the additional assistance of an experienced AEC officer to assist them with navigation of the VTR screens on election night.
- (vii) In the event of a major computer system failure, backup systems will be implemented. If possible, data entry will be redirected to functioning sites. In the event of a total computer system failure, progressive House of Representatives figures will be faxed from Divisional Offices directly to the NTR, and displayed manually on the tally board.

2.3 The VTR system accessible at the NTR not only provides screens showing progressive count figures, but also screens summarising or analysing the figures, for example by aggregating votes to the State or national level, or by highlighting divisions in which the incumbent is trailing.

3. How have the National Tally Room and its systems evolved?¹

Tally boards alone

3.1 Prior to 1974, election night information was made available to analysts only on wooden tally boards, which set out the progress totals of first preference votes for each candidate in each seat. At least into the 1950s - eyewitness reports from that era are hard to obtain - these tally boards were located not in a single NTR, but in separate tally rooms for each State. This made it extremely difficult for commentators to analyse an election other than on a seat by seat basis, and in fact the impetus for the establishment of a National Tally Room came from newspaper chains, which were finding it necessary to organise their own national tally rooms. By the mid-1960s, results were released both in the States and centrally. In a publication released prior to the 1966 election, the then Chief Electoral Officer for the Commonwealth, Mr F L Ley, noted that:

“...results are promptly tabulated and transmitted to the respective Divisional Returning Officer who, in turn, after collating the figures received from the several polling places for his Division, transmits progressive figures to the Commonwealth

¹ The following historical discussion draws extensively, and largely verbatim, from an historical paper published by two AEC officers in 1991: see Michael Maley and Rodney J. Medew, “Some Approaches to Election Night Forecasting in Australia”, *Australian Journal of Political Science*, vol. 26, no. 1, March 1991, pp. 51-62.

Electoral Officer for the State. Each Commonwealth Electoral Officer exhibits these results on Tally Boards for public information and forthwith relays them to the Chief Electoral Officer for posting in the Central Tally Room in Canberra.”²

3.2 By the late 1960s the institution of the NTR was well established. Election night commentators, increasingly employed by television as well as radio, usually sought as returns came in to identify each seat as having been won by either the Coalition or Labor; when over half of the seats had been so allocated to one side they would "call the election". The braver commentators might be prepared to call the election even before all seats had been allocated, if it seemed clear from the voting patterns in the allocated seats that one side had won a decisive victory.

3.3 It is useful to reconstruct in some detail the analytical processes used by election night commentators of that period, since some of those processes have had to be replicated in the statistical models and computerised systems that have been used in the period since. In the first instance, most commentators identified a fair proportion of seats as "safe", i.e. most unlikely to be lost by the incumbent side. These seats were allocated to that side, and were only looked at again if it appeared that one side was polling particularly poorly at the election. In the remaining seats the progressive figures were analysed in three stages:-

- (i) An estimate was made of what proportion of minor party and independent votes were likely in their later preferences, ultimately to favour the Coalition, and what proportion were likely to favour Labor. These proportions were then used as the basis for notionally allocating the minor party votes as shown in the latest progressive figures for a seat to either side, so as to reduce the result to a "two-party preferred vote" figure.
- (ii) An informal estimate of the degree of uncertainty associated with that figure was then made, in the least sophisticated case on the basis purely of the percentage of the enrolled electors in the seat whose votes had at that stage been counted, and the margin between the Coalition and Labor at the time.
- (iii) On the basis of that informal estimate, the commentator determined whether to allocate the seat to the Coalition or Labor, or to await further figures.

3.4 The major difficulty associated with such an analysis is that progressive figures are not a random sample of votes cast. The content of early returns is significantly influenced by the manner in which votes are counted. The basic problem is that the partisan division of the vote is correlated with the size of polling places: by and large small polling places are rural, while larger polling places are urban. Prior to 1987, votes from the smaller polling places tended (counter-intuitively) to be included only in the later progressive figures. Partly because telephones were not available at the smaller polling places, and partly because a danger was perceived that the counting of votes at a small polling place might show that all who voted there had supported the same party, with a consequent loss of the secrecy of the ballot, votes taken at small polling places were usually amalgamated at a central counting centre before being counted. This meant that the early figures from a seat with a rural component have tended to be biased, and

² F L Ley, *Explanation of the COMMONWEALTH ELECTORAL LAW and other Information relating to Electoral and Election Matters*, Canberra, 1 August 1966.

from the 1960s to the 1980s, disproportionately favoured Labor. Commentators observing in the early figures a particularly strong vote for Labor could not tell whether that reflected an underlying trend, or whether Labor's best polling places simply happened to have been counted first.

3.5 Prior to 1974, there was little that commentators could do to mitigate the effects of this phenomenon. Records of the progressive figures posted on the tally board on election night were not published, and analysts therefore lacked sufficient information to make numerical corrections to early progressive figures to eliminate their inherent bias. The only approach open to them therefore was caution; many commentators showed a marked reluctance to call a seat for one side or the other until the final figures were posted. Media coverage of election night counting tended to be long and suspenseful (particular since, in those days, the polls closed at 8 pm local time, rather than 6 pm).

Computerised tabulation and swings

3.6 The first major advance in the tallying of votes on election night was implemented at the election of 18 May 1974, when results ceased to be transmitted to the National Tally Room by telephone, and instead were entered at State Input Centres into a nationwide computer system, the Polling Results Processing Package (PRPP), which ran on a mainframe computer belonging (at the outset) to the Customs Department. The PRPP, which was used from 1974 to 1984, assisted election night analysts in several important ways:-

- (i) Total vote figures by party were made available, not only for each division, but also for each State and Territory, for the nation as a whole, and for sets of seats defined by their socio-demographic status, and by their "safety".
- (ii) "Swing" figures, calculated by comparing the progressive results in the system with the final results from the previous election, were also accessible.
- (iii) Half-hourly records were kept of the progressive figures entered for each seat.
- (iv) For the first time, media organisations were able to undertake their own customised processing of election results by obtaining a data feed from the PRPP directly into their own computers.

3.7 The provision of aggregate figures from the PRPP meant that for the first time forecasts of the overall result could be attempted other than by forecasting the result in each seat. Political scientists and statisticians have over the years developed increasingly sophisticated formulae for estimating the numbers of seats which could change hands depending on the size of the "swing" at an election (some of which are discussed in more detail in the paper cited at footnote 1). With the introduction of the PRPP, commentators for the first time had data before them on election night on the basis of which they could at least attempt to estimate the final two-party preferred vote for the election (though to do so they still had to make their own estimates of likely preference flows), which could then be inserted into the relevant formula to produce an estimate of the split of seats in the Parliament, without necessarily calling the outcome in any individual seat.

3.8 Even with the introduction of the PRPP, analysts continued to face difficulties in estimating the final swing on the basis of progressive counting, because of the bias discussed at paragraph 3.4 above. In particular, the 1974 election was marked by a sharp difference in the patterns of voting in urban and rural Australia, with the rural areas swinging to the Coalition to a greater extent than the urban areas. The net effect was that the early figures, including the newly available national total figures, favoured Labor disproportionately.

3.9 The introduction of the PRPP also made it possible, for the first time, for stakeholders to obtain detailed access to results, on demand, away from the NTR. It consequently became the practice for the Australian Electoral Office and later the AEC to provide the Prime Minister and the Leader of the Opposition with a networked terminal and an expert operator at a nominated venue, sometimes outside Canberra.

Analysis and correction of bias

3.10 The half-hourly records of progressive figures retained by the PRPP became available to commentators after the 1974 election, and served to illuminate election night analyses in 1975 and 1977 (though the results of those elections were so clear cut that forecasting the result from the early figures was relatively simple). Further half-hourly data figures were generated at those elections, providing a clearer picture of the patterns of distortion in individual seats. These data dumps formed the basis for work by the statistician Ross Cunningham, who developed a bias correction technique first used at the 1980 election.³ Cunningham's fundamental approach was to determine a "bias curve" for each seat, which plotted % bias against % of the vote counted. These curves estimated, for each division, the degree of correction to raw figures required at any particular stage of the count. The goodness of fit of the bias curve to the historical data was reflected in a variance figure, which was one element in a variance calculated for the projected two-party preferred vote in a seat. Furthermore, the application of statistical modelling methods provided estimates of the two-party preferred vote in seats where no count had been reported. Rather than seats being "called" for one party or the other as the count progressed, the model estimated the probability of a Labor win in each seat. The estimated total number of seats won by Labor together with estimated standard errors provided the information necessary for the calculation of confidence intervals and estimates of the probability of a Labor win. Cunningham's model, which was implemented successfully by the TEN Television Network at the 1980, 1983 and 1984 elections, marked the first serious attempt to use sophisticated statistical techniques for election night analysis in Australia.

Preference flows

3.11 The next major developments in the analysis of election night data were implemented at the 1987 election. It became clear after the 1984 election that the PRPP could no longer be used, as the computer on which it had run since its inception was about to be decommissioned, and the code in which it was written was not portable. The AEC therefore moved to developed its own new and enhanced database system, TENIS

³ See R B Cunningham, *Election Night Forecasting: Australian House of Representatives Elections*, M.Sc thesis, Australian National University, 1979. The implementation of Cunningham's technique at the 1980 election is described in R B Cunningham and K W J Malafant, "Forecasting Outcomes of Australian House of Representatives Elections on Election Night", *The Mathematical Scientist*, vol. 7, pp. 105-14.

("The Election Night Information System"). For the first time, TENIS made available to analysts not just raw first preference figures, but also estimates of the two-party preferred vote for each seat, State and Territory, and for the nation as a whole. The estimates of minor party and independent preference flows which underpinned the estimates were published by the Australian Electoral Commission prior to the election, and it was made clear to commentators that the estimates had no special status, and that commentators were as in the past free to substitute their own estimates. For commentators who were prepared to accept the Commission's own estimates, a great deal of the computational work which had increasingly been performed by computer systems provided by each TV network was avoided.

3.12 The 1987 election paradoxically also saw the worst performances by election night commentators for years, due to a significant but largely ignored change in vote counting procedures. Electoral laws had since the 1984 election been amended to provide that votes cast in the smallest polling places should be counted at those polling places and immediately phoned through to the Divisional Returning Officer, rather than being taken to a central counting centre to be amalgamated with other votes. The net effect of this change was that rural votes, rather than being reported late in the count, were reported early. Some commentators, accustomed to seeing an early bias in favour of Labor, interpreted the early figures as indicating a Coalition victory. Computer systems designed to take account of bias patterns of the past could not be used, as quantification was not possible. An important stage of the analysis was therefore reduced to guesswork. The best televised interpretation of the developing election result was given by a commentator from one of the political parties, who obtained reports from selected scrutineers in marginal seats which told him from where the early votes were coming.

The method of matched polling places

3.13 The performance of commentators at the 1987 election emphasised the need for yet further improvements in election night forecasting techniques; the success of the commentator who relied on scrutineers' reports by coincidence showed the way ahead. For some years prior to 1987 steps were being taken within the AEC to implement the system of "matched polling places" under which the AEC's computers would accept not just progressive figures from each seat, but also codes to indicate the polling places represented in each batch of votes input. The computer would then extract from a database the results from the same polling places at the previous election and, using them as a base figure, would determine the underlying swing. This approach is similar in intent to the ratio estimation technique employed in survey sampling. In 1986 Cunningham had conducted on behalf of the AEC a detailed study of the approach, a copy of which is at Annex 2, which had indicated that under favourable conditions the distortion in early figures could be virtually eliminated, and the variance of swing estimates considerably reduced. It had been planned to implement matched polling places in TENIS from the outset, but the early calling of the election in 1987 prevented that from being done. The matched polling place technique was tested successfully at a number of by-elections in 1988, and was fully implemented at the 24 March 1990 general election.

3.14 The matched polling place technique requires special provision to be made when polling places are created or abolished, when electoral boundaries are redistributed, or

when the feeder area for a polling place changes significantly. The necessary data adjustments are made by the AEC.

Preference distributions on election night

3.15 In the aftermath of the 1990 federal election, the *Commonwealth Electoral Act 1918* was amended to provide that counting at the polling places should not just deal with first preference votes, but should also include a count of later preferences shown for two pre-determined candidates, so as to produce a “two-candidate preferred vote count”. This process, implemented for the first time at the 1993 election, superseded the provision through the AEC’s systems of estimated two-party preferred vote figures of the type discussed at paragraph 3.11 above.

Enhancement of the AEC’s computer systems

3.16 The early 1990s saw a number of enhancements to the AEC’s computer systems, which were significant for the NTR:-

- (i) Prior to the 1993 election, the AEC undertook a major project to computerise its divisional offices. As a result of this, from and including the 1993 election, entry of data for transmission to the NTR has taken place in AEC divisional offices, rather than at data entry centres in State offices. The computerisation of divisional offices also made it possible to enter discrete first preference results into the system from every polling place on election night. (Prior to 1993, DROs were required to undertake a separate exercise to accumulate results from several polling stations into progressive totals, and only the progressive totals were entered to the system.) This change had the effect of further speeding the processing of results, as the delays associated with the manual accumulation of progressive figures were eliminated.
- (ii) The TENIS system, originally designed to be used only for results compilation, was incorporated into the much more comprehensive ELMS system.

The Virtual Tally Room

3.17 Although election results had been fed from the TENIS system directly to publicly subscribed online information services as long ago as 1987, it was only with the expansion of the world wide web, and of public access to it, that the provision of a web-based VTR became feasible and worthwhile. At the 1998 election:-

“The AEC hosted on election night a 'virtual tally room' on the Internet. This election web site at election.aec.gov.au meant people could access on their home computers up-to-date election results only minutes after they were received in the National Tally Room.

People visiting the site on election night were able to access progressive House of Representatives results for all divisions, state party summaries and national totals.

Early figures from the Senate count for all States and Territories were also available. The site was updated every three minutes on election night and on a very regular basis in the following weeks.

The web site was designed to be interactive and allow people visiting to experience some of the atmosphere of election night at the tally room. The site included live pictures and sound from the National Tally Room that could be manipulated in several directions as if they were actually looking around the tally room.

The software and technology necessary to host the 'virtual tally room' had to be developed especially for the AEC. An electronic feed was taken from the AEC's mainframe database and published simultaneously to three web centres located in Canberra, Sydney and Melbourne. The site cost just over \$193 000 to organise and run.

The 'virtual tally room' proved to be the biggest live Internet event to ever occur in Australia. In the six hour period on election night the web site received over eight million hits which corresponds to over one million pages viewed. In the two weeks following polling day, the site received an additional 24 million hits.”⁴

3.18 The AEC built on this experience at the 1999 referendums:-

“The 1999 referendum did not have a National Tally Room as it was determined that the internet would be the most timely and cost effective way of providing referendum results to the media and other interested people on referendum night.

A specially created website at referendum.aec.gov.au was established to house the virtual tally room. The virtual tally room was the official source of 1999 referendum results on referendum night and in the post-referendum period.

On referendum night, the virtual tally room received a direct feed from the AEC's computerised Referendum Night Results System to display a number of live tables containing a range of referendum results. A national graph screen also showed a graph illustrating the results on a State/Territory and national basis. The site was continually updated on referendum night as results were entered at divisional offices.

The results of the count were published simultaneously to three web centres in Canberra, Sydney and Melbourne. The three centres shared the large load of users who logged on to the site on referendum night so as to avoid delays in accessing information. On referendum night alone, over 154 000 users downloaded over 1.3 million page views on the virtual tally room, with the average user spending 45 minutes surfing the site. Peak use of the site occurred at 8pm with 5,000 users per second accessing the site. In the three weeks following polling day, more than 55,300 people accessed over 597,264 page views.

Based on these figures, the 1999 referendum site eclipsed the previous record for the 'largest live internet event in Australia!', with the previous record being the virtual tally room for the 1998 federal election.

⁴ *Behind the Scenes: The Australian Electoral Commission's 1998 Federal Election Report*, p. 36.

The software and technology necessary to host the virtual tally room had been developed especially for the AEC for the 1998 federal election. It was further developed for the 1999 referendum with results screens appropriate to the referendum. The virtual tally room web site for the 1999 referendum cost just over \$214 000 to develop and run.

Utilising the Internet to transmit electoral results is a key innovation that has been used successfully by the AEC at both the 1998 federal election and the 1999 referendum. It has greatly enhanced the access that the media, political consultants and other interested people have to timely progressive electoral results.”⁵

3.19 At the 2001 Federal Election the AEC provided a very simple results website that contained only 4 unique types of results screens. The system produced approximately 180 individual pages of results. These pages were made available to the Australian public on election night via the Internet. The results were updated every five minutes during the evening. Development of the application was outsourced to the Computer Sciences Corporation (CSC) of Australia. On election night, there were 4,187,335 hits on the VTR website, and another 1,084,024 hits on the AEC website, giving a grand total of 5,271,359.

3.20 For the 2004 election, the AEC redeveloped the VTR application in-house. The new application provided a sophisticated results website that contained approximately 40 unique types of results screens. The system produced over 600 individual pages of results on election night and over 17,000 pages of results in the post election period. The results were updated every five minutes during the evening and every two hours in the post election period. On election night, there were 13,551,496 hits on the VTR website, and another 7,065,712 hits on the AEC website, giving a grand total of 20,617,208. This represented a 290% increase over the number of hits on election night when compared to the 2001 federal election.

Trends

3.21 On the basis of the history set out above, a number of clear trends can be identified:-

- (i) The significance of the tally board at the NTR as a primary source of information has declined tremendously. Although the tally board is updated reasonably quickly after figures are entered into the ELMS system and displayed on the VTR, the board does not show swing figures. As discussed at paragraph 3.13 above, the matched polling place swings displayed through the VTR system display minimal bias, even early in the night, whereas the raw figures shown on the board do not incorporate any bias correction. It is in that sense that it is sometimes said that the tally board is now hours behind the VTR system. The AEC doubts that anyone engaged in real-time analysis on election night would still seek to make use of information from the tally board; for all but the older analysts, the skill of reading and interpreting figures from the tally board has probably been lost. The board therefore has only two remaining functions: as a last-resort backup mechanism in the event of a catastrophic computer system failure, and as a colourful backdrop for film or television footage from the NTR.

⁵ AEC 1999 Referendum Report and Statistics.

- (ii) The tally board has become larger. The increase of approximately 20% in the size of the Parliament, with effect from the 1984 election, commensurately increased the size of the structure, which has to be built at the NTR. Even with a larger structure, it is no longer feasible to display Senate results on the board, due to the substantial increase over the last 40 years in the number of Senate candidates and groups.
- (iii) The NTR is no longer the one place in Australia where political players can gain first hand real-time knowledge of the unfolding election result. The NTR played that role until the mid-1970s, but the introduction of remote links to the PRPP for the major political players made attendance at the NTR less essential for them. The introduction of the VTR has meant that real time election results information is now available to anyone in the world who has access to the Internet.
- (iv) As a consequence, not all media organisations and staff see a need to make use of the NTR. At the 2004 election, a number of Canberra Press Gallery newspaper journalists opted to work from their offices in the Gallery where they also had access to their other facilities – and a more tranquil working environment. A full televised election night coverage from the NTR was only provided in 2004 by the ABC, the Nine Network and Sky News, with the other networks present at the NTR but providing only a partial coverage. (Refer also to 2.2 para (v))
- (v) Even though the proportion of declaration votes cast (and therefore not counted on election night) has been increasing steadily over the years, the introduction of matched polling place swing figures and two-candidate preferred vote counts makes it possible for analysts to “call” all but the closest elections early on the night. This reduces the need for media coverage of the counting to focus on developing trends, and makes it more likely that the coverage will deal with the overall political implications of the election – which may often be explored through interviews with political players not present at the NTR.
- (vi) The NTR is no longer a place likely to be attended by the Prime Minister or the Leader of the Opposition on election night. Not since 1983 has a re-elected or incoming Prime Minister come to the NTR.
- (vii) Members of the public are now admitted to a public area in the NTR, in contrast to the situation in the 1970s, when tickets were required for entry. At the 2001 election 1522 people were recorded by security staff as entering the public area. In 2004, no count of public attendance was taken, however security staff roughly estimated that about 4000 people attended, though limited space and security considerations dictated that only 300 members of the public could be admitted at any one time, giving rise to queuing. The space requirements of the media meant that only about 6.8% (ie 224 of 3311 sq metres) of the floor space was available for the public at the 2004 election. It should be noted that there are some Tally Rooms for state government elections that operate as media centres, and are not open to the public eg QLD, NSW and SA.
- (viii) With the enhancements to the VTR system outlined at paragraph 2.2(ii), the system now provides close to as much functionality as is feasible given the nature of the figures being reported.

3.22 These points, taken as a whole, highlight the extent to which the NTR has evolved incrementally over the last 40 years to the point that the function it performs is now in most respects fundamentally different from that which it had at its inception.

3.23 A further point deserving of emphasis is the extent to which the operations of the NTR and the VTR reflect very specific features of Australia's federal electoral system and election management arrangements:-

- (i) The fact that there is a single body, the AEC, responsible for all aspects of the management of federal election, makes it possible for integrated systems to be established for the dissemination of results. The situation in Australia can be contrasted with that applying in the United Kingdom and the United States, where there is no such body with overall responsibility for the conduct of an election, and electoral administration is undertaken on a decentralised basis by local authorities.
- (ii) The figures published by the AEC are based purely on official counting. In countries such as the United Kingdom and the United States, media organisations play the leading role in providing election night coverages, but the figures on which their coverages are based are often a mixture of official returns, exit poll projections, and extrapolations of reported results to constituencies deemed to be similar; and the dividing line between "results" and "forecasts" can be unclear.
- (iii) The volumes of data entered on election night through the ELMS system and published through the VTR system are only manageable because the AEC has a field office structure with a permanent on-line network.
- (iv) The use of a preferential voting system in single-member constituencies makes decisive election results much more likely than in countries like the Republic of Ireland, which uses single transferable vote proportional representation, a system which also complicates the prospect of anticipating final results on the basis of early returns.

4. What are the AEC's statutory obligations, and what are the community's expectations of the AEC, in relation to the dissemination of election results?

4.1 In relation to a House of Representatives election, the Assistant Returning Officer at a polling place is required by paragraph 274(2)(f) and subsection 274(2B) of the *Commonwealth Electoral Act 1918* to transmit results of counting "in an expeditious manner" to the Divisional Returning Officer (DRO); a similar requirement is imposed in relation to Senate elections by paragraph 273(2)(f) of the Act. In relation to counting on election night, this is as far as the Act goes: it imposes no formal obligation on the DRO or the AEC to publish the results in any way on election night.

4.2 In relation to the scrutiny at a referendum conducted under the *Referendum (Machinery Provisions) Act 1984*, the relevant legal requirements are even more sparse: that Act contains no requirement for expeditious notification of results to the DRO, but simply requires (in paragraph 91(1)(f)) that a written return be sent to the DRO.

4.3 The question of how to get elections results out to the AEC's public stakeholders is therefore clearly one which has to be answered not on the basis of the law, but through an analysis of the stakeholders' reasonable expectations. These were largely spelt out in the JSCEM December 1990 Report on *The 1990 Federal Election*, chapter 4 of which bore the title *Knowing the Election Result on Election Night*. The point is not one which needs to be laboured, or argued in detail: the AEC works on the basis that there is a clear community expectation that it will do everything within its power, subject to the law, to ensure that election results are known as early as possible.

4.4 That having been said, it needs to be emphasised that if an election is a genuine "cliff-hanger", depending on close results in one or two seats, no amount of sophisticated processing of election night returns will enable it to be known then and there who will form the new government: that will depend on the receipt by the AEC of declaration votes (which can take up to two weeks in the case of postal votes), and, as was noted at paragraph 3.21(v), declaration votes, as a proportion of total votes, have been increasing over the years. Furthermore, even if the overall result is known on election night, the results will not necessarily be known in all individual divisions, and that may become a matter of political significance if, for example, the inclusion of a particular representative in a new Ministry hinges on whether or not he or she has retained his or her seat.

5. Who are the stakeholders in relation to the establishment of the NTR, and what are their expectations?

5.1 The "on-the-spot" users of the NTR fall into the following main categories:-

- (i) television networks;
- (ii) radio networks and stations;
- (iii) print and online media journalists;
- (iv) political party staff;
- (v) Members of the House of Representatives and Senators;
- (vi) official guests of the AEC, including electoral officials from overseas; and
- (vii) members of the public.

5.2 While these stakeholders have diverse needs, it has been the AEC's practice where possible to liaise with them in planning for the NTR, and to take account of their requirements. Particularly close liaison is maintained with users who will be taking data feeds from the AEC's results systems. The NTR provides a venue, on election night, for the largest and most diverse gathering anywhere in the country of people with a professional interest in the electoral process.

5.3 On 5 March 2007, the Electoral Commissioner sent correspondence to 29 key stakeholders (including the Special Minister of State; the Shadow Special Minister of State; the Federal Director, Liberal Party of Australia; the National Secretary, Australian Labor

Party; the National Secretary, National Party of Australia; the Chair, Joint Standing Committee on Electoral Matters; and senior management of metropolitan television networks, metropolitan newspapers and key metropolitan radio companies), noting that the future of the NTR was under review as part of the AEC's election preparations; sharing the issues being considered; and inviting their views by 23 March 2007.

5.4 The AEC's interest in reviewing the operations of the NTR has been motivated by a realisation that if the AEC were tasked to re-design, on a "blank sheet", its processes for disseminating results to the community, it is by no means clear that an NTR in its traditional form would be, or form part of, the solution chosen in the light of modern technological opportunities; the likely solution would clearly be seen to be a media centre.

5.5 The AEC's request for views from key stakeholders generated a range of responses, with few clear patterns emerging. To date, no response has been received from 19 of those approached. Three media respondents, two from radio and one newspaper, have expressed no concern about the possible abolition of the NTR, noting that the NTR as currently constituted is not important to their ability to provide an election coverage. Three respondents from the television industry and two from newspapers have expressed support for the continuation of the NTR. Two responses have been essentially open-minded. Discussions of the issue in the media also generated some commentary and correspondence to the AEC from parliamentarians and former parliamentarians.

5.6 A number of those who have supported the continuation of the NTR have done so not only on the basis of their own requirements, but also on the basis of their views regarding the symbolic character of the NTR as an element of the "transparency" of Australian electoral processes. Observations put forward in this vein included the following:-

- "... we believe the national tally room performs broader functions that cannot be delivered in cyberspace – both in terms of promoting and preserving the integrity of the electoral system and by providing practical advantages to the media reporting on events. The tally room is an important visible symbol of the free, fair and open conduct of elections in this country. It is also a live demonstration of the efficiency of the voting system. People can watch television coverage of election night, see the numbers unfold before their eyes and hear experts and politicians commenting on the results."
- "... there is a broader purpose of, and a strong case for retaining, a national tally room. Without it, there is no visible public evidence that the votes are being counted. The tally room is the only publicly visible evidence that there is actually a vote count. It is the place that connects the voter's act of putting a paper into a box with the happy winner's declaration of victory. ... without a tally room all TV footage retreats from a public place to private TV studios. The vote count and the election lose all physical and visible reality. The TV studios become the owners of the democratic act, and the network logos become the great seals of the national polity. The case for a national tally room is like the case for courtrooms or parliaments that are open to the public. Democracy, like justice, needs not only to be done but be seen to be done."

- “The NTR symbolises the transparency of the election process by providing a place where voters can come and watch the counting of the vote or are able to view the counting of the vote in their own homes.”
- “Active, interested, and informed democratic participation is an ideal we should strive to promote. It represents the cornerstone of our democracy. The existing Exhibition Park tally room becomes, every election night, a focal point for citizen democracy. The hustle creates a unique, charged atmosphere which, in my experience, generates great interest in the democratic process.”

6. What are the advantages and disadvantages of disseminating results through the NTR?

Advantages

6.1 In the AEC’s view, the NTR has three remaining advantages as a means of disseminating election results.

Near fail-safe figures

6.2 First, the NTR provides a near fail-safe manual mechanism for publishing House of Representatives results to the nation on election night in the event of a total failure of the frontline computerised systems. In considering the need for such a mechanism, at least the following points are relevant:-

- (i) Since the introduction of computerised tabulation of votes in 1974, there has been no such total failure that required a complete reversion to the use of tally board to get the result out, though there were some election-night computer problems in the late 1980s and early 1990s, which required cutover to the manual systems for part of the night.
- (ii) The computerised systems used by the AEC are now stable ones, with a history going back 20 years. They have been developed systematically, using a structured project management methodology, and are extensively tested, including through the conduct of “trial elections”. The ELMS system is not just used every three years, but is a key system with which AEC operational staff work on a regular basis.
- (iii) The ELMS and VTR systems include extensive redundancy to cover the possibility of failures of different components. For obvious reasons the AEC does not wish to publicise the details, but a confidential briefing could be provided to the JSCEM should that be thought desirable.
- (iv) That having been said, a computer system in which the risk of failure is zero is yet to be invented. The increase in the functionality of the AEC’s systems has also increased their complexity. Risks to computer systems arise not just from random component failures, but also from deliberate external attacks. The struggle between those who seek to find ways of subverting computer systems, and those who seek to frustrate the attackers, is a continuing one, and with technology constantly evolving,

the AEC is no more able than anyone else to predict the hostility of the environment in which its results systems will be implemented in three or six years. The AEC has done all it feasibly can to minimise the risk of total system failure, and believes that risk is very small; but the AEC is not able to attach a numerical probability to that risk.

- (v) A worst-case scenario on election night would be one under which the computer systems failed totally, and the National Tally Room also ceased to function. In such a case, reliance would ultimately have to be placed on the paper trail of results from the polling places - the Assistant Returning Officers' returns - which provides a further completely separate mechanism by which the election results can be compiled; though in the absence of a National Tally Room results so compiled would need to be faxed or phoned in to another location in Canberra.

A supportive environment for media coverage

6.3 Secondly, the NTR provides a supportive environment for media coverage.

- (i) Television stations are able to use the tally board as a backdrop for their main coverage, in a way that provides colour and movement. That having been said, a significant proportion of election night coverage is filmed away from the tally board. In the ABC's 2004 election night coverage, the NTR provided an out of focus backdrop for approximately 3 hours and 6 minutes out of a total broadcast time of 5 hours and 39 minutes, while interviews in the NTR with politicians who were not invited guests of the ABC took approximately 36 minutes. In the Nine Network's 2004 election night coverage, the NTR provided an out of focus backdrop for most of 2 hours and 14 minutes out of a total broadcast time of 4 hours and 42 minutes, while interviews in the NTR with politicians who were not invited guests of the Nine Network took approximately 24 minutes. The background sound of the NTR formed part of both broadcasts. At no point did any of the channels rely on figures displayed on the board for their coverage, but took their data feeds from the VTR to produce their own graphics for broadcast.
- (ii) AEC representatives are readily accessible in the event that there are issues on which their public views might need to be sought.
- (iii) AEC technical staff are also on hand to address any specific issues relating to the computerised systems which might arise.
- (iv) The NTR attracts a diverse range of other personalities and electoral experts, who are therefore also on hand to provide colourful or expert input to media coverage.

6.4 The advice received by the AEC from stakeholders, as discussed at paragraph 5.4 above suggests, as might be expected, that the perceived importance of these factors varies widely from stakeholder to stakeholder.

A symbol of Australian electoral democracy

6.5 A number of the views expressed on this point have been quoted at paragraph 5.5. The AEC accepts that symbolism of the type postulated may well be regarded as significant, but is in no position to know how widely those views are held beyond those expressing them, or to make a judgement as to the investment the community is prepared to make in maintaining an NTR for reasons which may, at least to a significant extent, be symbolic. A related view is that the NTR provides transparency in the announcement of election results although it is not clear to the AEC whether it is generally understood by the public that no counting in fact takes place at the NTR, and that it is in reality just a media centre.

Disadvantages

Cost

6.6 In 2004, the costs associated with the NTR were of the order of \$880,000. Cost estimates for the 2007 NTR are still being finalised, but on initial estimates the direct costs will be of the order of \$1,060,000. These costs are separate from the costs of the VTR system and web hosting, which over time have also increased. Should the JSCEM so desire, the AEC would be happy to provide a full breakdown of the estimated costs for the 2007 NTR, once they are finalised.

6.7 These costs are fully borne by taxpayers, as have been the development costs for the computer systems, which underpin the NTR's operations. It should in particular be noted that media organisations are not charged to make use of the NTR as a venue for election night coverage. The AEC also notes that the television networks benefit from not having to book studio space for their coverages in the face of an unknown election date.

Labour intensiveness

6.8 The establishment and construction of the NTR is a labour intensive process which has to proceed within a short-time frame, and which requires the attention of many of the AEC's key communications and information technology staff. While the VTR system is used extensively at the NTR, the VTR system also exists independently of the NTR, and the need to support both operations places an additional burden on those staff supporting the VTR system. This requirement imposes an opportunity cost on the AEC, as skilled technical staff have to work on the NTR when they could be doing other work in support of the election.

6.9 The AEC would be happy to provide further details regarding the construction of the NTR, should the JSCEM wish to have them.

Security

6.10 There has been an increasing level of security at the NTR over the past decade. For the 2001 and 2004 elections, discussions were held with the relevant security agencies, which reviewed arrangements, visited the NTR site and made recommendations to improve

procedures and infrastructure. Given the number of people present, any incidents at the NTR (including hoaxes) would be a matter of major significance.

7. Conclusion

7.1 The AEC believes from the foregoing discussion that the NTR now has the character of a very large media centre constructed and managed by the AEC. The AEC sees two main possible approaches to the future of the NTR.

7.2 The first possibility would be to continue the NTR media centre as is, under which both a fully configured NTR and a fully configured VTR are provided. Under this approach, the NTR would continue to operate much as it has at recent elections. Election results data would be disseminated at the NTR through terminals connected to the VTR system. The usual facilities would be provided to the television networks, radio stations, print media and political parties. A public area would be retained. The tally board would continue to be a manual low-technology board, to provide a fail-safe system of disseminating national results in the event that the VTR, and/or the underlying ELMS experienced major problems. The justification for such an approach would be that the perceived advantages of retaining an NTR, as set out at paragraphs 6.1 to 6.5, in the JSCEM's judgement outweigh the disadvantages listed at paragraphs 6.6, 6.8 and 6.10.

7.3 If the JSCEM wishes to see the NTR media centre retained, the Committee may wish to consider:-

- (i) whether the NTR media centre needs to include an actual Tallyboard as the backdrop;
- (ii) whether the media should be asked to contribute to the cost of providing the centre; and
- (iii) whether public access should continue, noting the security issues and space limitations.

7.4 The second possibility would be to abolish the NTR media centre altogether, with political parties, the public, the media and analysts receiving comprehensive election results through the VTR. Media organisations would continue to have the option to receive the raw data feeds direct from ELMS. A final backup would be provided by the paper trail from polling places and phone/faxing of results to emergency election results centres set up within the AEC. This would be an appropriate approach if the JSCEM were of the view that the costs and disadvantages of the retention of the NTR were greater than the benefits of retention.