

# AEPR Primary Election Count: Detailed Description

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## Introduction

The justification for Associational Evaluative Proportional Representation (AEPR) is that it helps improve the workings of representative democracies. AEPR helps to make it as likely as possible that the electorate will justifiably see their state legislature, and each of its elected members, as responsible, accountable and wise.

Unlike any of the existing ways of nominating candidates for the general election of the legislature of a large and diverse state, AEPR guarantees that each citizen's vote will count equally in determining which applicant organisations will be one of the group of elected candidate-nominating *associations*. Most probably, some of the associations will be geographically defined while others might be defined only by their different sets of common values, such as political parties, interest groups, clubs, or any other voluntary societies (such as applicant environmental, business, labour, professional, or religious groups). In a state that already has electoral districts, these will automatically be placed on the AEPR primary ballot. If such districts are not already established, a voluntary organisation of a number of citizens would have to define the boundaries of the geographically defined association that they are proposing. This must be included in their application to the independent Electoral Commission for this voluntary organisation to be on the ballot of the primary. If a voter does not grade any applicant organisation or does not grade any of the elected associations as at least acceptable, their vote is added to the elected association they select immediately after the primary election (Supplemental Materials: AEPR's Primary: Administrative Details).

Each AEPR voter is invited to grade each potential association's expected ability to nominate the highest quality candidates to run in the up-coming general election as either Excellent (*ideal*), Very Good, Good, Acceptable, or "Reject" (*completely unsuitable*). Each voter can give the same grade to more than one applicant organisation. Each organisation not graded is automatically counted as a "Reject" by that voter. These grades can be counted by anyone who can add and subtract whole numbers, but in seconds by a suitable modification of the [available EPR algorithm](#) ([EPR algorithm EPRv2.r](#); [EPR Count: Detailed Description](#)).

Stage 1 of AEPR's count uses each citizen's vote to select a winning organisation to be an *association* based on the highest possible grade of at least Acceptable that they have given to any organisations. As a result, each citizen is assured that their vote will assist the election of one such association, or at least be added to the elected association of their choice. With one

exception, the voter's winning association receives the voter's highest grade of at least Acceptable. This exception is an organisation that received too few such votes to be elected. To be elected as an association, it must have received a number of such highest possible grades (votes) at least as large as the threshold whole number calculated by dividing the total number of registered voters in the state by the number of members to be elected to the legislature in the up-coming general election – any fraction is dropped.

Stage 1 of the AEPR count tallies how many voters' ballots highest grades must be exclusively counted for each of the organisations on the ballot.

Stage 2 elects all the associations by identifying the organisations that have received at least the above threshold number of highest grades of at least Acceptable.

Stage 3: Each ballot that gives its highest grade to an unelected organisation is transferred to the winning association named on the same ballot as receiving its remaining highest grade.

Stage 4: If such a remaining grade is absent from a ballot addressed in Stage 3, the citizen who marked this ballot is automatically notified that they will become a registered voter in any one of the elected associations they then specify.

## Full Details of AEPR's Count

### Stage 1: Discovering the Total Number of Highest Grades Exclusively Counted for Each of All the Applicant Organisations

Stage 1 of the count discovers for which organisation each voter's highest grade is exclusively but provisionally counted. These totals can only be provisional because some votes may need to be transferred from any unelected organisations as determined by Stage 3.

Stage 1 starts with a matrix in which each row lists all the grades given to all of the organisations by each of the voters. The name (or code) of each organisation is placed at the top of each column. The code number of each citizen voter is listed on the left of each row. The grade given to each organisation by each voter is listed in its row in the column under that organisation.

One grade of at least Acceptable from each voter is counted exclusively but provisionally for one of the organisations by the end of Stage 1. This is required by the principle of one-citizen one-vote. As soon as this grade (vote) is provisionally added to the running total of one of the organisations, all the grades which that voter may also have awarded to other organisations on their ballot are provisionally marked as used. They will have no further effect on any grades to be counted for other organisations during Stage 1 of the count.

If a voter has given the same grade to more than one organisation, the one grade that is used from such a voter is given provisionally to the organisation with the largest running total of grades as a result of receiving this grade exclusively. This choice is justified by the assumption that the organisation currently with the largest number of equal or higher grades is probably most qualified to nominate candidates.

Round 1 of Stage 1 begins its round-by-round task of finding the total number of Excellents (if any) that must be added to the running totals of votes for each organisation. Round 1 of Stage 1 discovers which of all the organisations has received the largest number of Excellents. If at some point in the count two or more organisations are tied with the largest number of votes, the organisation to receive these votes exclusively is determined by lot.

Round 2 of Stage 1 determines which organisation has exclusively received the next highest number of highest grades. Successive rounds discover which of all the remaining Excellents are exclusively but provisionally added in turn to the running total of grades for each of the other organisations. When no further Excellents remain among the uncounted ballots, further rounds similarly discover to which organisations' running totals of grades each of the remaining Very Goods, Goods, and Acceptables are added. No grade of Poor or Reject is added to any of these totals.

Given that each organisation might receive any one of the four possible highest grades that could have been added to their running totals from any voters, it could take up to a total number of rounds equal to four times the number of organisations on the ballot to complete the count in Stage 1.

By the end of Stage 1, only one of the highest grades in each row of the matrix is the grade that has been exclusively but provisionally added to the running total of grades (votes) for one of the organisations. The only exception is if a ballot gives no organisation a grade of Acceptable or better. In effect, this citizen has not voted for any organisation.

## **Stage 2: Winning Associations Identified**

First, Stage 2 determines the elected associations by identifying the number of organisations who have received at least the threshold (defined above) number of highest grades by the end of Stage 1. Any tie between organisations to become one of the winners is decided when possible by transferring any remaining highest grades from the ballots currently held by all the ~~clearly~~ unelected organisations, which are those having totals smaller than the organisations currently tied). If this action does not decide the tie, it is decided by lot.

## **Stage 3: Each Citizen's Vote Given to an Unelected Organisation is Transferred to a Winner**

Each ballot that gives its highest grade to one of the unelected organisations, and also awards a remaining highest grade to one of the winning organisations (associations) is automatically transferred to that association.

#### **Stage 4: Citizen's Votes that Cannot be Counted for any Organisation**

Each citizen whose ballot does not contain a remaining grade for any elected association is automatically notified that they may become a registered voter for the general election in any one of the elected associations they then specify.

This is how AEPR gives all citizen's every appropriate reason to vote, vote honestly, and to be pleased with the primary election.

#### **Number of Nominees Elected from Each Association**

Each association is free to decide on how many candidates to nominate. However, the number that will be elected from each association to the legislature is entirely determined by the rules instituted by the general election, and the actual votes cast by citizens during the general election. Associations with larger numbers of registered voters might reasonably be expected to elect more representatives than associations with smaller numbers of registered voters, but this is not guaranteed by AEPR.

What is clear is that, in contrast to all existing general election rules, only an Evaluative Proportional Representation (EPR) general election guarantees that each citizen's vote will proportionately add to the voting power in the legislature of the winning candidate who received either their highest grade, remaining highest grade, or proxy vote. ~~This is~~ Because AEPR maximizes the quality of the candidates, no vote is needlessly wasted, quantitatively or qualitatively, when EPR is preceded by an AEPR primary.

**END**

**Commented [Steve Leo1]:** I swapped the order of last two sentences.