EVM Brochure for Candidates

Election Commission of India has used Electronic Voting Machines (EVMs) for the last 16 years in more than 75 general elections. Parliament elections in 2004 and 2009 were conducted fully on EVMs. The Commission has decided to hold the current Parliament elections in 2014 also on EVMs. This brochure is intended to familiarise political parties, candidates and all other stakeholders with design and functioning of EVMs and also with the administrative security measures put in place by the Commission. This brochure also outlines the rights and duties of candidates and their representatives with respect to use of EVMs.

- <u>Design of EVM</u>-

    EVMs consist of a Control Unit (CU) and Ballot Unit (BU) and the connecting cable. CU is kept with the Presiding Officer. BU is kept in the voting compartment. The CU and BU are connected by long connecting cable. The ballot paper to be used in the election is fixed on the BU.

- <u>Process of voting using EVM</u>-

    After identification of the voter and after application of indelible ink, the voter is sent to the voting compartment. The Presiding Officer then enables the ballot by pressing ballot key on the CU. The voter then records his vote by pressing the button of the candidate of his choice. Once the vote has been recorded, a red LED glows against the name of the candidate for whom vote has been cast and a loud beep sound heard. BU then becomes inactive till it is enabled once again by the Presiding Officer for the next voting. The voter, therefore, cannot cast more than one vote.

- <u>Technical security features in EVMs</u>-

    EVM is highly secured machine for the following reasons:-

    (a) The microcontroller chip used in the EVM is one time programmable.

(b) Software code in the chip can neither be read nor over written.

(c) Software is developed independently in house by BEL and ECIL.

(d) EVMs are stand alone machines which are not accessible remotely from any network.

(e) No operating system is used in these machines.

- **Administrative measures and role of candidates and their agents-**

Commission has put in place elaborate administrative security measures for EVMs. Political parties, candidates and their agents play an important role in these measures which are fully transparent. These are described below:-

a. **Complete physical security-**

EVMs are kept in warehouses with special security. These warehouses have only one door and no other entry including window or ventilators. The door has a double lock system. One key of the double lock is kept with the warehouse in charge and the other key is kept with an officer not below the rank of SDM. Warehouse can be opened only after informing political parties in writing at least 24 hours in advance. Warehouse is kept under 24X7 police guards.

b. **First Level Check (FLC)-**

Each EVM is checked by engineers of manufacturers before every election in the presence of representatives of political parties. This process is called FLC of EVMs. During FLC engineers of BEL and ECIL clean the machine and perform full functionality check on it. They also certify that all components of the EVM are original. After checking of the EVM a specially designed pink paper seal with a unique serial

number is put all around the CU in such a manner that the unit cannot be opened without breaking the seal. Signatures of political parties' representatives are obtained on the pink paper seal. Mock poll by casting 1000 votes is performed on 5% EVMs picked up randomly by representatives of political parties. Result of the mock poll and a sequential print out of all votes polled is shown to the representatives of political parties. This pink paper seal is manufactured by Security Press Nasik which is uniquely numbered. The entire process is videographed.

c. Candidate Set-

After the finalisation of the ballot paper, candidate-set operation, according to the number of candidates in the constituency, is performed on the EVMs in the presence of candidates and their representatives. During this process the ballot paper is affixed on the BU and the EVM is set for a total number of candidates contesting that election plus one additional panel for NOTA. At this time once again mock poll by casting 1000 votes is conducted on 5% EVMs picked up randomly by candidates and their representatives. Mock poll result and the sequential print out of votes cast is shown to candidates/their representatives. A pink paper seal which is uniquely numbered and manufactured by Security Press Nasik is then put on the BU in such a manner that unit cannot be opened without breaking the seal. Signatures of candidates and their representatives are obtained on the pink paper seal. The whole process is videographed.

d. Mock poll on the poll day-

Before starting the process of actual poll, a further mock poll is conducted on the EVM in every polling station by casting at

least 50 votes. This is done in the presence of polling agents of candidates. The result of the mock poll is shown to the polling agents. The CU is sealed by affixing paper seals and thread seals after clearing the mock poll. All candidates/their polling agents are allowed to put their signatures on such seals. Actual poll is started only after the process is completed and a mock poll certificate is issued by the Presiding Officer. In case EVM is replaced for some reason during the poll, mock poll is done in the new EVM as well.

e. Closing of the Poll –

After the last voter has cast his vote, poll is closed in the EVM by pressing the 'CLOSE' button on the CU. No vote can be cast in the EVM after poll is closed in this manner. EVMs are then put in their respective carrying cases and the cases are sealed using thread seal. The candidates/polling agents present are permitted to put their signatures on such seals.

f. Transportation and storage of polled EVMs-

Polled EVMs are transported from the polling stations to the Receipt Centres under police guards. Candidates and their agents are allowed to follow the EVMs. Polled EVMs are then kept in Strong Room specially made for this purpose. The Strong Room is sealed after keeping EVMs in it. Candidates and political parties are allowed to put their own seals on the lock. The Strong Room is guarded 24X7 by armed police and is also kept under 24X7 CCTV coverage. Political parties, candidates and their agents are allowed to keep a round the clock watch on the Strong Room. DEOs are required to provide adequate facilities to political parties and their representatives for this purpose. Strong Room once sealed is

opened only on the day of counting in the presence of candidate and their representatives.

g. <u>Various seals to be put on the EVMs-</u>

    1. At the time of FLC- Pink paper seal on CU.

    2. At the time of candidate set-

        i. Thread seal for the "candidate set" and power pack (battery) section of CU after setting of number of contesting candidates and installation of battery.

        ii. Thread seal for ballot paper screen of BU after fixing of ballot paper.

        iii. Thereafter, two thread seals with Address Tags of BU.

        iv. Pink paper seal on BU.

    3. After mock poll in polling station-

        i. Green paper seal signed by polling agents and presiding officer for result section of Control Units.

        ii. Thread seal with Special Tag for inner door of result section.

        iii. Outer paper strip seal covering result section and lower portion of Control Units.

        iv. Thread seal with Address Tag for bottom compartment.

<u>Counting</u> of Votes-

On the counting day, EVMs are brought to the counting table and result ascertained by pressing 'RESULT' button on Control Units, one by one, after verification of the intactness of the seals and the unique number of the seals. The result is seen on the display of the CU by pressing the result button. This is shown to the counting agents of the candidates to their satisfaction. EVM wise result is then recorded by the

counting supervisor in Form 17 C which is then sent to the Returning Officer for compilation of the round-wise result.

h. <u>Randomisation of EVMs-</u>

EVMs are randomised twice using computer software. First randomisation is done to allocate EVMs available in the district randomly to assembly constituencies. Second randomisation is done to allocate EVMs available in an assembly constituency to specific polling stations.

i. <u>Miscellaneous transparency measures-</u>

i. All procedures on EVMs including FLC, randomisation, candidate set, mock poll, sealing, transportation, storage and counting are done in the presence of political parties, candidates and their representatives.

ii. List of EVMs allocated to assembly constituency after first randomisation and list of EVMs allocated to polling stations after second randomisation are given to candidates.

iii. Signatures of political parties' representatives are obtained on pink paper seal of the CU. Signatures of candidates or their representatives are obtained on the pink paper seal of BU.

iv. The unique number of pink paper seal of BU and CU is given to the candidates and their representatives for comparison at the time of counting.

v. Signatures of polling agents are obtained on the green paper seal and outer paper strip seals used in CU. Theri numbers are also given to polling agents and can be compared at the time of counting.

vi. Political parties' representatives, candidates and their representatives are allowed to cast votes during mock

poll. The mock poll result including sequential print out is shown to them.

j. <u>Action in the case of malfunctioning of EVMs</u>-

In case of malfunctioning, at the time of poll, the EVM is replaced from reserve EVMs. Both CU and BU are replaced and mock poll is conducted on the new EVM before starting the poll on it. The ID number of the new EVM is also communicated to the candidates and their representatives. Votes polled in the EVM used before replacement can be counted. Both the EVMs are, therefore, brought to the counting table on the counting day and result is obtained from both of them. In case of malfunctioning at the time of counting, if result cannot be seen on the display of the CU, auxiliary display unit is used to see the result. In case result cannot be seen on auxiliary display unit as well, it can be printed out using the printer.