SECRETARY of STATE

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# REPORT OF THE SECRETARY OF STATE ON THE EXAMINATION AND EVALUATION OF AN OPTICAL SCAN ELECTRONIC VOTE TALLYING SYSTEM

In October of 1990 BRC of Berkeley, California requested examination and certification of an optical scan/mark sense centralized ballot card reader system under RCW 29.33.041 and 29.34.090. The hardware and software for this system is marketed under the name BRC Optech IV C Model 400 and A.E.R.O. Election Management System. The A.E.R.O. software was previously certified for use with the Optech III P and Optech III P Eagle also marketed by BRC.

The Optech IV C model 400 is a centralized, automatic feed, high volume optical scan/mark sense ballot card reader. The reader interprets ballots and records vote totals onto a personal computer that is a part of the Optech IV C. The personal computer module is an IBM-PC compatible computer which accumulates results and generates reports. The PC runs the A.E.R.O. software. There is a printer attached to the PC for printing results. The software is menu driven and allows the user to describe all aspects of an election. In preparation for ballot counting, the user enters all office descriptions, positions, precinct combinations, ballot types, and any statistical information such as registered voter totals. The A.E.R.O. is used to produce the program module, which is then used to count ballots in the card reader.

An electronic vote tallying system must meet the following requirements (as set forth in RCW 29.34.090) in order to be approved for use in Washington State:

1. It must correctly count votes marked on the ballot for any office or ballot proposition;

2. It must recognize and not count overvoted ballots;

3. It must accumulate a count of a specific number of ballots tallied for a precinct;

4. It must accommodate the rotation of candidates' names;

5. It must automatically produce precinct totals in either printed, marked, or punched forms; and

6. It must add precinct totals and produce a cumulative total.

On June 26, 1991 a public hearing was held to demonstrate the BRC system. Representing the vendor were Randy Rodriguez, Patricia McManus, and Judy Duning. Representing the Office of the Secretary of State was David Elliott, Assistant Director of Elections. The meeting was also attended by staff members of several county auditor offices. The vendor made a presentation of the Optech IV C Model 400 and a test election was conducted using a group of test decks prepared by the Office of the Secretary of State. After the test was conducted the vendor answered questions from the Secretary of State staff and the public.

## FINDINGS OF THE SECRETARY OF STATE

Upon review of the staff evaluation of the BRC Optech IV C model 400 vote tallying system, the presentation by the vendor, and the results of the tests performed during and following the public hearings on this system, the secretary of state finds that the system satisfies the requirements of RCW 29.34.090 when used in the manner described below.

This system does not process write-in votes in a manner consistent with Washington State law. In order to record a write-in vote using the BRC Optech IV C system, a voter must fill in an arrow next to the write-in blank in addition to writing in the name of the candidate of their choice. RCW 29.01.180 states that a voter "need only specify the name of the candidate in the appropriate location on the ballot in order to be counted." This system will not record a write-in vote if the voter fails to fill in the arrow next to the write-in blank. Additionally, if a voter creates an overvote, by voting for a candidate on the ballot, and writing in a candidate for the same office, but not filling in the arrow, the BRC Optech IV C will incorrectly record this overvote as a vote for the candidate on the ballot. The design of the BRC reader, and the requirements of Washington State law, necessitate a pre-tabulation inspection of ballots.

This system can be operated in two ballot counting modes. The first is called "precinct header mode" and the second is "mixed mode". In mixed mode, ballots from any precinct or absentee format can be counted. While this facilitates absentee counting it may reduce the efficacy of the audit trail for regular precinct counting. In order to maintain the best possible audit trail precinct ballots must be counted in precinct header mode. However absentee ballots may be counted in mixed mode.

Under the provisions of RCW 29.33.041, the BRC Optech IV C vote tallying system, and its associated software are approved for use in Washington State, as an optical scan/mark sense electronic vote tabulation system, when used in compliance with Washington State laws.

The system is to be used as a central counting system, each ballot is to be manually inspected for write-in votes that do not have "filled in" arrows next to them, for votes cast by a voter who has used the incorrect marking tool, or a ballot where a voter has used a method for voting other than filling in the arrow. Furthermore, precinct ballots must be counted in batches in precinct header mode, reserving the mixed mode for absentee ballots. It is recommended that the canvassing board of any county using this system adopt written procedures governing this process.

Therefore, under the provisions of RCW 29.33.041, the BRC Optech IV C model 400 vote tallying system, running Optech IV software version 1.01, and election management system 3.50, is conditionally approved for use in Washington State as a centralized optical scan/mark sense ballot card vote tallying system. This equipment should be used with a device or devices capable of suppressing current surges, voltage fluctuations, and any other line disturbances.

Certified on this July 9, 1991

RALPH MUNRO
Secretary of State