

Exhibit B



Shawn Southworth
<ssouthworth@ciber.com>
03/04/2004 11:39 AM

To Paul Craft <PCraft@dos.state.fl.us>, "Hancock, Brian"
<bhancock@fec.gov>, "Freeman, Steve"

■
bcc

Subject GEMS 1-18-19 Report

All,
Here is the correct report.

Shawn

----- Original Message -----

■
To: ssouthworth@ciber.com
Sent: Thursday, March 04, 2004 10:30 AM
Subject: Re: Fw: 1-18-19 Report - Please proof

THIS is the file that was edited with committee comments. Two sentences have been added from the original one (written 2/3/04) that went out to the technical committee.

The wrong attachment was picked up in the email sent this week. I apologize for the inconvenience.

Jennifer

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Jennifer



- GEMS1-18-19Addendum3wcommitteecomments.doc



Software Functional Test Report Diebold Election Systems GEMS 1-18-19

Original Report Version 1.0 for GEMS 1-18-15 created 1/03/03

Addendum 1 for GEMS 1-18-15 created 3/18/03

Addendum 2 for GEMS 1-18-18 created 7/08/03

Addendum 3 for GEMS 1-18-19 created 2/03/04

Vendor: Diebold Election Systems

Software: GEMS 1-18-19

Prepared By: CIBER, Inc.

Test Report
Diebold Election Systems GEMS 1-18-19

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Diebold Election Systems GEMS 1-18-19 i
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1 INTRODUCTION

This test report describes the functional testing, the source code review, and the documentation review of changes to the GEMS 1-18-18 Election Management System software (resulting in the creation of GEMS 1-18-19). The following sections of this document identify the software that was tested, summarize the testing approach, and present the results of the testing.

1.1 Scope

Diebold submitted GEMS 1-18-19 for qualification under the 2002 Voting System Standards. GEMS 1-18-18 had been previously qualified and this submission was to validate changes to that previous version. Diebold provided change reports identifying all modifications to the software. (See Appendix A for a complete list of changes that were submitted.) The changes included additional security features, modified reports, high speed central count scan capabilities, and fixes to problems uncovered as a part of Diebold's internal test process. Due to the number of changes and the added functionality, a complete functional test of GEMS 1-18-19 was performed. The functional testing performed by CIBER included defining, creating ballots for voting, tallying, and reporting and reviewing results for primary and general elections. The documentation and source code reviews consisted of a review of the changes from 1-18-18 to 1-18-19.

Testing in the areas of central count and the Voter Card Utility Software, as well as testing with the AccuVote TSx Touchscreen device, and the Voter Card Encoder device is not addressed in this report. Testing in each of these areas is now in process at either the Hardware or Software ITA. Findings will be documented in future addenda to this report.

The GEMS 1-18-19 system configuration, as tested, is shown in Section 2 Version Description.

2 VERSION DESCRIPTION

This section describes the software and hardware that was tested.

2.1 Software Identification

Gems.exe - The GEMS program dated 1/14/04 Size (3,456 KB)

Additional files from the GEMS 1-18-19 install follow:

[REDACTED]



Reports

- AccuTouchStatusReport.rpt
- AccuVoteStatusReport.rpt
- AccuVoteStatusReportByUploadTime.rpt
- BackPlatesWithCards.rpt
- BallotOrder.rpt
- BallotStylesWithBallots.rpt
- BallotStylesWithCardStyles.rpt
- BallotStylesWithDistricts.rpt
- BallotStylesWithPct.Portions.rpt
- BallotStylesWithRaces.rpt
- BallotsWithCards.rpt
- BallotsWithPct.Portions.rpt
- BallotsWithPrecincts.rpt
- BallotsWithRaces.rpt
- CardCastByVCenter.rpt
- CardQtyByCard.rpt
- CardQtyByCardWithVGroup.rpt
- CardQtyByVCenterId.rpt
- CardQtyByVCenterIdWithVGroup.rpt
- CardQtyByVCenterName.rpt
- CardQtyByVCenterNameWithVGroup.rpt
- CardsArtworkReport.rpt
- CardStylesWithCards.rpt
- CardStylesWithRaces.rpt
- CardsWithPct.Portions.rpt
- CardsWithPlates.rpt
- CardsWithRaces.rpt
- CardsWithReportunits.rpt
- CentralCountStatusReportByDeck.rpt

CentralCountStatusReportByPrecinct.rpt
CentralCountStatusReportByRace.rpt
CentralCountStatusReportByTime.rpt
ChallengeVoter.rpt
CustomerReport.rpt
DistrictsWithPct.Portions.rpt
DistrictsWithRaces.rpt
DistrictsWithSubDistricts.rpt
FrontPlatesWithCards.rpt
HeaderReport.rpt
ManualEntryStatusReport.rpt
MemoryCardStatusReport.rpt
OperatorCodes.rpt
Pct.PortionsWithCards.rpt
Pct.PortionsWithDistricts.rpt
Pct.PortionsWithRaces.rpt
PrecinctHeaderCardID.rpt
PrecinctStatusReport.rpt
PrecinctsWithBallots.rpt
PrecinctsWithCards.rpt
PrecinctsWithPct.PortionsByID.rpt
PrecinctsWithPct.PortionsByLabel.rpt
PrecinctsWithRaces.rpt
PrecinctsWithSplitPct.PortionsByID.rpt
PrecinctsWithSplitPct.PortionsByLabel.rpt
PrecinctsWithVoteCenters.rpt
RaceReport.rpt
RaceRotationByVCenter.rpt
RaceRotationDetailWithVReg.rpt
RaceRotationWithCards.rpt
RaceRotationWithVReg.rpt
RaceSummary.rpt
RacesWithBallotStyles.rpt
RacesWithCandidates.rpt
RacesWithCardStyles.rpt
RacesWithPrecincts.rpt
RacesWithVoteCenters.rpt
RptHdr.rpt
TSFloppyStatusReport.rpt
TSWriteInRaceSummaryReport.rpt
TSWriteInReport.rpt
TSWriteInSortReport.rpt
TSWriteInSummaryReport.rpt
VoteCenterStatusReport.rpt
VoteCentersWithCardsByID.rpt
VoteCentersWithCardsByLabel.rpt
VoteCentersWithPrecinctsByID.rpt
VoteCentersWithPrecinctsByLabel.rpt
VoteCentersWithRaces.rpt
VoterGroupReport.rpt
VoterRegistration.rpt




Images



2.2 Hardware Identification

- * AccuVote-OS Precinct Counter (Optical Scan device formerly known as ES-2000) running firmware revision 1.94W. This was tested in a precinct count configuration.
- * AccuVote-OS Precinct Counter (Optical Scan device formerly known as ES-2000) running firmware revision 1.96.4. This was tested in a precinct count configuration.
- * AccuVote-TS Precinct Counter Rev 6 (Touch Screen) running Windows CE3.0, 8/09/02 Operating System. The firmware version was 4.3.15C

- 

**(Note: These were used to collect votes and to test the interfaces of the GEMS application software. CIBER did not test the AccuVote-OS or AccuVote-TS hardware and software. Actual testing of the software and hardware for these devices is performed by the hardware ITA. All voter cards used in touch screen testing were created using the AccuVote TS R6.)*

3 TESTING APPROACH

This section provides a summary of the test planning and execution performed to validate the GEMS software changes.

The following tasks were identified for the review of the changes:

- Review all submitted change release documentation.
- Review source code changes between 1-18-18 and 1-18-19 (Generate and review diff files, Review changed source segments). All files changed between 1-18-18 and 1-18-19 were subjected to tests against 2002 Standards. Only the files listed in Appendix C were a part of the source code review.
- Review the user document changes between the GEMS 1-18-18 and 1-18-19
- Perform complete functional testing.

4 RESULTS SUMMARY

4.1 Documentation Review Summary

All changes to the User's Guide along with Diebold's change documentation was reviewed as a part of the TDP testing process. The documents were also used in developing the Software Test Plan that was used for functional testing.

Diebold submitted change reports for each incremental revision between 1-18-18 and 1-18-19 submitted for testing. Each change report was reviewed. Additionally, changes to all GEMS

user documentation were compared and reviewed. Appendix B provides a list of the documents that were reviewed.

Upon final review of the aforementioned documents, CIBER concludes that the change documentation submitted by Diebold meets the requirements under the FEC Standards of 2002.

4.2 Source code review summary

The changed code was reviewed in order to evaluate its compliance with the FEC Standards for source code. All files that were changed after 1-18-18 were reviewed with 2002 standards.

After multiple passes of review and modification, it was determined that the files changed in GEMS 1-18-19 meet the 2002 standards required by the FEC. Appendix C Source Code Files list the files included in this review.

4.3 Functional Test Summary

The functional testing included testing against the functional, overall system performance, software, security, communication and data transmission, and audit requirements as specified in the FEC 2002 Voting System Standards.

Some of the changes provided by the vendor were to fix issues that were internal to software and were not addressed by any documented requirement. The ITA verified that the program operated correctly for those areas where this change could have an effect, but did not validate that the internal issue being addressed by the vendor was resolved. This level of verification, i.e. verifying operation against requirements or operational documentation, is consistent with the ITAs standard test methodology.

Functional testing was conducted in multiple passes. Testing of the 1-18-19 series began with GEMS 1-18-18.106. Subsequent functional testing was performed on GEMS 1-18-18.109, GEMS 1-18-18.110, GEMS 1-18-18.114, GEMS 1-18-18.122, and GEMS 1-18-18.123. Any anomalies detected in the earlier versions were resolved via software changes and those were verified by CIBER. In addition to the resolution of anomalies, Diebold made modifications and improvements to the changed source files to comply with 2002 standards. As modifications were made, the changes were documented and the software version number was updated. CIBER reviewed the updated versions. The resulting final version was GEMS 1-18-19.

When final changes were made; a witness of the build was performed and a system level functional test was conducted that exercised both open and closed primary and general elections. While CIBER did not test the AccuVote-TS and the AccuVote-OS voting devices or the software running on them, votes were collected using the voting devices. After successful completion of the system functional tests, a master installation CD was created. CIBER concluded that the changed software meets the functional requirements of the 2002 Standards. Functional Testing is further described in Appendix D.

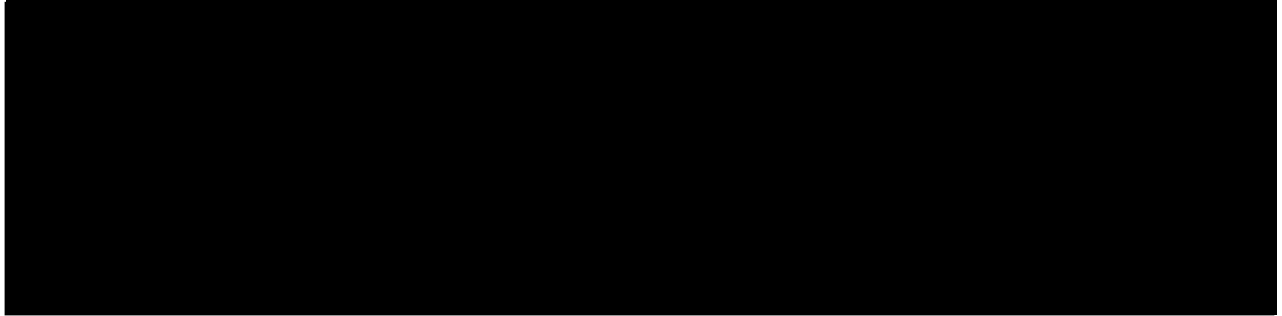
4.4 Results

After reviewing the change release documentation and source code files, and performing functional tests on the application, CIBER recommends to the NASED committee that GEMS 1-18-19 changes from Diebold Election Systems Inc. be qualified under the 2002 standards and

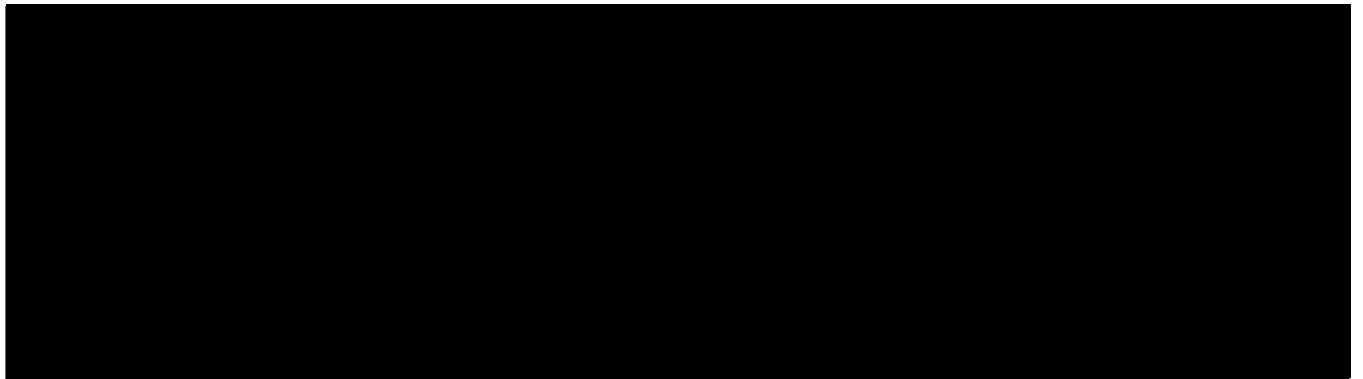
the overall system as described in Section 2 System Identification be qualified under the 1990 standards.

Appendix A - Change List

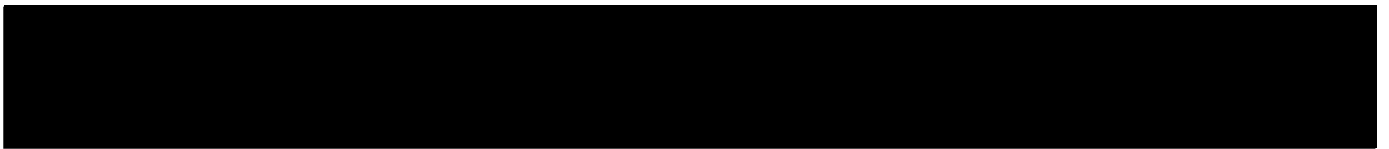
GEMS 1-18-18-106



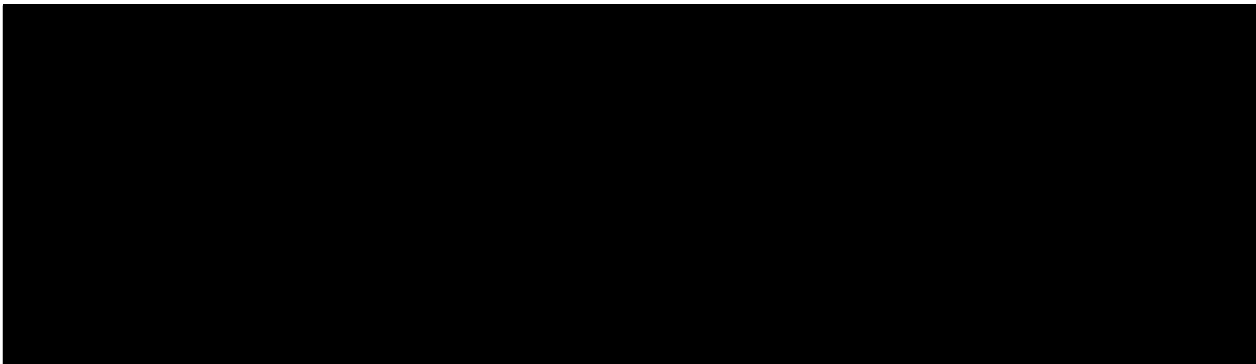
GEMS 1-18-18-109



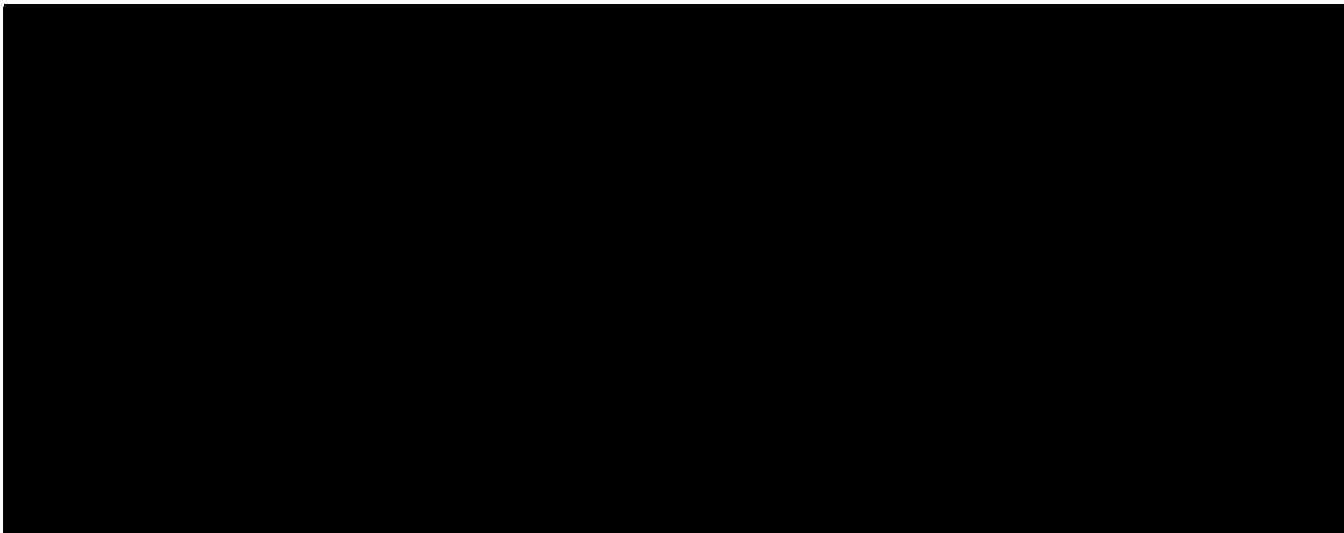
GEMS 1-18-18-110



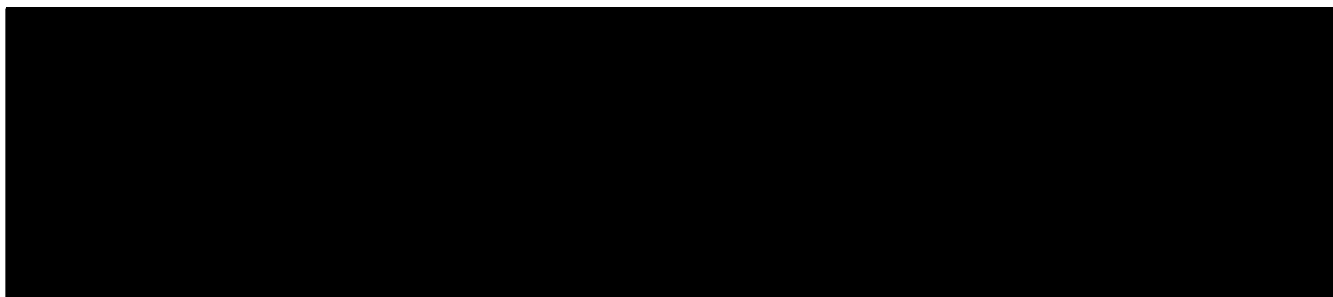
GEMS 1-18-18-114



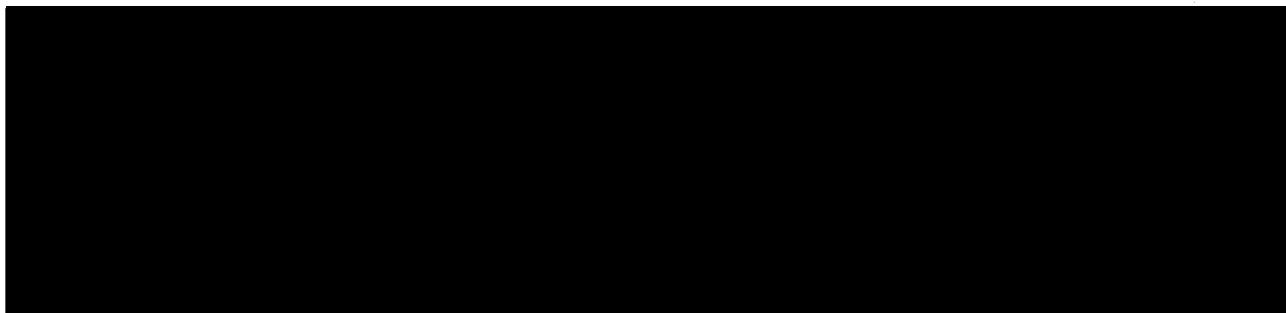
GEMS 1-18-18-121



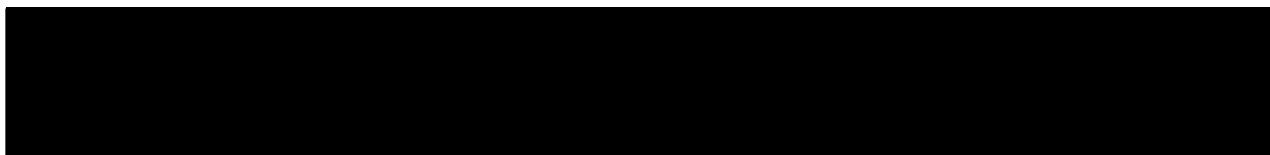
Gems 1-18-18-122



Gems 1-18-18-123



Gems 1-18-18-124



Gems 1-18-18-125



Appendix B – Documentation Reviewed

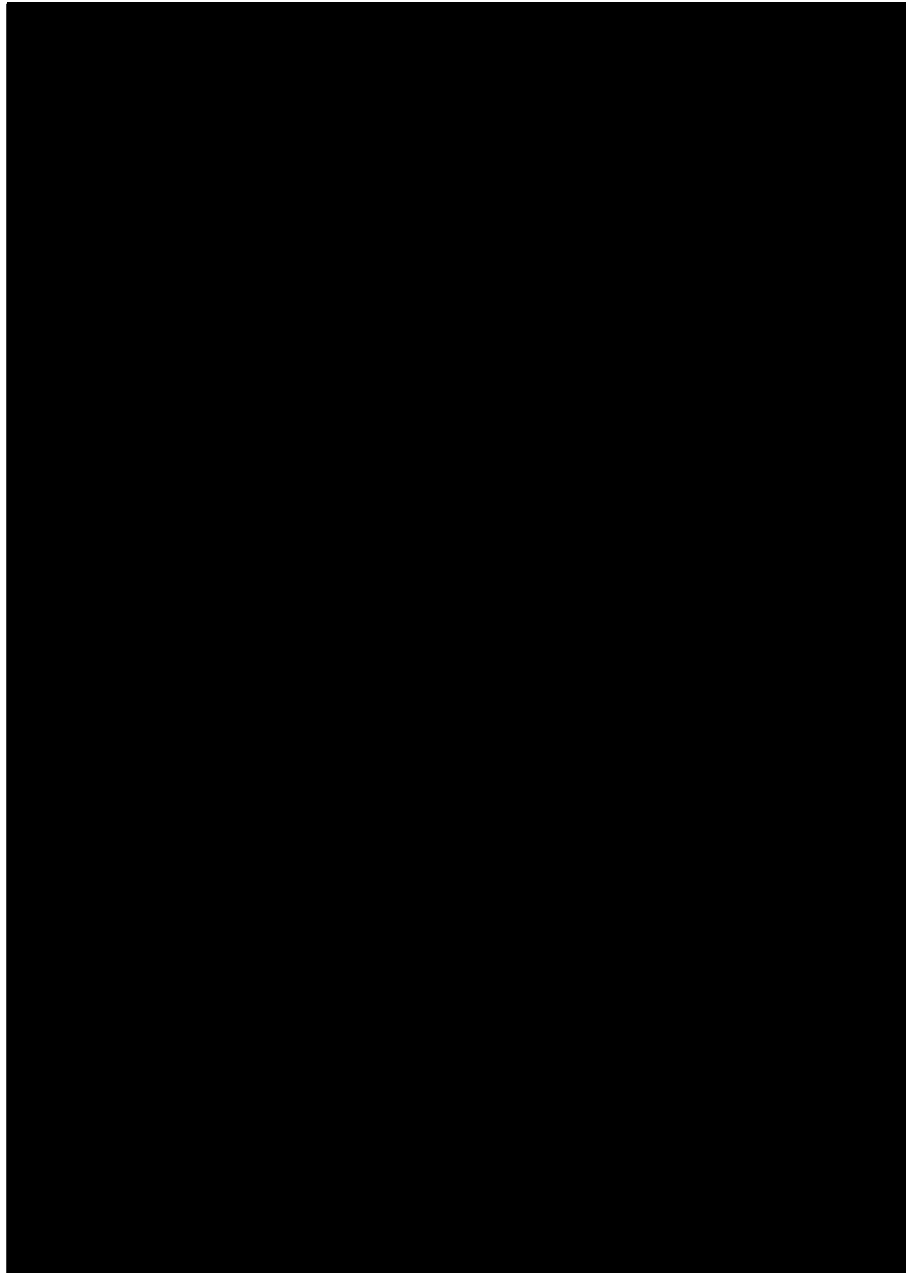
Change Release Reports

- Readme.htm (Changes in GEMS 1-18-18-106)
- Diebold Election Systems, Inc106-109
- Change Release Report GEMS-1-18-18-109 - 1-18-18-110
- Change Release Report GEMS-1-18-18-110 - 1-18-18-114
- Change Release Report GEMS-1-18-18-114 - 1-18-18-121
- Change Release Report GEMS-1-18-18-121 - 1-18-18-122
- Change Release Report GEMS-1-18-18-122 - 1-18-18-123
- Change Release Report GEMS-1-18-18-123 - 1-18-18-124
- Change Release Report GEMS-1-18-18-124 - 1-18-18-125

User Documentation

- GEMS 1-18 User's Guide Revision 7.0 December 23, 2003.

Appendix C – Source Code Files Reviewed



Appendix D – Functional Tests Performed

The ITA prepared a test script to demonstrate the software changes and associated software functions that could be affected by those changes. The script included the following:

Open Primary Election - (Tested with AccuVote-OS only - Open Primary Election is not supported with the AccuVote-TS)

Items Tested

- *Creation of a database*
- *Creation of Voter Groups*
- *Creation of Districts*
- *Creation of Precincts (including splits)*
- *Linking of Districts and Precincts*
- *Defining Race Options*
- *Defining AccuVote-OS options*
- *Creation of Races (partisan and non-partisan)*
- *Creation of Headers*
- *Creation of Ballots*
- *Printing of Ballots*
- *Creation of Vote Centers*
- *Testing of Download*
- *Testing of Ballot Scanning (necessary for upload and report testing)*
- *Testing of Upload*
- *Testing of Reports*
- *Backing up Election*

Closed Primary Election (Tested with AccuVote-OS and AccuVote-TS)

Additional Items Tested (to Open Primary Test)

- *Creation of election from a backup*
- *Editing the election options*
- *Resetting of ballot artwork*
- *Defining AccuVote-TS options (for test with AccuVote-TS only)*
- *Editing of Voter Groups*
- *Creation of Counter Groups*
- *Changing of Header options*
- *Processing of a Closed Primary*
- *Creating Voter Access Cards (for test with AccuVote-TS only)*
- *Review of Audit Log*

General Election

Additional Items Tested (Tested with AccuVote-OS and AccuVote-TS)

- *Creation of a database*
- *Creation of Voter Groups*
- *Creation of Counter Groups*
- *Creation of Districts*
- *Creating Precincts*
- *Creation of Races*
- *Creation of Headers*
- *Creation of a Straight Party Race*

- *Generating Artwork*
- *Reviewing Artwork*
- *Testing of Download with SSL encryption*
- *Creating Voter Cards (on AccuVote-TS)*
- *Voting*
- *Testing of Upload*
- *Testing of Reports*
- *Review of Audit Log*

General Election Advanced Options (Tested with AccuVote-OS and AccuVote-TS)
Additional Items Tested (to General Election)

- *Editing Ballot Options*
- *Editing of Vote Centers*
- *Editing of Counter Groups (including Absentee)*
- *Editing of Races*
- *Creation of Recall Races*
- *Support for Rotation*
- *Voting Provisional (Challenge) Ballots*
- *Accepting and Rejecting Challenge Ballots*