



## ENGINEER CHANGE ORDER (ECO) ANALYSIS FORM

**Manufacturer:** Unisyn Voting Solutions

**System:** OpenElect Voting Optical (OVO) Version 2.1

**ECO Number:** 17111, 17112, 17113

**ECO Description:** Software modifications for compliance with Ohio state and local statutes.

**Overview:**

Unisyn submitted three ECOs for review (17111, 17112, and 17113). The ECOs all relate to modifications of the system to meet Ohio state and local statutes. Each change was implemented based on the current end user utilization. Since the changes all relate to the state of Ohio, they were documented in one ECO submission as an all-encompassing package.

Products Affected: OVO Tabulator

These ECOs document the following modifications to the OVO Tabulator:

1. Voter Registration Input Interface (OpenElect Tabulator Manager module) (*ECO 17111*)  
Changes made to three methods so that a bucket is available for all parties defined by the election in each precinct or split.
2. ADA Ballot Length Calculation (OpenElect Ballot Layout Manager Module) (*ECO 17112*)  
Changes were made to calculations so that ballots printed the correct length.
3. Aggregate Party Counts for Upload Validation (OpenElect Tabulator Service Module) (*ECO 17113*)  
Update made to the database query in the checkNumberOfBallots() method to get the sum of values containing the precinct ID, so that all party totals are aggregated for the validation.

**Supporting Documentation:**

2.1.0.2 (OH) ECO\_Form\_Final.pdf (*Unisyn ECO*)  
04-00432\_Tabulator\_User\_Guide.pdf (*Updated TDP document*)  
2.1.0.2\_Di-Minimis\_TestCases.xls (*Unisyn internal test cases*)

**Engineering Recommendation:**

Source code review, technical documentation review, and functional verification testing performed to approve change. Pro V&V generated Trusted Builds prior to evaluation. The evaluation was performed using QA Test Cases supplied by Unisyn. A sampling of the provided test cases for each change were performed to ensure that the functionality functioned as intended and did not introduce any errors into the system. The executed test cases found that the system functioned as intended. It was demonstrated that the modifications did not adversely impact the system's reliability, overall functionality, accuracy, performance, accessibility, usability, safety, security or system operation.

Testing was deemed adequate to verify successful implementation. No additional testing required.

**Engineering Analysis: No additional Testing Required**

**Reviewer:**

Wendy Owens

Printed Name

*Wendy Owens*  
Signature

08/07/2020

Date

**Approver:**

*Michael L. Walker*

Printed Name

*Michael L. Walker*  
Signature

08/07/2020

Date