



# **Election Manager Users Guide**



**OpenElect® Voting System**  
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**Version 1.3**

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# OpenElect<sup>®</sup> Voting System

## Election Manager User Guide

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## Section One

# Overview

### 1.1 Overview

The Election Manager (EM) is the second step in preparing an election for the OpenElect® Voting Devices (OVD) and the OpenElect® Voting Central Scan (OVCS). The OVDs consist of the OpenElect® FreedomVote Tablet (FVT), OpenElect® Voting Optical (OVO) and OpenElect® Voting Interface-Vote Center (OVI-VC).

Prior to an Election, the Election Manager retrieves the encrypted XML election definition file from the shared disk used by the Ballot Layout Manager (BLM) and EM. The BLM and EM reside on the same PC/laptop, which converts the Unisyn election definition file, adds jurisdiction specific election options to a Unisyn specific XML format and prepares compressed, encrypted election files for output to a USB Drive to create the "Election USB TM."

The Election USB TM is used by the Election Server to:

- Install the election on the OVO and OVI in preparation for precinct voting
- Install the election directly on the FVT
- Used by the OVCS and Auditor to define the election and ballots
- Used by the Tabulator to define the election
- Used by the Tabulator Clients for authorization

The Election Manager ensures the election installed on the OVD systems to be used at the polls meets the following requirements:

- Logical definition of the ballot is accurate, including the definition of the number of allowable choices for each office and contest.
- Ballot styles are appropriate for the voting precinct, where the list of candidates or contests varies between polling places.
- Only the contests for the ballot style and precinct are included.

The jurisdiction is able to select from a range of voting options to conform to the laws of the jurisdiction in which the system is used. The EM allows the jurisdiction to add voting device specific options for elections: which contests to check for undervotes, whether to allow or disallow certain features, maintenance technician passwords, and other options.

## Pre-Voting - Election Center/Central Count

TCP0001



## Voting - Poll Locations



## Post-Voting - Election Center/Central Count

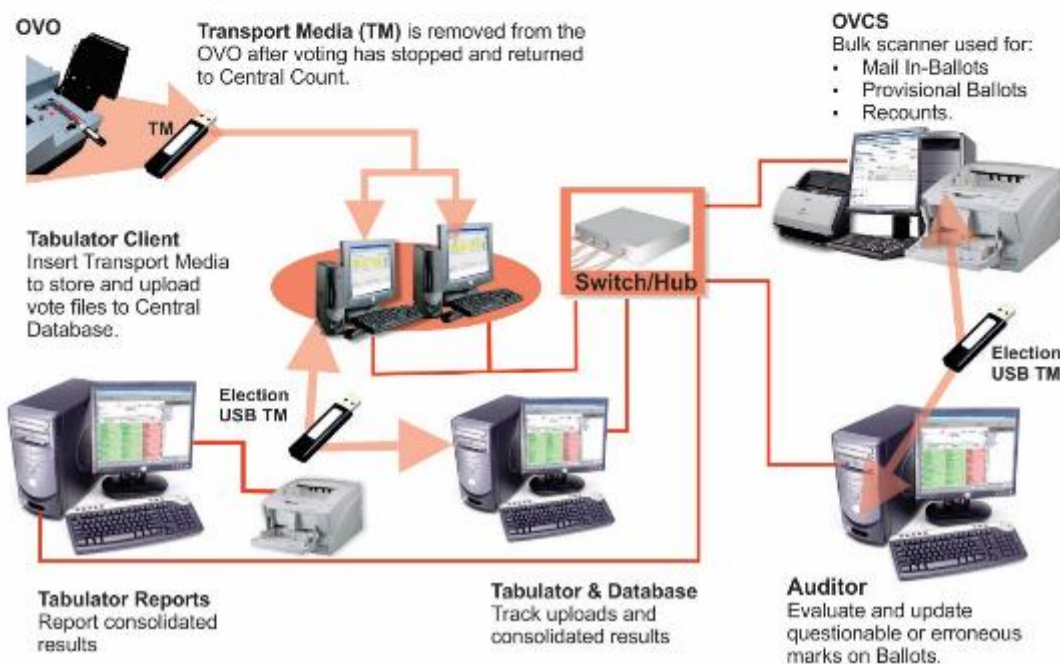


Figure 1-1. Election System

## 1.2 Applicable Documents

- *OVS System Overview*
- *OVS Acronyms*
- *EOS Linux and OCS Installation Guide*
- *Ballot Layout Manager User Guide*
- *Election Server User Guide*
- *Tabulator Client User Guide*
- *OVCS User Guide*
- *Auditor User Guide*
- *Tabulator User Guide*

### **1.3 About This Guide**

This guide provides information and instructions on using the Election Manager (EM) program to load the Election XML file created via the Ballot Layout Manager (BLM), select election options, and to produce the election that will be loaded onto the OVDs, Tabulator, Tabulator Client, Auditor and OVCS.

### **1.4 Installing and Updating**

OpenElect systems are delivered with the EOS operating system and OCS software preinstalled. In the event there is an upgrade to the existing software/operating system or the software needs to be reinstalled, the instructions for both processes are found in the *EOS Linux and OCS Installation Guide*. The EOS installation process is covered in Section 1.6. EOS setup and configuration is covered in Section 2 and the OCS installation process is covered in Section 4 of the guide.

### **1.5 Security**

The Election Manager application's security allows users to perform functions based on their roles and the state of the current election. In order to access the application at any level, a user inputs a user name and password. The EM verifies this information and if it is validated, the user's role(s) are retrieved and used to activate or deactivate menu item.

In addition to the user role, the state of the application is managed in order to control some functionality. The application state takes precedence over user roles. This means that even if the user's role states that they can perform a function, but the application indicates that the function cannot be performed in the current state, then the function is unavailable.

The follow procedures are used to maintain security when using the Election Manager:

- Allow only authorized personnel access to election preparation equipment, including the PC where the Election Manager is installed.
- Keep the room where computer equipment is located locked. Limit any local network to the immediate physical area. Set up the PC to require operating system login.
- Give each user a unique password (logins are tracked by the application log) and have users safeguard their passwords. Only authorized users may access the EM application.

All EM application users require a password change on first login, and every 6 months thereafter.

- Prohibit unauthorized use of media or transference of data to and from the OCS election computers (via CDs, USB devices, disks, or LAN access, etc.).
- If the application is left unused for 120 minutes, the application will time out and force the user to log into the application again. All changes will be retained (but not saved) until the user or one of equal or higher role logs in to commit the changes to the database. If the system is exited, without login, the changes are lost.
- Establish user roles and provide Superuser, Admin, Supervisor and Maintenance passwords only to qualified and fully trained personnel. Adhere to limited and careful distribution of passwords. Passwords should be carefully distributed and guarded by their owners.
- Change passwords frequently. Use the original user login (supplied with the system) to open the program and then define a new Superuser. It is strongly recommended that the initial account be deleted. See *Define a New Superuser* in Section 1.9.

#### To define secure passwords:

The following standard is used for all EM Superuser and Admin passwords:

- 7-15 characters, case sensitive
- Contains at least one letter, one number and using no spaces

## 1.6 Requirements

For a list of system requirements, please refer to the *OVS System Overview, Section 1.2.4*.

## 1.7 General Interface Information

While interacting with the application, the user may be presented with an Error Message (such as invalid entries or entry information that is too long). Appendix A (User Interface Error Messages) provides the error messages that can be presented, the reason for the message, and the actions that are recommended to be taken. Please refer to Appendix A when presented with an error message during operation.

Information entered by the user is typically limited in size and content, depending upon the characteristics of the information entered (from Precinct Name to DTS Party ID). Please refer to Appendix B (EM System Limits) for specific format and size limitations for specific fields.

When a **Delete** button is clicked, the system will prompt the user to confirm the action with a pop-up display. The user is asked to confirm the deletion/removal by clicking **OK** to accept, or either **No** to reject to the confirmation or **Cancel** to cancel the action.

When a **Save** button is clicked on a display (to change the information for an entry), confirmation is provided to the user in the form of updating the data in the fields on the screen (such as candidate name).

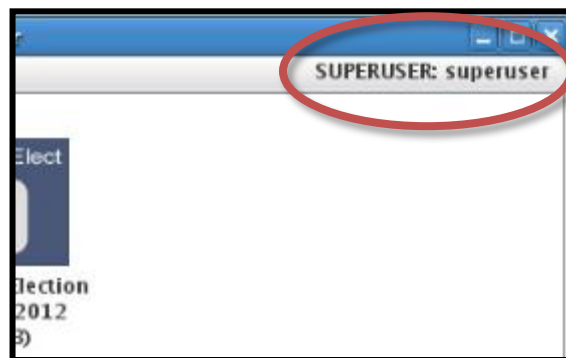
When the user enters information on a form and has not clicked **Save** and they request the system to navigate away from that screen or close the election where the information will be lost, they will be presented with the following popup:



If they click **Yes** on the confirmation screen, the system will navigate away from the current screen (set of information) and the changes entered will be lost. If they click **No**, the system will remain on the current screen and their navigation request will be ignored.

If an application is left unused for 120 minutes, the application will time out and force the user to log into the application again. All changes will be retained (but not saved) until the user or one of equal or higher role logs in to commit the changes to the database. If the system is exited, without login, the changes are lost.

The User Role (ALL CAPS:) and user name (lower case) is display in the upper right corner of the application window, circled in red.



## 1.8 Getting Started

The user will Log into Linux following the booting of the PC. The Election Manager application can be run while logged in as either “administrator” or “operator.”

The “administrator” or “operator” Linux logins are allowed to run all the OCS applications (operator is, however, restricted from the Software Server application). Once you log in as “administrator” or “operator” the desktop will have icons for all the OCS applications that are loaded on that PC.

To run the Election Manager application, double click on the EM icon.



## ! IMPORTANT

The Election Manager and the Tabulator Client cannot be running at the same time on the same PC. When you start up the Election Manager, it will check to see if the Tabulator Client application is running, if so, the following error will be displayed. Click OK to exit the Tabulator Client application.



When you start the Election Manager, a password prompt appears. Two types of users may login to the Election Manager: EM Superuser and EM Admin users. The username/passwords are unique to the Election Manager.

### To log in:

Type your username and password and click **Enter**.

If the login is inaccurate, the following message appears, “Sorry, the username or password you entered is invalid, please try again.” Press **OK** to return to the login box and re-enter these fields.

The user’s password will expire after 6 months. If the password has expired, the user will be prompted to enter a new password.

### Login Prompt

The first time a new user logs in; you will be requested to change your password for security purposes.

A screenshot of the 'Election Manager Login' dialog box. It has a title bar with a close button. Inside, there are two text input fields: 'Username' with 'superuser' entered, and 'Password' which is empty. Below the fields are two buttons: 'Enter' and 'Exit'.

The following screen will be displayed. Enter your new password twice.

A screenshot of the 'Update Password' dialog box. It has a title bar with a close button. The text inside says 'Your password has expired. Please enter a new password.' Below this are two text input fields: 'Password' and 'Confirm', both of which are empty. At the bottom is an 'Enter' button.

Upon successful login, the EM desktop appears. If no elections have been loaded, the EM desktop is blank. The desktop will remain empty until a new election is created.

Elections appear as icons on the desktop. Labels below the icons include the election type (General Election or Primary Election), the election ID and the election date.



The follow is a series of steps, described in this manual, to prepare an Election.

### To prepare an Election TM:

1. Load the election.enc file (created via the Ballot Layout Manager) into the Election Manager. See Section 2.2, *Creating a New Election*.

2. Set options for the election, for the audio, and for printed reports at the polls.
3. Produce Audio Script and Ballot Proof reports as needed to check the election.
4. Upload all required MP3 sounds for the audio ballot to the Election Manager.
5. Define at least one Maintenance Technician user and one Supervisor user for the election. Note the Election Password.
6. Export the election to a directory.
7. Copy the election directory on a USB TM.

## 1.9 Define a New Superuser

The Election Manager is provided with a default Superuser account. For security, at the first login, the system forces a change in the default Superuser password. To define a new Superuser account:

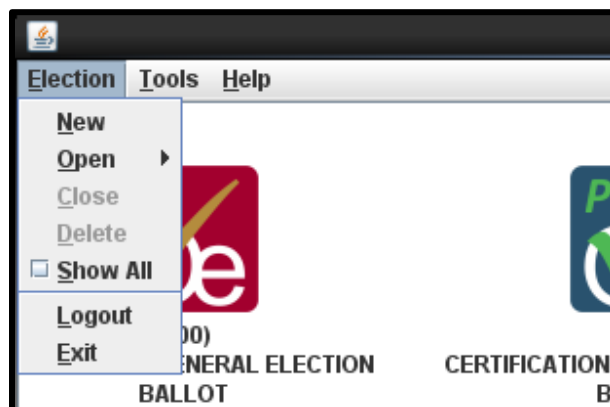
1. Open the Election Manager **Tools** menu and Select **User Management**.
2. Add a new user, Superuser Role, following the instructions in Section 12.4, *Creating a New User*.
3. Open the **Election** menu and select **Logout**. The login prompt reappears.
4. Log in using the new account and begin setting up the election as described in this user guide.

## 1.10 Menus

The following sections describe the menus in the Election Manager application.

### 1.10.1 Election Menu

The Election pull-down menu contains the following functions:





### New

The New menu selection is available when there is not already an election open. Displays a dialog that allows you to browse and select an election.enc file. (Refer to Section 2.2)

### Open

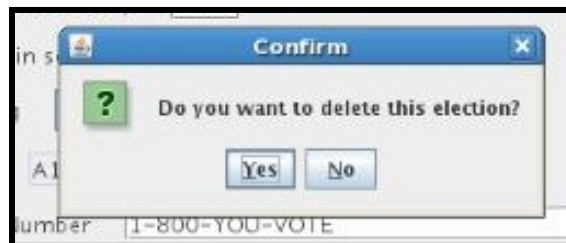
Open one of the elections displayed on the desktop. Only one election at a time can be open. (Refer to Section 2.3)

### Close

Close the open election. This selection is not available unless an election is open. (Refer to Section 2.4)

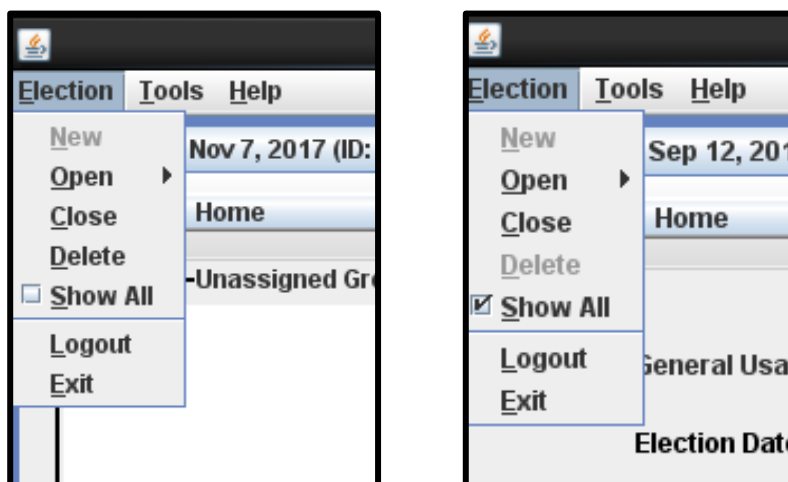
### Delete

Available when an election is open. Delete the current election following confirmation. (Refer to Section 2.5)



### Show All Elections

Only a supervisor can select the Show All option to turn on/off the display of concluded elections. When the Election menu is displayed, the Show All option has a checkbox. If there is a checkmark in the box, the past elections are being displayed, if there is no checkmark, past elections that have concluded are hidden from view. (Refer to Section 2.6)



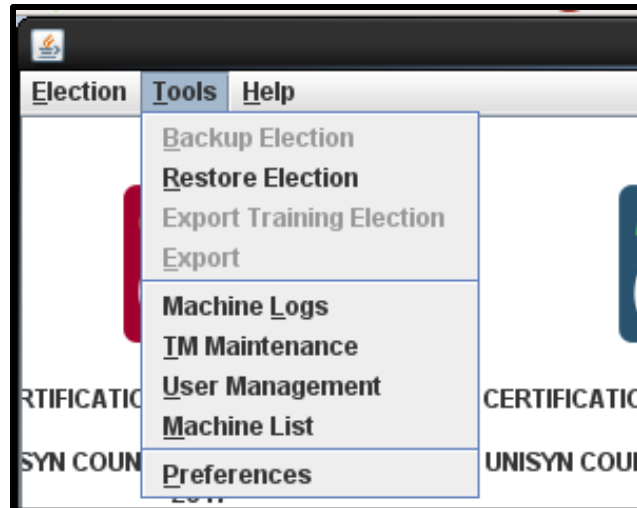
### Logout

Logs out and displays the login prompt. (Refer to Section 1.11.1)

## Exit

The Exit button closes the application. (Refer to Section 1.11.2)

## 1.10.2 Tools Menu



### Backup Election

Perform a backup of the open election. This selection is not available unless an election is open. (Refer to Section 11.3.2)

### Restore Election

Performs a restoration of a specific Election. All current Election data, for the restored Election ID, is replaced with the restored election data if the election ID exists in the database. This selection is not available if an election is currently open. (Refer to Section 11.3.2)

### Export Training Election

Available when criteria for exporting the election have been met. This export creates a directory of Training Election files from the current election data. A training election can open voting for training purposes only on any day. (Refer to Section 10.1)

### Export

Available when criteria for exporting the election have been met. Export creates a directory of election files from the current election data. (Refer to Section 10.2)

### Machine Logs

Allows the user to view and search OVO and OVI logs uploaded from Transport Media (TM). (Refer to Section 13.1)

### TM Maintenance

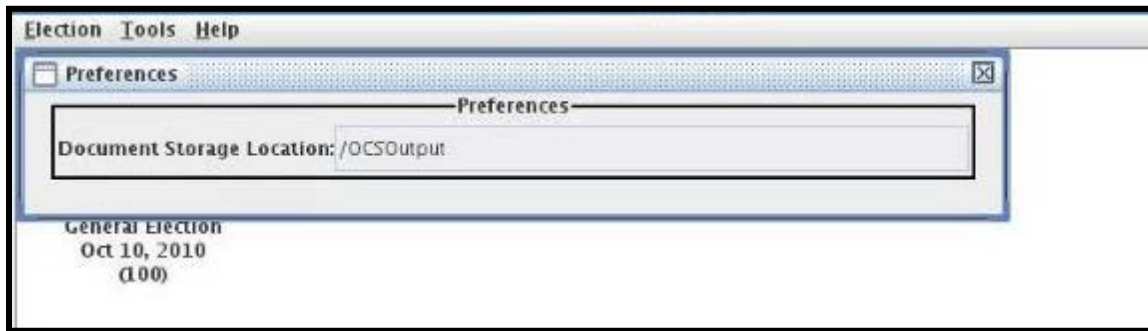
This feature allows the user to upload OVO and OVI machine logs and clean the TM of all vote and log files. (Refer to Section 13.1)

## User Management

This feature allows the user to add users, set user roles and deactivate user accounts. (Refer to Section 12)

## Preferences

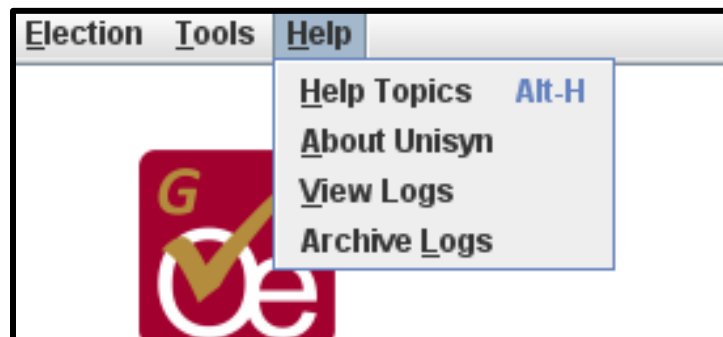
This selection presents a popup window with the Document Storage Location. This location is where documents created by the EM application will be stored on the PC. This field is informational only. The user can exit the popup window by clicking the X in the upper right corner of the window.



### 1.10.3 Help Menu

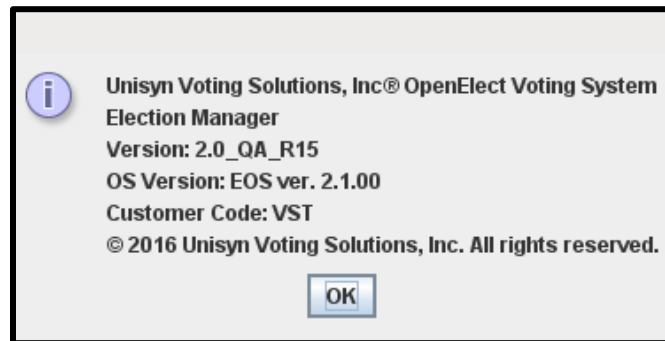
## Help Topics

This selection presents Help Topics to aid the user. Refer to Section 14.4 for details on the Help interface.



## About Unisyn

**About Unisyn** displays the product information, including company name, product name, Version, copyright information, and the Linux OS Version number. (Refer to Section 13.5)



### View Logs

Opens a viewer for viewing the Election Manager Application Log, which tracks activity in the program. (Refer to Section 13.2)

### Archive Logs

Activates the Archive Logs function. (Refer to Section 13.6)

## 1.11 Logout and Exit

You can log out of the Election Manager without exiting the program in order to allow another user to login.

### 1.11.1 Logout

1. Open the **Election** menu and select **Logout**.
2. When the confirmation window appears, click **Yes**.



When the login window reappears, another user may log in.

### 1.11.2 Exit Program

1. Open the **Election** menu and select **Exit**, or  
Click the close box (X) in the upper right corner of the application window.
2. When the confirmation window appears, click **Yes**.

#### Exit Confirmation



3. A prompt to save changes (see below) will appear if an election is open and changes have been made. Click **Yes** to save changes, **No** to cancel changes and continue exiting, or **Cancel** to cancel exiting.



4. The program closes.

## 1.12 Handling System Failures

The following information provides you with how to handle system failures and recovery from abnormal system states.

### Database Start Failure

If the database service fails and the application requires a connection to the database, the system will present the operator with a popup indicating that the database is unavailable.

To reconnect with the database power off the PC, wait 12 seconds and then restart the system to start the database service. If this fails call Unisyn for additional diagnostics procedures.

### Database Corruption

If the data within the database has been corrupted, such as missing tables, the system will display an error message when the needed data is accessed, or it will display invalid data. To correct this problem, restore data from a previous version through the restore interface.

For the EM application, the backups are of individual elections. Restoration of an individual election might solve the problem or the entire database might need to be restored. If the entire database needs to be restored, the user will need to restore every past or concluded election that should be on the machine. They will also have to restore the latest backups of the pending and current election.

The history of past logins and password history are lost when the system is reloaded. The user will need to reenter EM Superusers/password and Admin users/passwords.

### **Executable Corruption**

If the application binaries are corrupted, the application will not execute or perform as expected. The applications should be reinstalled from the installation disk.

### **OS Corruption**

If the operating system has been changed such that the applications cannot execute, or the system will not allow access to the user interface, the operating system should be restored from the installation disk and the applications re-installed. The database will then need to be recovered from backups.

The user will have to follow the same steps described in Section 11.3.2 for restoring backups for the EM application database.

### **File Access Problems**

A failure can occur when the system attempts to write a report that has a version currently open on the system. This will result in an error indicating that the document could not be written to the target location. Closing the open document file and rerunning the report process will correct the issue.

## Section Two

# Elections

### 2.1 About the Election File

The Ballot Layout Manager outputs an XML file with election ballot data. This file is provided in both text format and encrypted (.enc) format. However, only the encrypted format file can be loaded into the Election Manager. Once the file is loaded into Election Manager, the user may start selecting options, uploading Audio Ballot Sound Files, and preparing the election for export to an Election USB TM.

**The election file contains these values:**

- Election title, Election ID, date and type (General or Primary)
- Ballot card type
- Whether straight-ticket voting is allowed
- Whether Vote by Ballot Style is allowed
- Whether ballots are party-specific
- Whether "decline to state" ballots will be used for certain parties
- All districts, precincts and split precincts
- Contest, candidate, and party data
- Ballot styles with contest order and candidate rotation for each precinct
- Language translations supported for the election

### 2.2 Creating a New Election

Either an Admin or Superuser can load the Election File to start a new election. Since the EM is running on the same computer as the BLM, you can go directly to where the BLM exports the \*.enc files: `/OCSOutput/election/EXPORT/XML` folder to load the election file.

**To create a new election:**

1. Open the **Election** menu and select **New**.

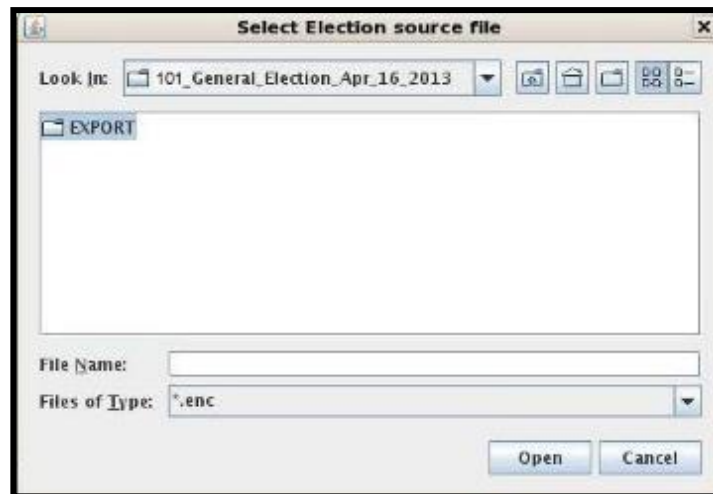
An Open window appears with the `/OCSOutput` directory displayed. Locate and select the `election.enc` file to be uploaded.

**To locate the file:**

- A. Select the Election folder with the name of the election to be imported. Click the **Open** button and the election folder will open (as is shown in the diagram below). Note there will be no information on the form for File Name since there is no \*.enc file yet.

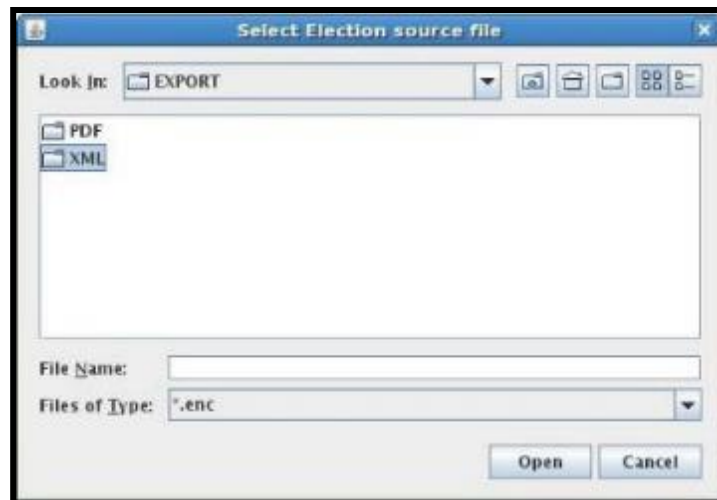


- B. Select and highlight the **EXPORT** folder, it may be the only sub-folder listed. With the **EXPORT** folder selected, click the **Open** button again and the **EXPORT** folder will open.

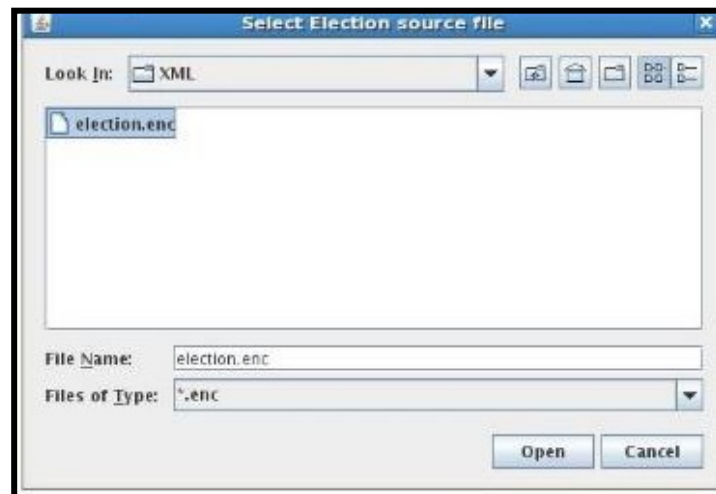


- C. Select and highlight the **XML** folder. With the **XML** folder selected, click the **Open** button again and the **XML** folder will open.

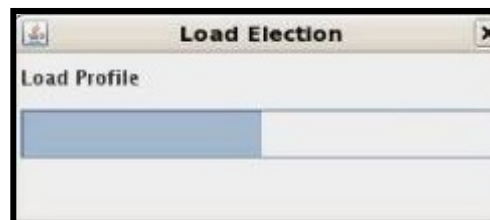




- D. The **elections.enc** file is in the folder. Click on the **elections.enc** file to highlight it, the name will appear in the File Name field at the bottom of the window (as is illustrated below).



- E. Click the **Open** button again. The EM application will present a progress bar (as is shown below) tracking the import process as it is underway.

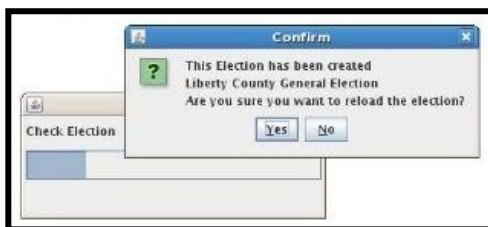


- F. Once the election is created in the Election Manager database, the follow completion screen will be displayed and an Election Icon will be created for the imported election on the EM desktop.

- G. Click **OK**, the election has been successfully imported.



**NOTE:** If during the steps above the system detects that the election had been previously created from the same file; the following display will be presented for confirmation by the user. If you answer **Yes**, the election will be re-imported replacing the previous Election file. However, any options that were set using the Election Manager on the replaced version are kept. The EM recreation will only update the XML data produced by the BLM.



2. When the Election XML file loads successfully, an Election icon appears on the Election Manager desktop (if it did not already exist).

If an error message appears, produce new output from the Ballot Layout Manager, then open the **Election** menu and select **New** again to reload the file.

The Election Manager keeps track of reloaded elections and upgrades the election version with each loaded file that has differences.

## 2.3 Open Election

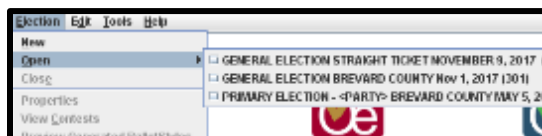
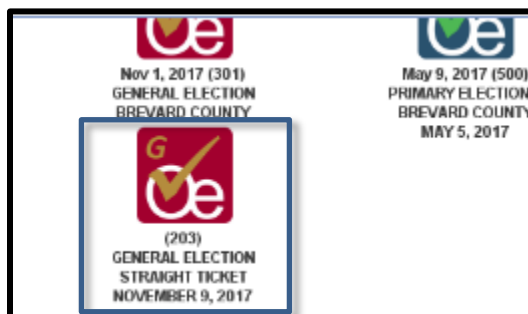
Although there can be several election icons on the desktop, only one election can be worked on at a time. Opening another election closes the currently open election.

## To open an Election:

Double-click an election desktop icon.

Or

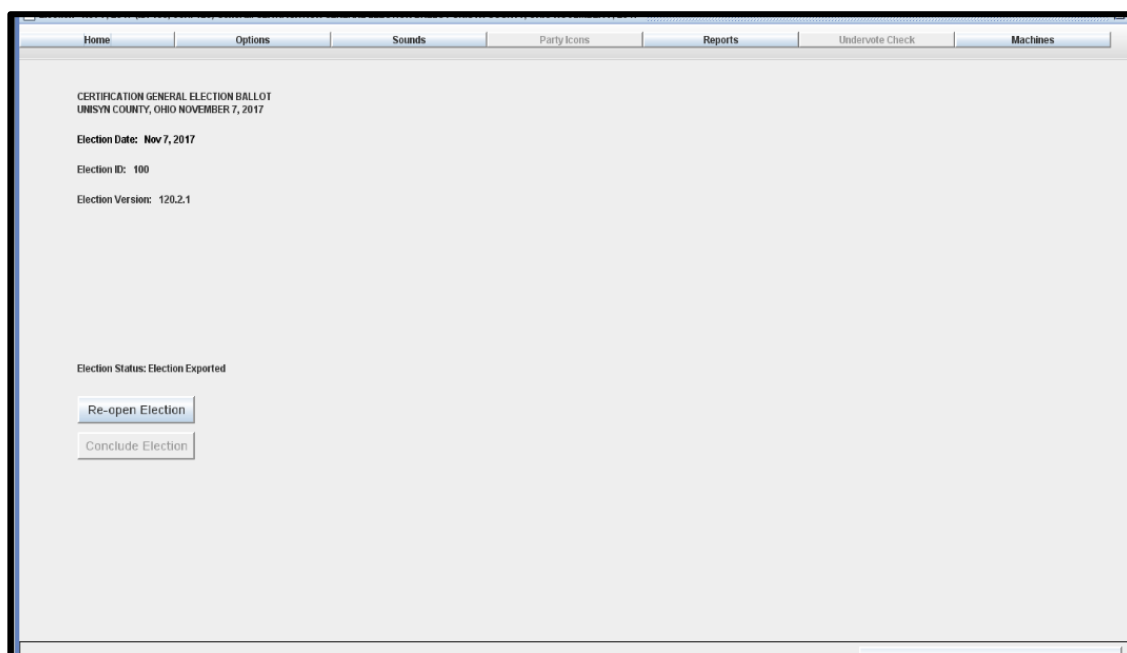
Open the **Election** menu, select **Open** and the Election title.



While the election is being opened, the screen to the right will appear.



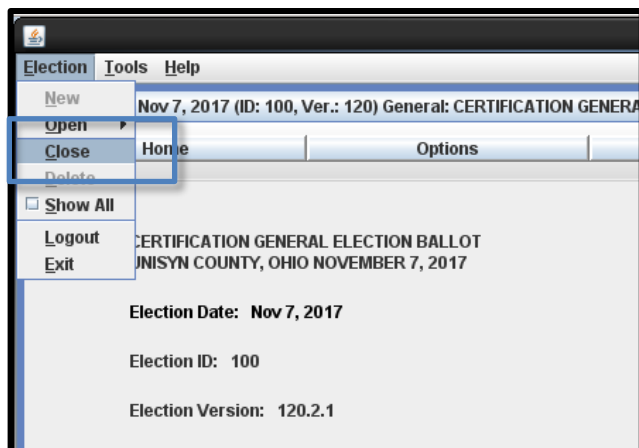
Once the election is open, the Election Home Window (presented below) is displayed.



## 2.4 Close Election

There are three ways to close an open Election:

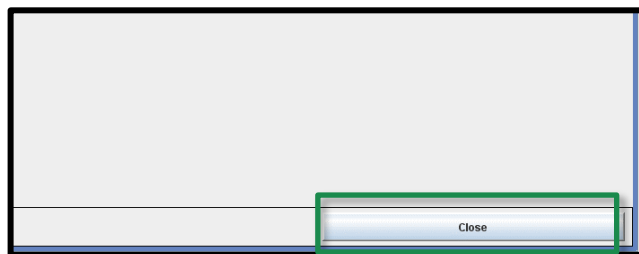
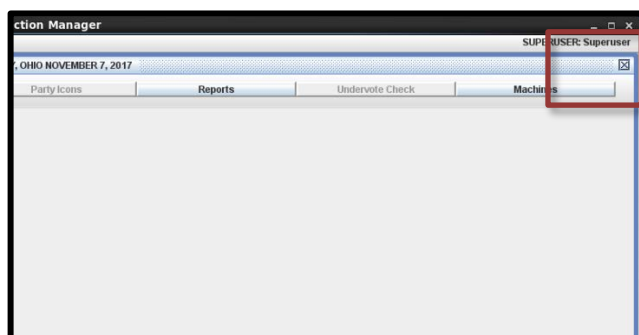
1. Open the **Election** menu and select **Close**.



2. Click the close box (X) in the upper right corner of the Election window.

Or

3. Click the **Close** Button at the bottom right of the window.



## 2.5 Delete Election

An election must be concluded or cancelled before it can be deleted. Deleting an election removes all data files, all sound files and ends the election versioning. Only a **Superuser** may delete a concluded or cancelled election.

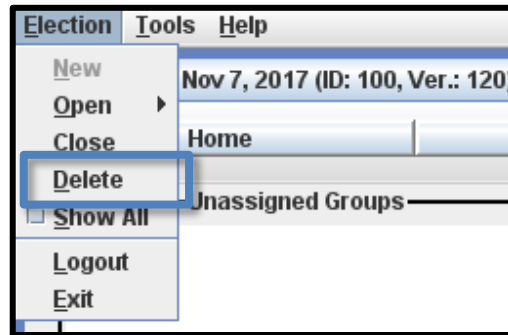
If an election needs to be corrected, (such as adding a contest or changing a candidate's position) simply correct the data in the Ballot Layout Manager and reload the Election File as described in Section 2.2, *Create an Election*. In this case, all data will then be updated.

A Superuser may delete an Election in two cases:

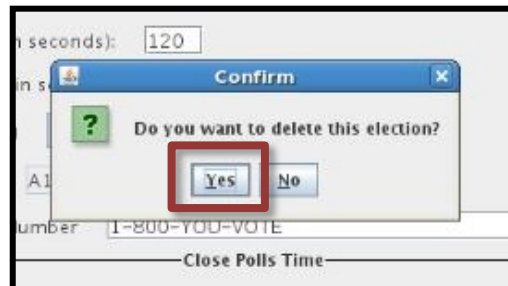
- The Election Day is 22 months in the past and is set to "Concluded."
- The election has not yet been exported to a CD image.

### To delete an election via Election Menu:

1. With the election open (the election must be open) click the **Election** menu and select **Delete**.

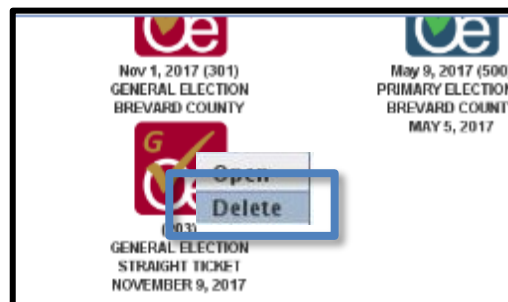


2. Respond to the confirmation message.

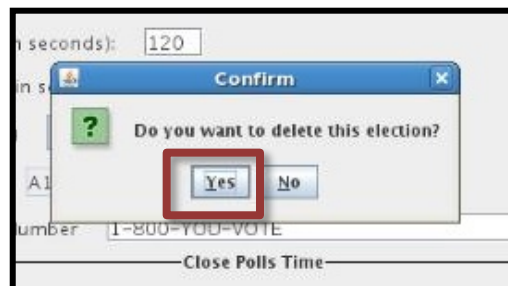


### To delete an election via icon:

1. Without an election open, click on the Election icon of the election that is to be deleted. Then click on **Delete**.



2. Respond to the confirmation message.

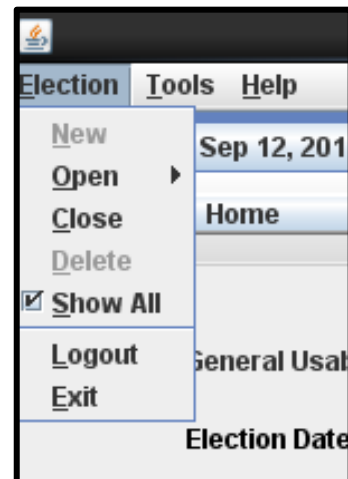


## 2.6 Show All Elections

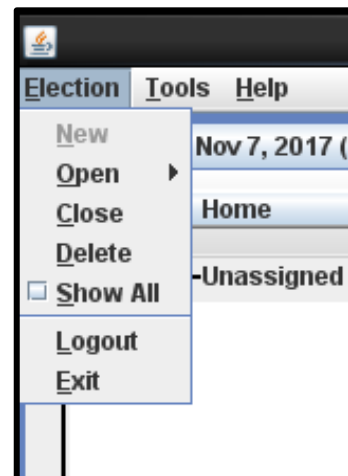
When an election has been concluded, it is no longer visible on the Election Manager desktop. A Superuser can view all current and concluded elections by turning on the **Show All** option on the Election pull down menu.

**To show concluded elections:**

1. Open the **Election** menu.
2. Click to check the **Show All** checkbox on the menu.  
This will display all concluded Elections.



3. Click **Show All** again to clear the box and hide the concluded Elections.



## Section Three

# Election Buttons

When you open an Election, the following buttons are provided at the top of the screen:



### Home

Click the Home button to view the Election Home window; this is the default Election window. See Election Home Window, Section 4.

### Options

Click the Options button to select the Common Options tab, OVO Options tab and BMD Options tab. See Election Options, Section 5.1.

### Sounds

Click the Sounds button to upload Election sounds. This button is disabled if **"No Sound Files"** is checked and saved on the Audio Options tab. See Election Sounds, Section 6.

### Party Icons

Click Party Icons button to show list of parties. This button is only enabled if the **"Show Party Icon"** option on the Election Options screen is checked and saved. See Party Icons, Section 7.

### Reports

Click the Reports button to create and preview reports such as the audio script, ballot proof and a list of election system users, Section 9.

### Undervote Check

The Undervote Check button is enabled when the Ballot Validation/Undervote Checking option **"Check Selected Contests"** on the Election/ OVO Options window is checked and the change is saved. Click this button to select the contests that should be checked for undervotes at the polls. See Undervote Checking, Section 8.

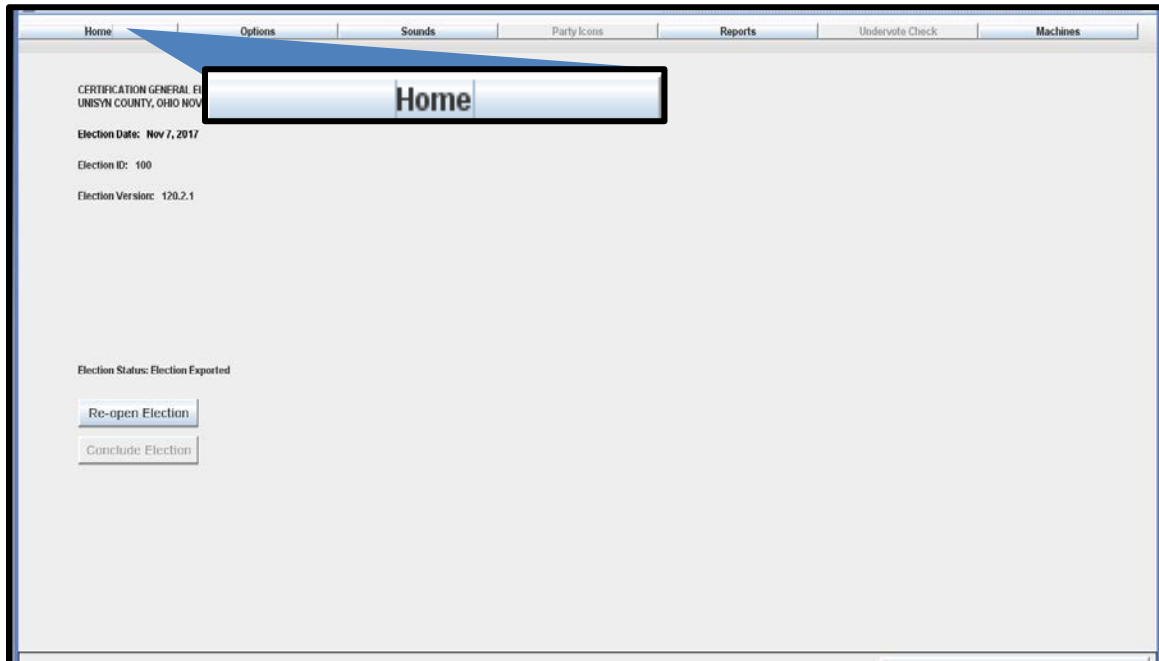
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## Section Four

# Election Home Window

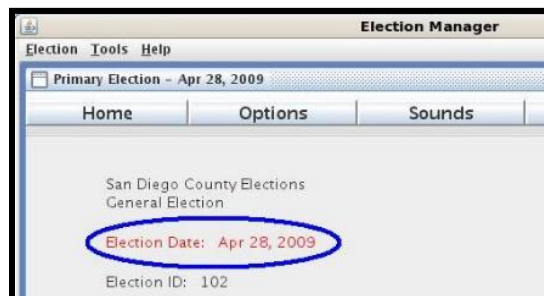
When you double-click, or right-click/open, an election (as described in Section 2.3), the election Home screen appears first, showing the election name and version. You can access the Home window whenever an election is open by clicking the **Home** button on the top toolbar.



The Home window includes:

- Election title, Election Date, Election ID and Election Version.

**Note:** if the Election Date is in the past, the Election Date will appear in RED.



- The Election Status displays the current state of the election; see Section 4.1.



- **Re-open Election** button

Available only to Superusers, the Re-open Election button at the bottom of the screen becomes active when an election has been exported to a CD image. Clicking this button allows it to be re-opened so that it can be changed and re-exported.



## IMPORTANT

If an EM database was restored from a backup, the Maintenance and Supervisor login/passwords used with the election may not be available. In which case, the operator will need to reenter the login/passwords again using the User Management section of the EM.

### Conclude Election

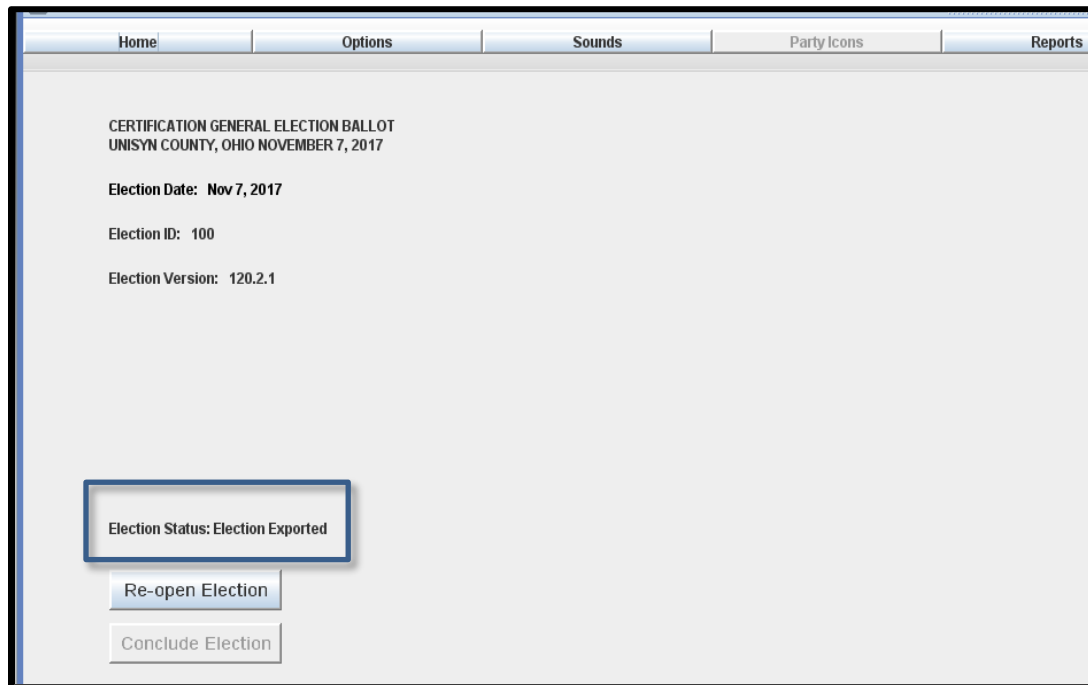
Available only to Superusers, this large button at the bottom of the screen becomes active when an election has been exported to a CD image and after the Election Date (not before or on the Election Date). It allows the Superuser to close the election, preventing any more changes. This button is used after Election Day, to lock down the final election.



If the application is setup to support exports to multiple customers, the customers for previous exports display on this screen.

## 4.1 Election Status

Election status is displayed on the Home window. An election progresses through several “states” as you prepare to create the Election files. The Election status helps determines actions you need to take to complete an Election.



The statuses (states) that can be displayed are:

- **Election Incomplete**  
The currently open election cannot be exported to a TM; the election is missing a key component:
  - Check sound table for missing/unaccepted sound files
  - There are no Maintenance nor Supervisor users defined
  - There is no technical support number defined.
  - Check party icon table for missing/invalid party icons

During this state, make any changes to settings or options.

- **Election Complete**  
The election is automatically set to “Complete” when Maintenance and Supervisor users have been defined, all required sound files are in place and the technical support

number is defined. Changes can still be made to the settings, and files can still be exported to a TM whenever they are ready.

If necessary data is removed from a "Complete" Election, the Election returns to this "Election Incomplete" state.

- **Election Exported**

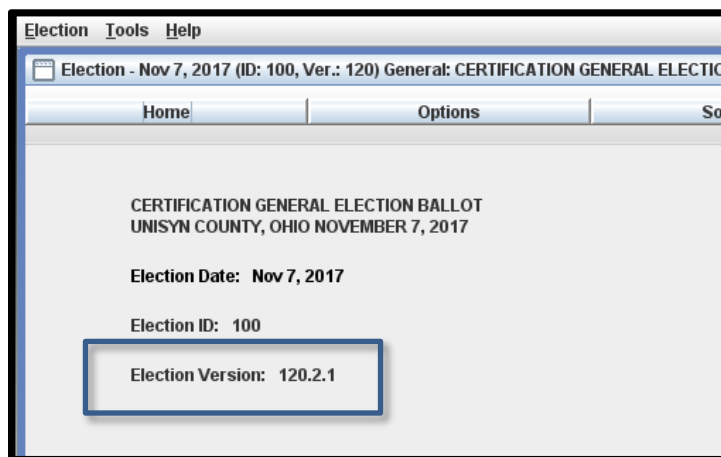
The election files have been exported to a TM. If you need to make any changes to the Election, a supervisor can press the **Re-Open** button to return the election to the "Complete" state. After making changes, you export the election again to ensure your changes are applied to the official Election media.

- **Election Concluded**

The election is finished and the Election icon on the EM desktop is now hidden from Admin users. The Election icon can only be seen by a supervisor with the **Show All** option enabled. Once an Election is **Concluded**, no further changes can be made. The Superuser uses the **Conclude Election** button to set the election to this state after Election Day.

## 4.2 Election Version

The Election Version is displayed on the Home window.



When the Election File loads successfully, the Election Manager assigns a version number to the election. If you need to re-load the same election due to changes or errors, any options you have set using the Election Manager are kept, and just the XML data is updated.

Version numbers have three values: X.Y.Z.

- X reflects the build number of the BLM
- Y reflects any changes to the Election Manager options
- Z reflects any loaded or reloaded sound files

If the first version of an Election is 1.1.0 it indicates that the Election XML has been built once in the Ballot Layout Manager, the default options have been applied once in the Election Manager and the election-specific sound files have not been loaded yet.

"Election Version 1.3.2" would indicate that the Election XML has been built once, options have been applied and saved three times (including the first time), and sound files have been completely loaded once and then reloaded a second time.

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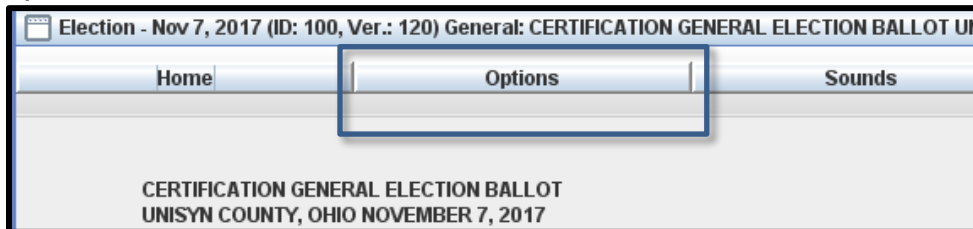
## Section Five

# Options

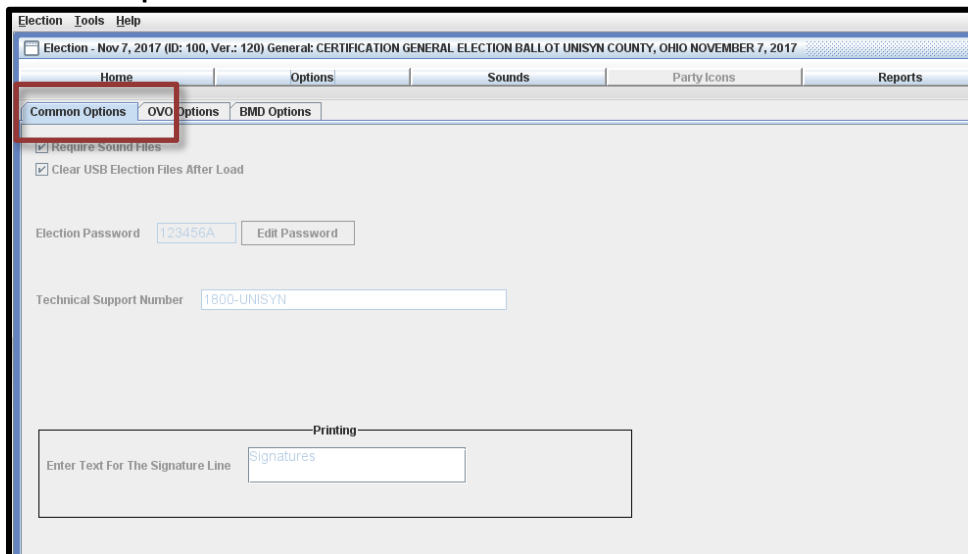
### 5.1 Common Options

The Common Options tab sets parameters that affect OVO and Ballot Marking Device (BMD) settings for the current election. To access the Common Options tab select **Options** at the top of the Election Manager window and click the **Common Options** tab.

#### Options Button



#### Common Options



To set Common Options:

1. Change the fields as needed on the Common Options panel. The fields are discussed in detail below.
2. Click the **Save** button at the bottom of the panel to save these settings (circled in Red). Click **Save as Default** to apply the settings as new defaults for subsequent elections (circled in Blue.)

The screenshot shows the 'Election Options' window. It has two main sections: 'Printing' and 'Close Polls Time'. The 'Printing' section has a label 'Enter Text For The Signature Line' and a text box containing 'Signatures and Date'. The 'Close Polls Time' section has a checkbox 'Enforce Close Polls Time' which is checked, and a 'Set Close Time' section with dropdowns for 'Hours' (08), 'Minutes' (00), and 'AM/PM' (PM). At the bottom, there are four buttons: 'Save' (highlighted with a red box), 'Save as Default' (highlighted with a blue box), 'Reset from Defaults', and 'Cancel'.

You will be prompted to save changes when you attempt to leave the Election Options window.

The **Save** button is active only if a value has been changed. The illustration above shows an active **Save** button.

The screenshot shows a confirmation dialog box with a green question mark icon. The text inside the dialog box is 'Do you want to save the changes?'. Below the text are three buttons: 'Yes', 'No', and 'Cancel'. The dialog box is highlighted with a blue border.

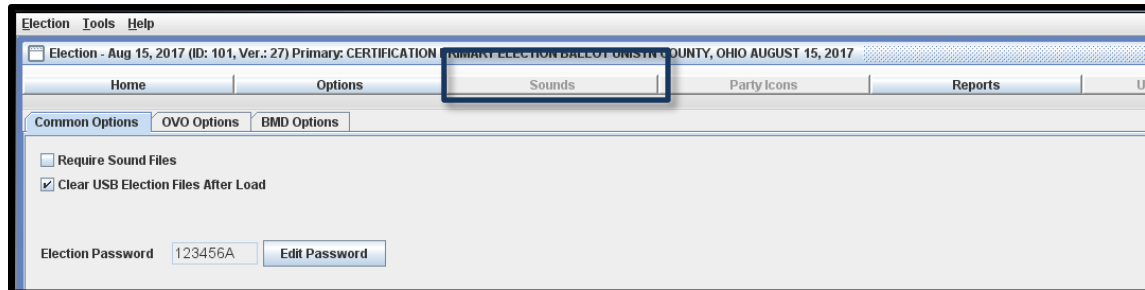
When the **Save** button is clicked, the user will be asked to confirm the request (circled in blue above).

The screenshot shows the 'Common Options' tab in the 'Election Manager'. It has three tabs: 'Common Options', 'OVO Options', and 'BMD Options'. The 'Common Options' tab is selected. It contains two checked checkboxes: 'Require Sound Files' and 'Clear USB Election Files After Load'. Below these is an 'Election Password' section with a text box containing '123456A' and an 'Edit Password' button. At the bottom is a 'Technical Support Number' section with a text box containing '1800-UNISYN'.



## Require Sound Files

If this option is not checked (and saved), the **Sounds** button is disabled and not required for the election to be exported. The display appears as is indicated below:



If sounds files are not included in the Election files created by the Election Manager, that Election will not be loadable by the OVI. Only the OVCS and OVO will be able to load those elections.

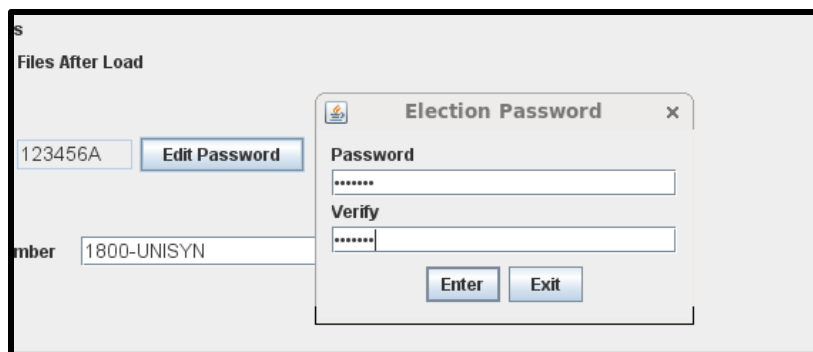
## Clear USB Election Files After Load

If this checkbox is marked, the election on the USB used to load an OVI or OVO will be cleared after the election is loaded successfully. If this value is not marked, the election on the USB will not be cleared after election is loaded on OVI/OVO successfully.

## Election Password

When "Password Protect Election" is checked on the OVO options screen or the OVI options screen, the Election Password field defines the password to the election. The OVO and OVI Operator are optionally required to enter the password to open voting on the system. This password is required to open non-Election Day Voting Modes, as well as, each individual OVI voting session.

A randomly generated password is provided in the Election Password field. You can click the **Edit Password** button and replace the generated password by entering any password that is seven characters in length and a combination of letters and numbers (at least one number and one letter, no spaces).



The user will be asked to enter the password twice to verify.

Upon successfully changing the password, the following screen will be displayed.



A Training Election password (used only to start the machine if required and add precincts when the Public Count > 0) is “demo123.”

### Technical Support Number

This is the telephone number that will appear on the OVO, FVT and OVI screen when an error or system failure occurs. Select the text in this field and type over it to enter the number you wish operators to call on Election Day for assistance (up to 28 characters).

**Note:** This is one of the key items that must be set in order for the EM application to export the election.

### Enter Text for the Signature Line

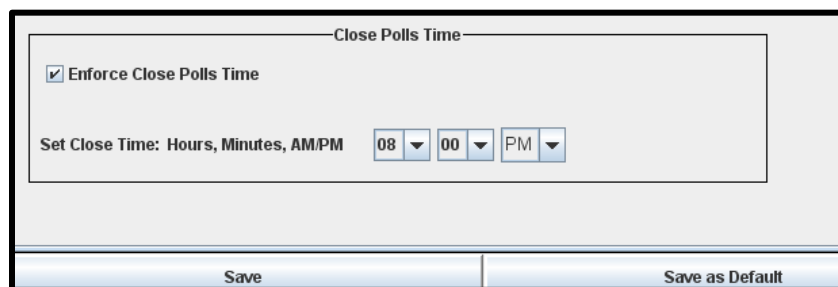
Text that prints at the bottom of the first Election Summary report printed for the close voting, above the signature lines.



The screenshot shows a dialog box titled "Printing". Inside the dialog, there is a label "Enter Text For The Signature Line" and a text input field containing the word "Signatures".

## Enforce Close Polls Time / Set Close Time

Check the Enforce Close Polls Time option to force the OVO and OVI/FVT to stay open for voting until the specified time for closing voting at the polls Election Day.



The screenshot shows a dialog box titled "Close Polls Time". It contains a checkbox labeled "Enforce Close Polls Time" which is checked. Below the checkbox is a label "Set Close Time: Hours, Minutes, AM/PM" followed by three dropdown menus showing "08", "00", and "PM". At the bottom of the dialog are two buttons: "Save" and "Save as Default".

The Close Time you select is enforced based on the OVO's and OVI/FVT's internal system clock, which is updated by the Election Server when a new Election is loaded.

Set your Close Time by clicking the drop-down arrows and selecting the hour, minute, and AM or PM of the closing time (the Unisyn default is 8:00 PM).

Clear the Enforce Close Polls Time option to allow the operator to close voting on the OVO at any time. If the option is cleared, the Close Time setting is ignored.

## 5.2 OVO Options

The OVO Options screen has options to setup parameters that are unique to OVO system. Options common to the OVO and BMD can be found on the Common Options screen.

To set options for the OVO, select **Options** at the top of the Election Manager window and click the **OVO Options** tab.

The screenshot shows the 'OVO Options' panel in the Election Manager software. The panel is divided into several sections: 'Common Options' with checkboxes for 'Use Password Protection', 'Show Public Count On Voter Screen', and 'Export Images'; 'Ballot Review' with radio buttons for 'Ballot Alert Print Only (Requires Auto Print Ballot Alert)', 'Ballot Alert On Screen Display', and 'Full Ballot Review (Requires Undervote Check For All Contests)'; 'Ballot Presentation' with a dropdown for 'Undervote Checking' set to 'No Undervote Check'; 'Ballot Validation' with checkboxes for 'Validate BMD Ballots' and 'Show Validation Checkbox When Alert Detected', and a text field for 'Set OVO Voter Timeout (In Seconds)' set to '20'; 'Printing' with checkboxes for 'Print Zero Count On Pre-init Setup', 'Auto Print Voter Ballot Alert', and 'Auto Print Voter Receipt', and a text field for 'Enter Alert Report Header Title' set to 'Ballot Alert'; and 'Election Summary' with checkboxes for 'Consolidated Summary For Pre-init Precinct', 'Show Contest Results On Election Day', 'Show Over/Under Votes On Election Day', 'Show Precinct Split Totals', 'Show Blank Count', and 'Show Percentages', and dropdowns for 'Show Candidates In Order By' set to 'Default Order' and 'Show Overvote Count By' set to 'Vote For'. At the bottom are buttons for 'Save', 'Save as Default', 'Reset from Defaults', and 'Cancel'.

To set OVO Options:

1. Fill in or change the fields on the OVO Options panel as needed. See below for details on the options.
2. Click **Save** to save the settings, or **Save as Default** to apply these settings as defaults in the future.

### Use Password Protection

If this checkbox is marked, the password in the Election Password field (on the Common Options panel) will be required:

- to open voting on Election Day at the OVO
- to add a new precinct to the OVO after voting has already started on Election Day
- to close voting at the OVO if a CLOSE Ballot is inserted (if the Admin Menu is used, the election password is required for entry to the menu and is not prompted again at the closure request)
- to start a special voting session on a non-Election Day

A randomly generated password is provided in the Election Password field. This system-generated password can be changed by the user.

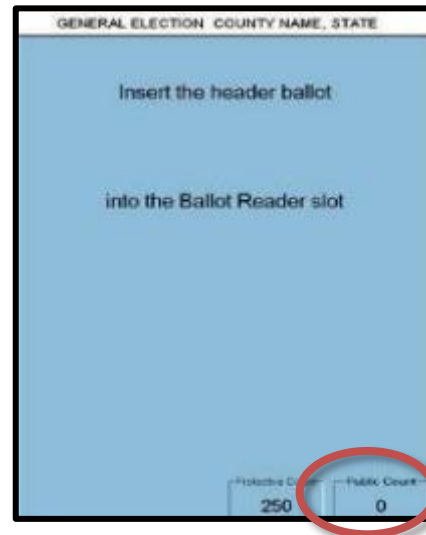
If the checkbox is cleared, no password is required to open and close voting at the OVO. The password will still be required to:

- add a new precinct

- start Voting Mode sessions (early voting, absentee, provisional, and recount)

#### Show Public Count On Voter Screen

When this checkbox is marked, the OVO will display the public count value on the main Voter screen (circled to the right in red). If the checkbox is cleared, the OVO will not display the count. The OVO always shows the public count on the Admin and Maintenance screens.



#### Ballot Alert Print Only (Requires Auto Print Ballot Alert)

When this checkbox is marked, the OVO will print ballot alerts only. If **Ballot Alert On Screen Display** or **Full Ballot Review (Requires Undervote Check for All Contests)** is selected, they will be cleared.

#### Ballot Alert On Screen Display

When this checkbox is marked, the OVO will display Ballot Alerts on the screen.

#### Full Ballot Review (Requires Undervote Check for All Contests)

When this checkbox is marked, the OVO will, during the voter's ballot review, display all ballot selections made on the screen. It will clear the Ballot Alert On-Display option and disable the Undervote Checking selection (grayed out). The Short Ballot Review will be performed which means no screen display of selections but the Ballot Alert Report will print if there are errors.

#### Undervote Checking

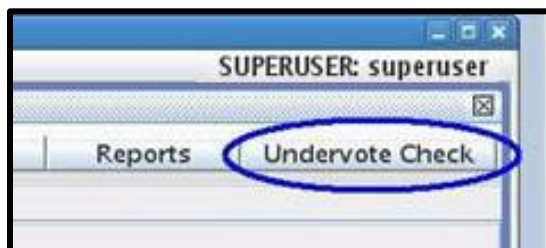
The OVO validates ballots by checking for overvotes (more candidates than allowed are selected for the contest) and duplicate votes (only in the case of an RCV election). It will also validate ballots by checking contests for undervotes (fewer candidates than the maximum allowed are selected), if instructed. When Undervote Checking is "on," the OVO prints a Ballot Alert for the voter if it detects an undervoted contest. Undervotes are also counted by contest in the Tabulator's Election Summary reports.

Choose one of the following from the drop-down list:

- **No Undervote Check:** The OVO will ignore undervotes.
- **Check All Contests:** The OVO will check for undervotes in all contests on the ballot.

- **Check Selected Contests:** The OVO will check for undervotes only in the contests selected in “Undervote Checking.”

The **Undervote Check** button is deactivated at the top of the window unless you select this option. This option lets you limit undervote checking to high-profile contests.



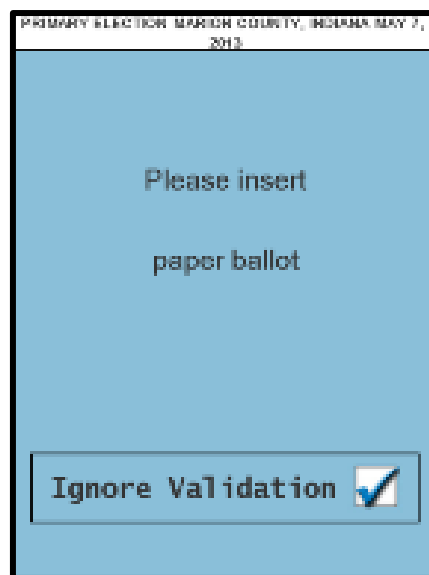
If Full Voter Ballot Review is checked, the under vote checking open is disabled and the EM uses the “Check all Contests” option as the default for undervote checking.

#### **Validate BMD Ballots**

When this checkbox is marked the OVO, for the election day session, override election day session and logic test session, will validate BMD ballots. If not marked, the OVO will not validate BMD ballots.

#### **Show Validation Checkbox When Alert Detected**

When this checkbox is marked the OVO only shows ‘Ignore Validation’ checkbox when ballot alert is detected. If not marked, the OVO will always show ‘Ignore Validation’ checkbox when ballot is cast.



#### **Set OVO Voter Timeout (in seconds)**

The OVO Voter Timeout value (20-600 seconds) is used for ‘full review’ handling only. When the voter inserts their ballot and their selections are displayed on the screen, the application will wait for the timeout value, if no screen buttons are pressed on the touch screen; a message is displayed asking the voter if they want to continue. If the voter presses the continue button, the application will return to the voter selection screen and waits for the timeout time again. If no button is pressed, the OVO will wait this

timeout value time again with the 'do you want to continue' screen being presented. When this time-period expires again, the OVO will eject the ballot back to the voter with an inactivity message presented.

For the short review on the OVO, also known as 'bypass validation', the voter inserts their ballot and if everything is valid, the ballot is automatically cast. If there are errors, the ballot is ejected back to the voter. The only timeout in short review is when the voter pressed the 'bypass validation' checkbox, they have 10 seconds to insert their ballot or the checkbox is cleared.

#### **Print Zero Count On Pre-init Setup**

If this option is checked, when the maintenance user selects a precinct for the pre-init list in the Pre-init function a zero count report will print for that precinct. If the option is not checked, then no report will print.

#### **Auto Print Voter Ballot Alert**

If this option is checked, a Ballot Alert report automatically prints when the OVO detects overvotes (and/or optionally undervotes) on a voter's full-page ballot. VA ballots from the OVI will not produce a Ballot Alert report since the review is performed by the OVI prior to the ballot being submitted to the OVO. For Full Voter ballot review the Ballot Alert report will print if the voter ballot has errors and the "Full Review" option is off.

#### **Auto Print Voter Receipts**

If this option is checked, a Voter Receipt prints automatically when the ballot has been accepted at the OVO.

#### **Enter Alert Report Header Title**

Text that displays as the header on the printed alert error report and on the screen in the reader section to show a ballot has an alert (error).

#### **Consolidated Summary for Pre-init Precinct**

When this checkbox is marked and If pre-init precincts are set: then during close voting a consolidate tally report will print. If this flag is false then the standard individual tallies will print for each precinct initialized on the machine.

#### **Show Contest Results on Election Day**

Check this option to display contest results on the Election Summary report that prints when voting is closed on the OVO system. If the option is cleared, the Election Summary will show open/close times and provide blanks for signatures. No results will be shown. If the Election Summary is viewed/printed from the OVO Maintenance menu, it will show the contest results.

#### **Show Over/Under Votes On Election Day**

When this checkbox is marked, when session is closed and the full report is printed either from admin/view summary screen or at close of voting, the contest over/under votes will be shown. If false, contest over/under votes count is only available from maintenance view summary function.

### **Show Precinct Split Totals**

When this checkbox is marked, tally results on the OVO for split precincts will be consolidated under the parent precinct. If not marked, tally results will be reported by split precinct.

### **Show Percentages**

If checked, the OVO reports will include candidate vote percentages. If not checked, the OVO reports will not show candidate vote percentages.

### **Show Blank Count**

When this checkbox is marked, the blank page count will be printed on the non-consolidated OVO summary report for each precinct. If not marked, the count will not be on the report.

### **Show Candidates in Order By**

Use the drop-down list to select the order that the candidates in OVO administrative election summary report shall be ordered. They can be in either candidate order (default) or ordered by vote count in descending order.

### **Show Overvote Count By**

Use the drop-down list to choose between Vote For and Voter options.

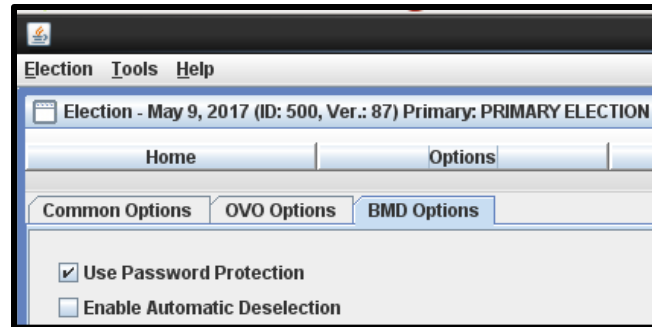
**Voter** - to choose between the overvote count being calculated by voter count, where in a vote for three contest, if it is overvoted by one voter, the overvote value is one.

**Vote For** - the overvote count is calculated using vote for value where in a vote for 3 contest, if it is overvoted by one voter, then the overvote value is 3.

## **5.3 BMD Options**

The BMD Options screen allows the user to set the Ballot Presentation criteria, Printing parameters and affect how the OVI and FVT handle Audio Ballots. The BMD Options screen can be accessed by selecting BMD Options tab found under the Options button, outlined in red, located in the Election toolbar.





To set BMD Common Options:

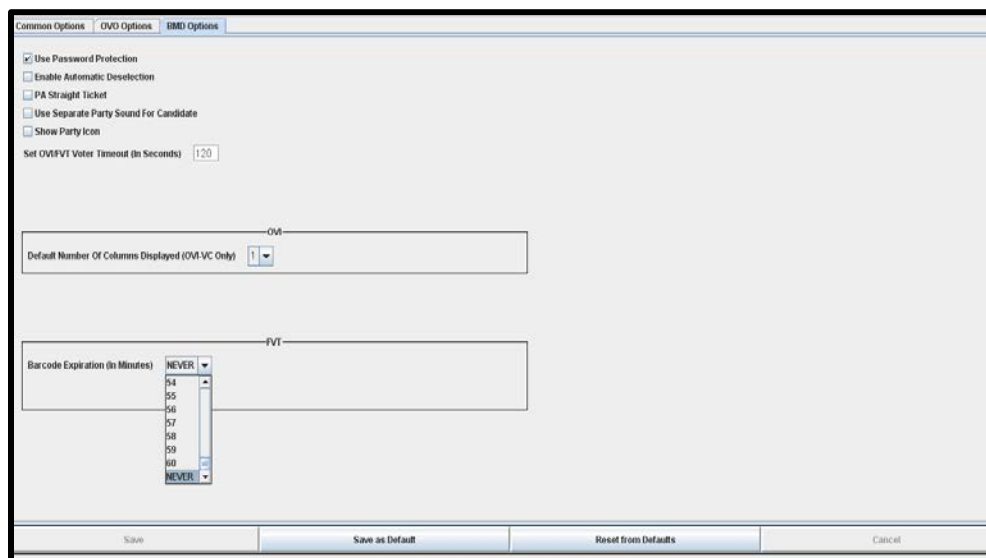
1. Select or clear the option on the BMD Options pane. (See below for explanation.)
2. On the bottom of the screen are four buttons; click the **Save** button to save the settings or the **Save as Default** button to apply the settings as the new defaults.

### 5.3.1 BMD Option Settings

This section will discuss the BMD Option settings that are set in the EM. The screen is divided into three groups:

- BMD Common Options
- OVI Setting
- FVT Option

The illustration below is an example of the BMD Options screen.



### **5.3.1.1 BMD Common Options**

#### **Use Password Protect**

If this checkbox is marked, the password in the Election Password field (on the Common Options panel) will be required to open voting on a BMD.

#### **Enable Automatic Deselection**

If this checkbox is marked - When a contest has a maximum number of candidates selected already, if user selects another un-selected candidate, all selected candidates will be automatically deselected and the new selection will be honored.

If checkbox is not marked – the user needs to first deselect one candidate then select another one if the maximum number of candidates has already been selected.

#### **PA Straight Ticket**

If the PA Straight Ticket option is selected, the OVI will pre-fill the ballot with the selected party's candidates for all related contests. However, in a contest that requires a vote for two or more candidates, if the voter presses on one of the already pre-filled selections, it will automatically deselect all other pre-fill party candidate selections in that contest. This applies only to the 'pre-fill' process; it does not apply to candidates who are manually selected by the voter.

**Note:** If the PA Straight Ticket checkbox is selected, Enable Automatic Deselection is automatically checked and disabled. The Enable Automatic Deselection option is editable only if the PA Straight Ticket option is not selected

#### **Use Separate Party Sound for Candidate**

If this option is checked, the candidate script will not contain candidate party information. If this setting is not checked, the candidate scripts will contain the candidate party information if candidate party information is available.

#### **Show Party Icons**

When this checkbox is checked and option saved, the Party Icon button at the top of the Election Management screen is enabled. The party icon panel shows the party list, not including non-partisan parties. Uploading the party icon for each party listed is required before election can be exported. Once the party icon is uploaded, the party icon displays for the party in the OVI screens.

The screenshot shows the 'Party Icons' tab in the Election Manager software. The 'Show Party Icon' checkbox is checked and highlighted with a red box. Other options include 'Use Password Protection', 'Enable Automatic Deselection', and 'PA Straight Ticket'. The 'Set OVI/FVT Voter Timeout (in Seconds)' is set to 120. The 'Default Number of Columns Displayed (OVI-VC Only)' is set to 1. The 'Barcode Expiration (in Minutes)' is set to NEVER. Buttons at the bottom include 'Save', 'Save as Default', 'Reset from Defaults', and 'Cancel'.

### Set OVI/FVT Voter Timeout

The Voter Timeout value (120 to 600 seconds) is used by the BMD unit as an inactivity timeout setting. If the voter does not interact with the BMD (via the touchscreen, a keypad button depression, or a Sip and Puff input) within the timeout limit, the session will be canceled and the BMD will return to the Election Password Entry screen used to initiate a new voting session. The BMD does prompt the user to the inactivity timeout.

**NOTE:** It is recommended that the BMD timeout value should be as long as or longer, than the time required to play the audio for the longest Measure on the ballot.

#### 5.3.1.2 OVI Options

##### Default Number of Columns Displayed (OVI-VC Only)

This specifies the magnification level the OVI-VC will start with for each ballot and will reset to after print. (Values in the drop down list are 1, 2, and 3). The OVI-VC is shown in the image to the right.

#### 5.3.1.3 FVT Options

Barcode Expiration (In Minutes) is to specify the number of minutes the barcode initialization expires after the number of minutes. The user can choose from these options 60 and NEVER. NEVER is select to allow the barcode initialization to 'never' expire.



## 5.4 Saving Your Changes

The buttons at the bottom of the Election Manager window allow you to save or cancel your changes. The Election Manager requires that you save options that have changed. If you make changes and attempt to leave a window, you are prompted to save your changes.

The screenshot shows the 'OVO Options' tab in the Election Manager. It contains several checkboxes: 'Use Password Protection' (checked), 'Enable Automatic Deselection' (unchecked), 'PA Straight Ticket' (unchecked), 'Use Separate Party Sound For Candidate' (unchecked), and 'Show Party Icon' (unchecked). Below these is a text field for 'Set OVO/FVT Voter Timeout (in Seconds)' with the value '120'. There are two sections with dropdown menus: 'OVI' with 'Default Number Of Columns Displayed (OVI VC Only)' set to '1', and 'FVT' with 'Barcode Expiration (in Minutes)' set to 'NEVER'. At the bottom are four buttons: 'Save', 'Save as Default', 'Reset from Defaults', and 'Cancel'.

## Save

Click **Save** to apply changes and store the changes in the Election Manager database. The Save button is inactive when first entering the Options area. Once a value changes, the button becomes active (see two examples below)

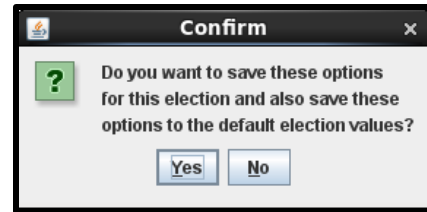
This image is a close-up of the bottom of the Options window, showing the 'Save' and 'Save as Default' buttons. The 'Save' button is highlighted with a blue gradient, indicating it is active.

When you click SAVE, the system will ask you to confirm the SAVE request.

A small dialog box titled 'Confirm' with a question mark icon. The text inside asks, 'Do you want to save these options for this election?'. At the bottom are two buttons: 'Yes' and 'No'.

## Save as Default

Click **Save as Default** to apply your changes and to make the current settings the default for future elections. Once you click Save as Default, the system will ask you to confirm the SAVE request.



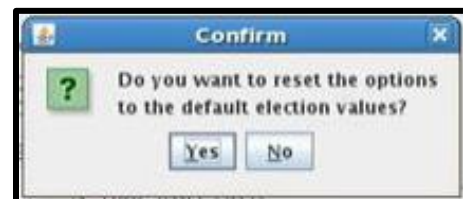
### Reset from Defaults

Click **Reset from Defaults** to cancel your changes and return to the default settings. Once you click Reset from Defaults, the system will ask you to confirm the Reset request.



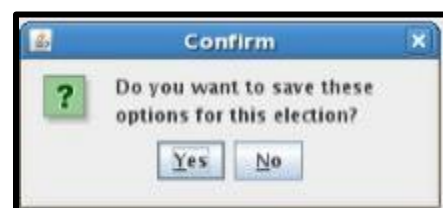
### Cancel

Click **Cancel** to cancel all changes made since the last "saved" changes. The system will confirm the Cancel request with the prompt below. If accepted, the system will reload the last save election options.



### Close

Closes the election window and returns you to the Election Manager desktop. If changes have not been saved, you will be prompted if you want to save the changes (Yes or No) or Cancel the Close Release.



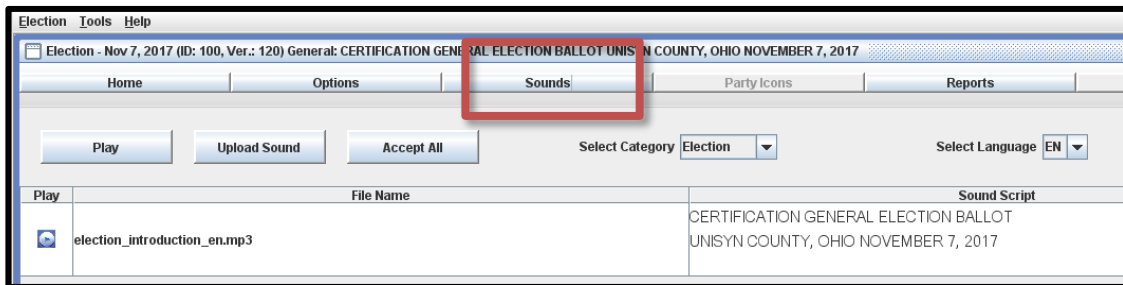
*This Page Intentionally Left Blank*

## Section Six

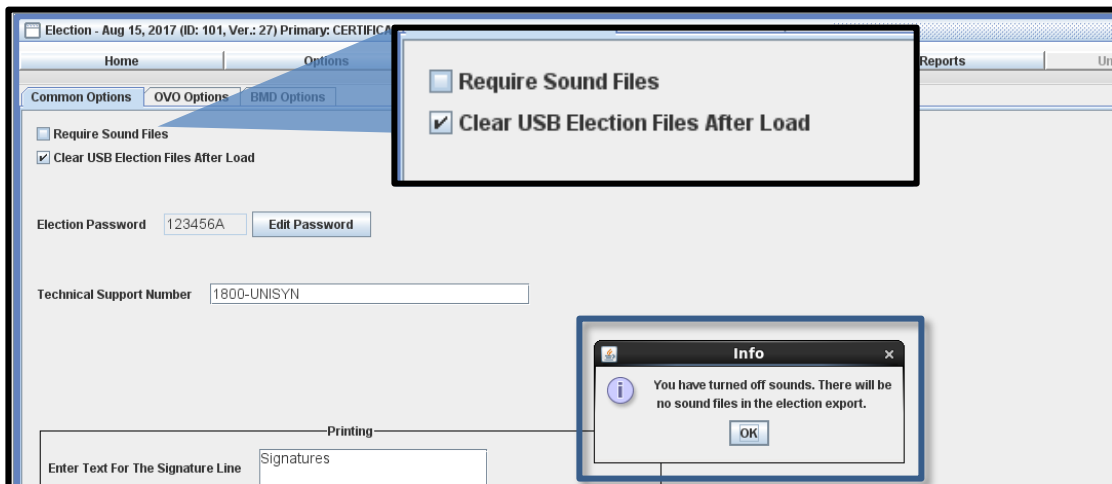
# Election Sounds

### 6.1 Sound Production Overview

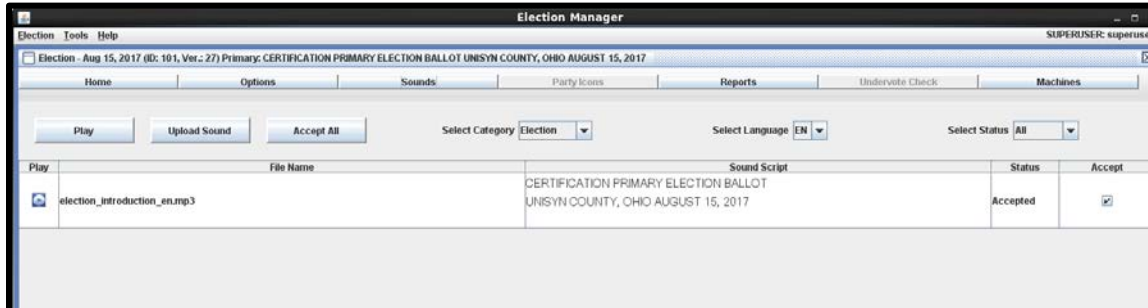
An audio script that is created by the Election Manager provides all of the sound elements required for the audio component of the OVI. The **Sounds** window for an election lists each file name and the script content required in the file.



If the "Require Sound Files" on the Common option field is cleared, acknowledged and saved, sounds will not be required for the election and the Sounds button will be disabled (outlined in green.)



## Election Sounds



In the above illustration, the election introduction file has been uploaded (status is "Accepted").

The required sound files for exporting include:

- All common sound files in English
- All candidate sound files in English
- All party sound files in English
- All precinct sound files in English
- Election sound file (election\_introduction\_en.mp3) in English
- All contest sound files in English, except the contest's description sound files

Contest description sound files are optional. Sounds in non-English languages are optional.

### To Produce the Sound Files:

1. Print the Audio Script, which will identify all sound files needed by the system, and review the Sound Script wording for all entries. If changes are needed, you can go back to the BLM to make the change or you can edit the non-common category text directly at the EM.
2. Decide whether to use pre-recorded common sounds or electronically generated sounds. You may need to convert these sounds from .WAV to .MP3, depending on your sound files. The OVI utilizes MP3 files.
3. If you choose to record sound files, a recommended method for good results is first create .wav files with the following settings
  - Bit Rate: 256 kbps
  - Audio Sample Size: 16 bit
  - Channels: 1 (mono)
  - Audio sample rate: 16kHz



- Audio Format: PCM

Then convert the .wav files to .mp3 using a sound converter utility (such as Switch Sound File Converter) with the following settings:

- Constant Bit Rate (CBR) 128kbps
- High quality encoding: off
- Channel Encoding Mode: Mono
- Include CRC: off

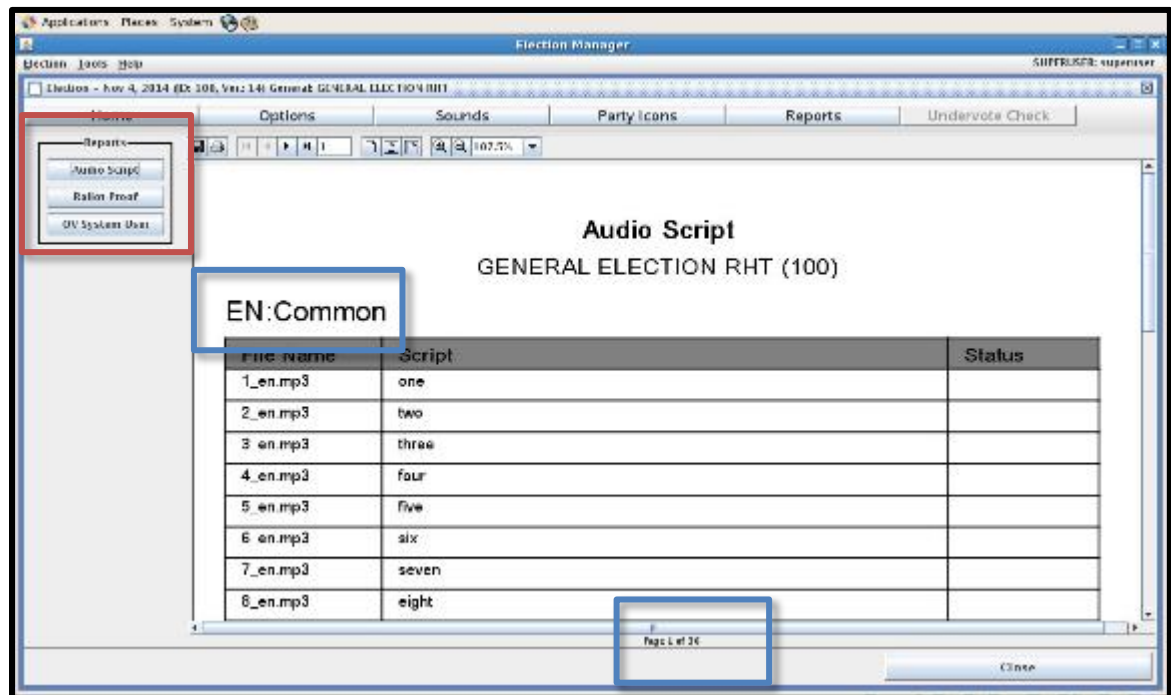
Direct to MP3 recording should be valid if the settings identified above are used for the base recordings. The sound files should be recorded such that their volumes at normal levels are within the Decibel parameters designated by the VVSG (40 to 50 dB SPL).



## IMPORTANT

**The recordings should be between 40 and 50 dB SPL  
(decibel Sound Pressure Level)**

4. To help in recording the sounds, print the Audio Script (see Section 9.1). All sound files have the filenames listed on the Audio Script (and on the Sounds window of the Election Manager).

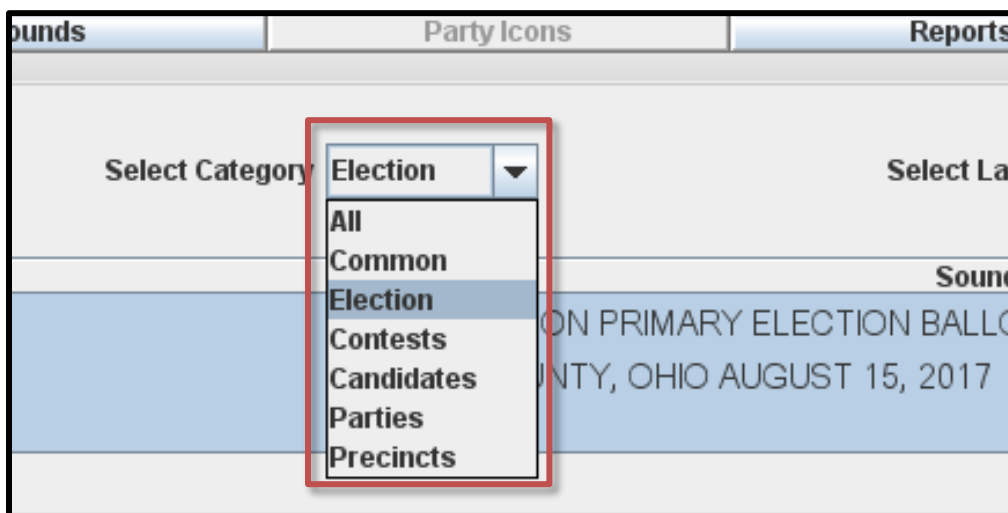


5. Use any standard recording software and a microphone. Have a narrator read a script element as you record the narrator's voice. Record the script element in the file specified by the Audio Script.
6. If more than one language is defined for the election, have a narrator read each translation in a separately recorded file, saving each recording in the file specified by the Audio Script for that language.
7. If the recorded files' format is anything other than MP3, convert all recorded sound files to the MP3 format using any standard sound file conversion program. Give the files the exact filenames specified by the audio script.
8. Place all MP3 sound files on a CD or USB and copy them on to the Election Manager PC.
9. In the Election Manager, click the **Sounds** button at the top of the window to access the Sounds window, and then click the **Upload Sound** button. See *Uploading Sounds*. You can upload sounds one at a time, all sounds from a folder, or however you choose.
10. Test all sounds before "accepting" them. Be sure to test all sound translations, too.
11. Once the sounds are tested and verified, accept the sounds.

Once all sound files required by the audio script have been uploaded to the Election Manager and marked as "Accepted," you can export the Election to a CD or USB Drive. To meet the requirement for being able to create an election, only the English versions of the sound files are required. However, it is recommended that all languages be converted.

## 6.2 Sound Categories

Because an election may include hundreds of sound files, a **Sound Category** drop-down list at the top of the Sounds window allows you to choose which sound files are displayed so the task of producing the sounds for an election is broken up into manageable groups. You can further limit the display by selecting a Sound Status (refer to Section 6.4)



Sound categories are as follows:

- **All** - All categories are displayed.
- **Common** - These are the navigational prompts, letters and numbers that are used from election to election (e.g., "Vote for" and "One"). All common sound files for the identified language are listed when you select the Common category on the Sounds window.
- **Election** - This sound file (there is only one) presents the election type, title and date. The election information is translated into all required languages. The Election sound file is listed when you select the Election category on the Sounds window.
- **Contests** - These sound files present the contests for office and the measure contests. Contest titles are translated into all required languages at the BLM. All contests, from federal to local districts, are listed when you select this category on the Sounds window. Filenames all begin with "con\_."
- **Candidates** - These files present candidate names and descriptions. Descriptions are translated into all required languages by the BLM. All candidates for all contests are listed when you select this category on the Sounds window. Filenames all begin with "can\_."
- **Parties** - These sound files present the political parties associated with candidates and Primary elections. Party names are translated at the BLM. The parties for the election are listed when you select this category on the Sounds window. Filenames all begin with "party\_."
- **Precincts** - These sound files present a unique precinct identifier (precinct ID).

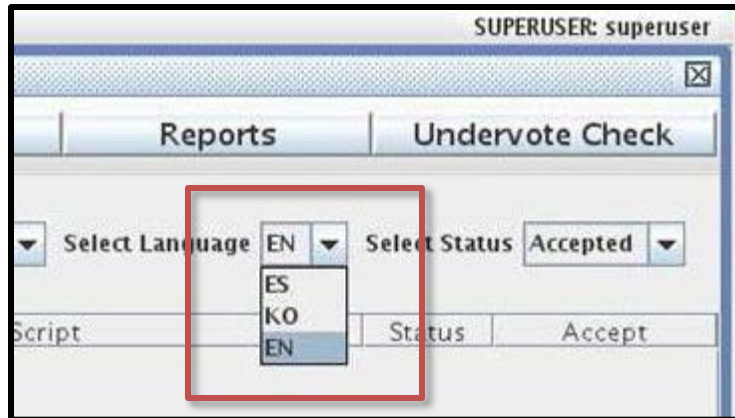
## 6.3 Sound Language

If more than one language is being used for the election, a translation for each sound is needed in all languages.

The text translations are entered in the Ballot Layout Manager for generations of the ballots as well as support of the BMD ballot presentation. These translations are exported from the BLM in the Election XML and then loaded into the Election Manager database when the election is loaded (New creation/update).

When each language is brought up on the Sound Window, the translated script for that language will appear in the center column.

The different languages are accessed via the **Select Language** drop-down list at the top of the Sounds window lets. You select and view the collection of sound files for each supported language by clicking the down-arrow to the left of **Select Language** and the supported list of Languages is displayed (up to 10).



A two-letter code represents each language. Clicking on the Language that you want to work with will bring the files related to that language. Currently, there are the options of **Bilingual** (translated into English and Spanish) and the following languages offered in the EM:

<b>EN</b>	English
<b>ES</b>	Spanish
<b>JA</b>	Japanese
<b>HI</b>	Hindi
<b>KO</b>	Korean
<b>TH</b>	Thai
<b>ZH</b>	Chinese

You can limit the view of files by selecting Sound Category (refer to Section 6.2) and Sound Status (refer to Section 6.4).

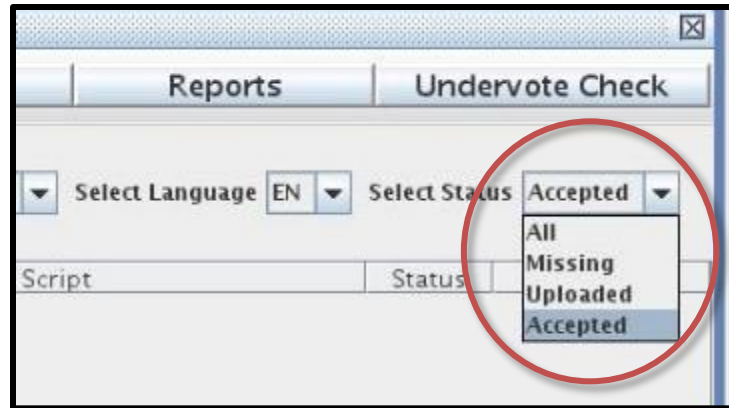
You will note that the language is indicated in the last part of the sound filename. For example:

- The English version of the first contest file: **con\_1\_en.mp3**
- The Chinese version of the same file: **con\_1\_zh.mp3**
- The Spanish version of the same file: **con\_1\_es.mp3**

The same two-letter codes represent the languages that are used in the *Ballot Layout Manager User Guide*.

## 6.4 Sound Status

The third drop-down list at the top of the Sounds window lets you view all sound files by **Sound Status**.



You can view status for each language and each sound category. The sound files listed on the Election Manager Sounds panel shows sound in the following states:

- **All** – All sounds files and their status are displayed.
- **Missing** - The sound file is missing and needs to be uploaded.
- **Uploaded** - The sound file has been uploaded. You can play the sound (click the **Play** button in the left column) to make sure the file plays properly and its contents match the Sound Script shown in the center column.
- **Accepted** - The sound file has been checked as "accepted" in the far right column. The "Accepted" marker indicates that the file has been listened to, verified and is ready to be exported to Election files.

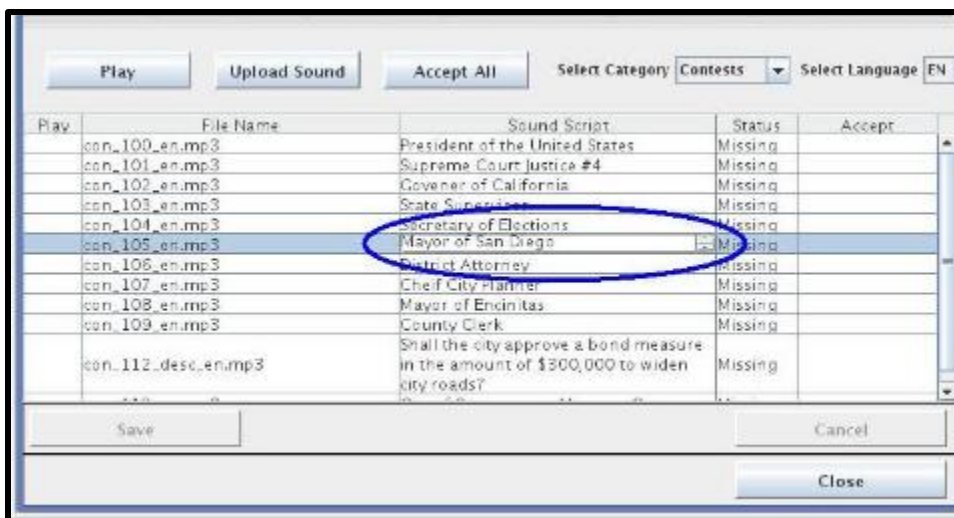
Sounds automatically go from “Missing” to “Uploaded” status when sound files are uploaded. You need to click Accept ALL before it is “Accepted.” (Refer to Section 6.8.) This means that you have listened to the file play and verified that the correct sound is in the correct place.

## 6.5 Editing Sound Script Text

The Sound Script data in the tables is directly editable by the user. This allows the sound scripts to be adjusted phonetically if a text to Sound generator is being used. The sound script information is not used for the ballots (generated at the BLM) or the information presented on the OVI screen as part of the election presentation, it is used only in producing the sounds. The sound script text should be changed for phonetic reasons only (not changing the text presented audible from what is presented visually on the OVI screen).

### To edit Sound Scripts:

1. Select Sounds.
2. Locate the Sound Script that is to be changed (Language specific).
3. Click the Sound Script to edit under the column Sound Script. In the example below, the field for “Mayor of San Diego” is selected (file con\_105\_en\_mp3).



4. Correct the Script in the appropriate language.
5. When editing is completed, click SAVE.

**NOTE:** changes made in this manner will not be reflected in the Ballot Layout database or Ballots that have been generated. If the change needs to be made to information on the ballots, the change should be made with the Ballot Layout Manager application, exported and then imported into the EM election file.

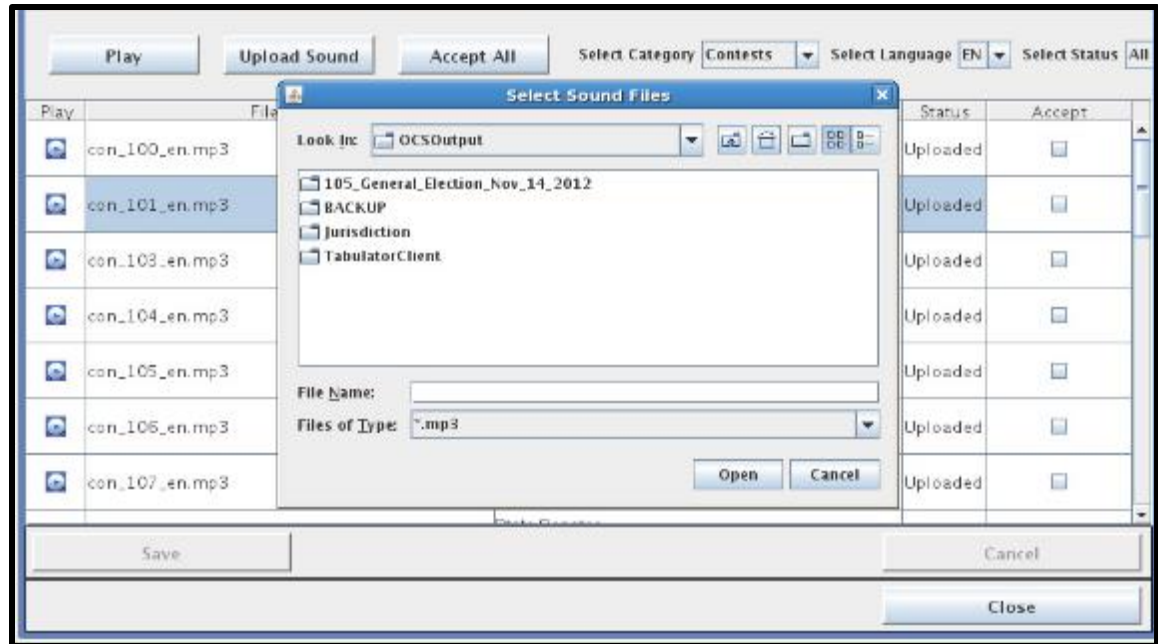
## 6.6 Uploading Sounds

All files on the Sounds window with the status “Missing” need to be uploaded. Click the **Sounds** button at the top of the window to view the Sound filenames, script, and upload status.

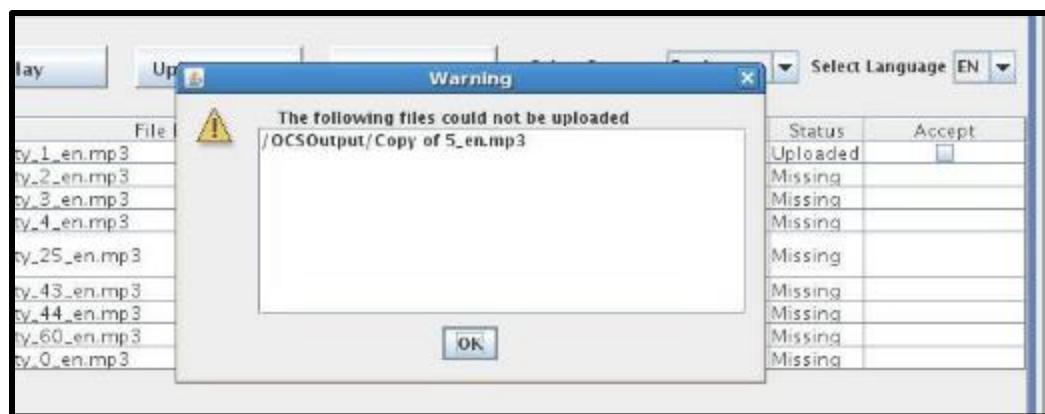
Files are in MP3 format. If sounds have been recorded in another format, use any standard sound editing software to convert the files to MP3.

### To upload sounds:

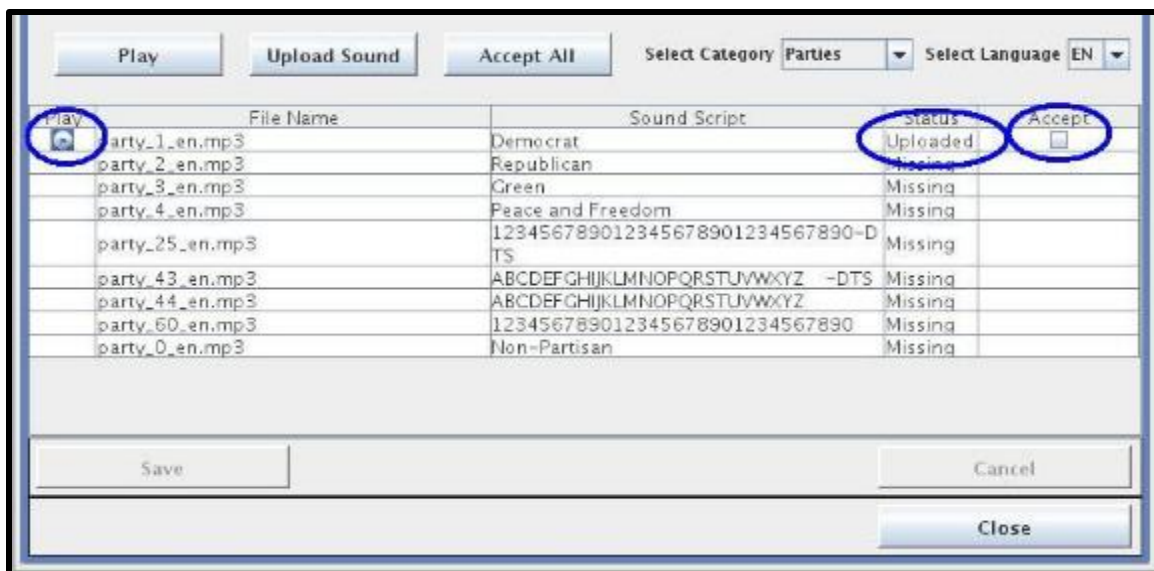
1. As described in Section 6.1, produce the MP3 records and copy them to the Election manager PC.
2. Click the **Upload Sound** button.



3. Navigate to the folder with the recorded MP3 sounds you produced in step 1.
4. Select one or more files (hold down the Ctrl key and click on the files you want), or select an entire folder of files (highlight a folder). Click **Open**.
5. A dialog box lists filenames that you attempted to upload that are not required by the audio script. Make note of any files that may have incorrectly spelled filenames before pressing **OK** on this dialog box.



6. The sound status changes to "Uploaded" on the Sounds window for all uploaded files. You can now test and "Accept" the files.



If you get an error on uploading the sound files, write down the text in the error message box and compare the file names that came up in the error message to the script displayed in the Election Manager.

On uploading sound files, the system validates filenames against the expected name values to make sure the files are all there. All sound filenames in the database are calculated based on the field type, the ID value of the individual record, and the language ID.

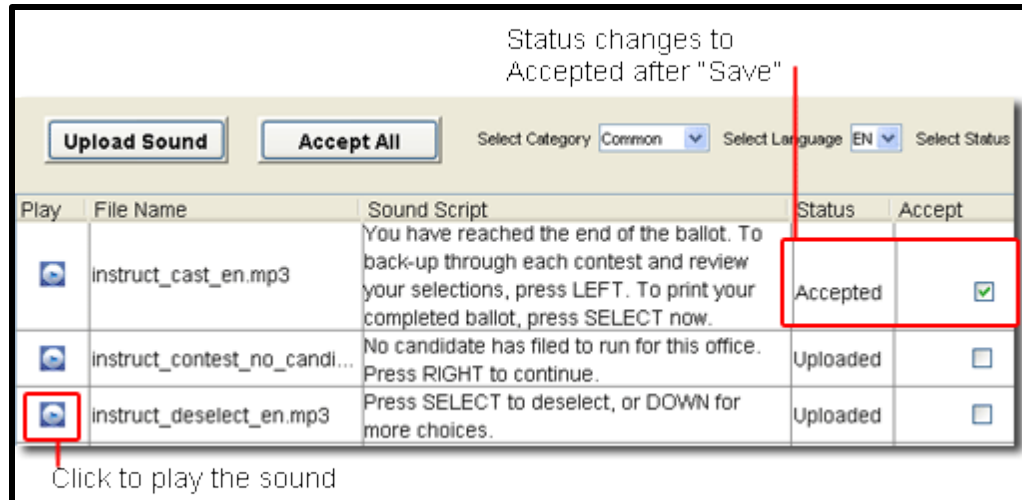
On uploading sound files, the file size also checked. If a required audio file has a file size of 0, it cannot be uploaded.

The sound file set is not considered complete for export until all sound files for the default language have been uploaded and accepted. One exception here is precinct sound files. Precinct sound files for the default language are not required. If there is no precinct sound file with default language uploaded at all, and all other required sound files are uploaded and accepted, then the sound file set is considered complete for export. However, if there is any precinct sound file uploaded/accepted for default language, then the whole set of precinct sound files with default language needs to be uploaded and accepted before the sound file set is considered complete. The Election Manager lists any files that are missing and users may view a report of the missing sounds.

## 6.7 Testing and Accepting Sounds

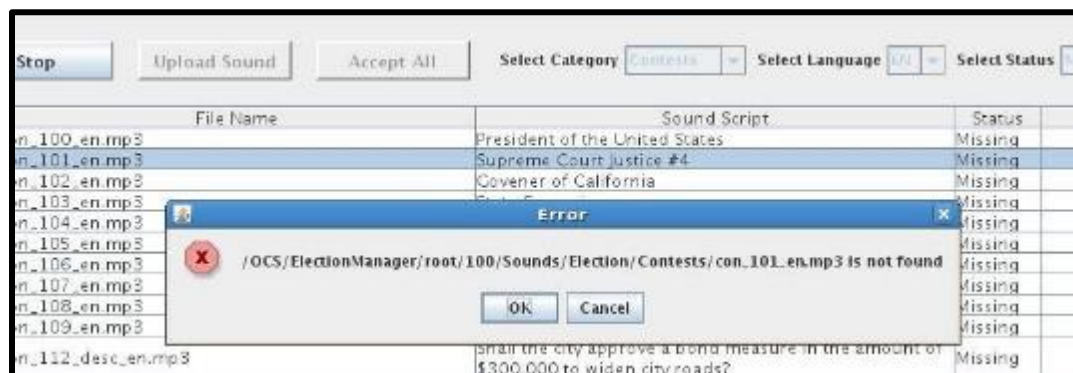
Test all sounds before “accepting” them. Be sure to test all sound translations, too. Sounds should be clear, understandable and accurate.



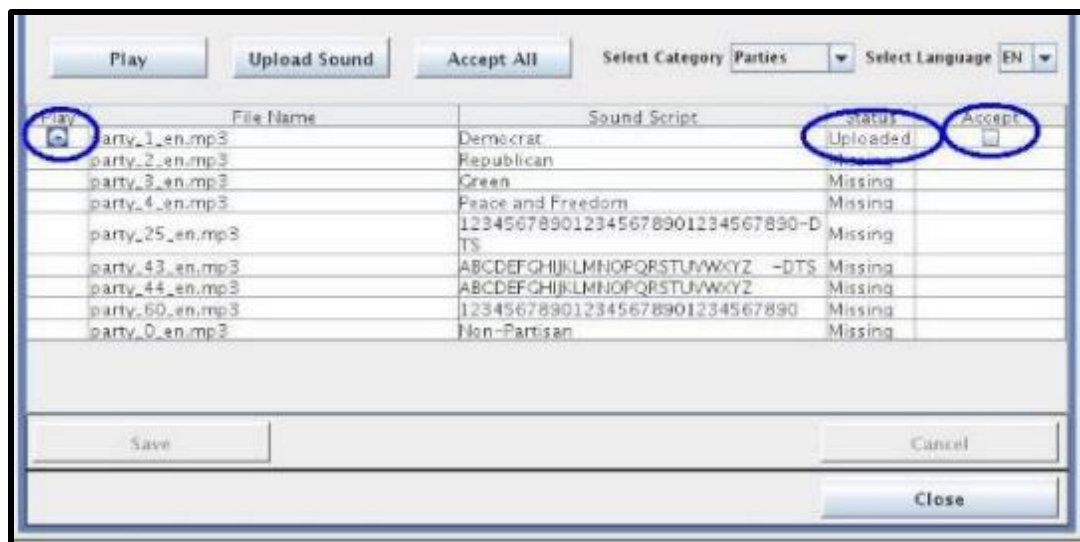


### To test the sounds:

1. Use the Category, Language and/or Status to shorten the list of sounds, if you wish.
2. Click the **Play** button in the left column, next to an uploaded sound file or the **Play** button in the top portion of the screen. The file plays. Make sure the file plays properly and its contents match the Sound Script shown in the center column. If the file cannot be found, the following message will be displayed



3. Click the **Accept** box to the right of the sound if the sound plays correctly and according to the script.



4. Click **Save** at the bottom of the window to save your changes. The Status for the sound files (where you checked the **Accept** box) changes to "Accepted."

## 6.8 Accept All Sounds

The Election Manager provides an **Accept All** button that allows you to accept sounds as a group.

**To accept all uploaded sounds:**

1. Select **Sounds** to open the Sounds window.
2. Click **Accept All**.
3. A message asks you to confirm whether you want to accept all the uploaded sound files for this Election. When you click **Yes**, all sounds with the status of "Uploaded" are changed to "Accepted" in the database.

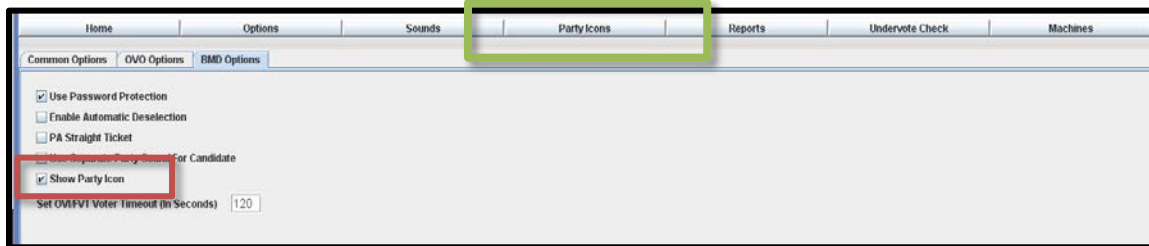


## Section Seven

# Party Icons

### 7.1 Party Icons

If the “Party Icon” parameter is checked on the BMD Options screen and saved, the Party Icons button will be enabled as is illustrated below.



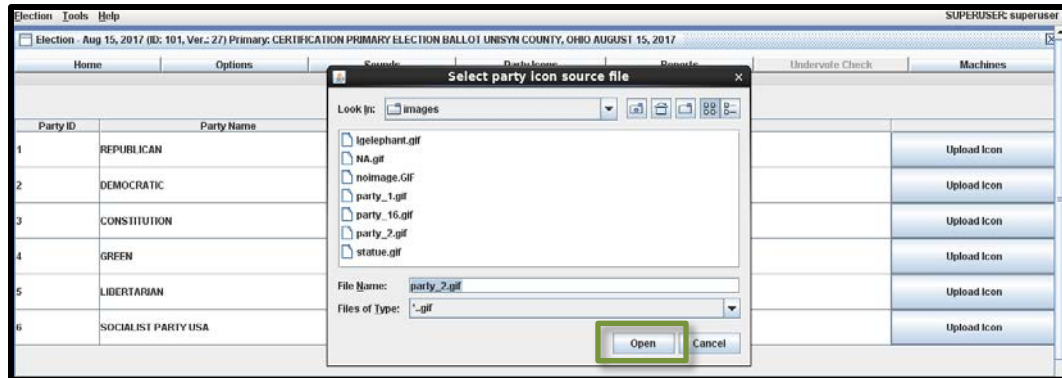
When you click on the Party Icon button (and it is enabled) the following screen will be presented:



When Party Icons are enabled, all parties listed on the screen will need to have their party icon uploaded.

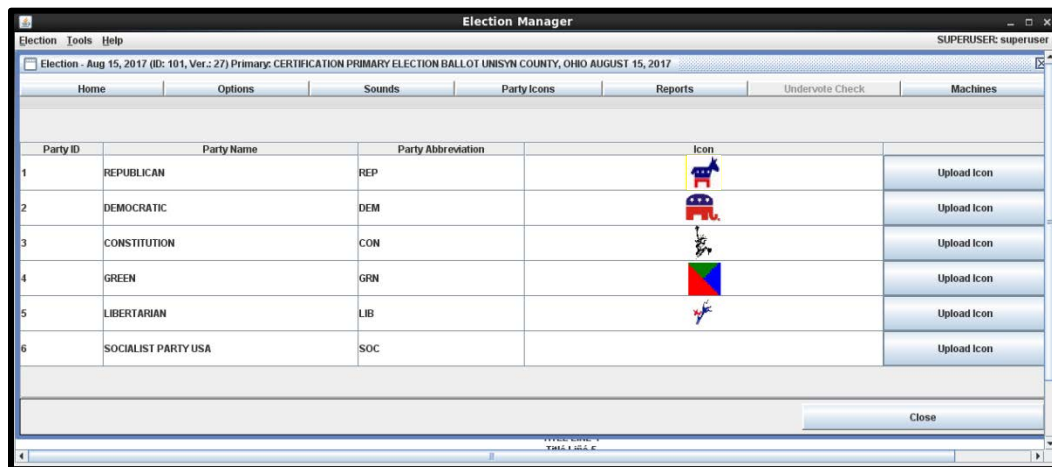
#### To upload a party icon:

1. Clicking on the **Update Icon** button at the end of the row.
2. A pop-up window will prompt for the location of the party icon file (.gif file).
3. Locate the icon .gif file and click on the **Open** button, as illustrated below.



4. Once loaded, the party icon will display in the **Icon** column.

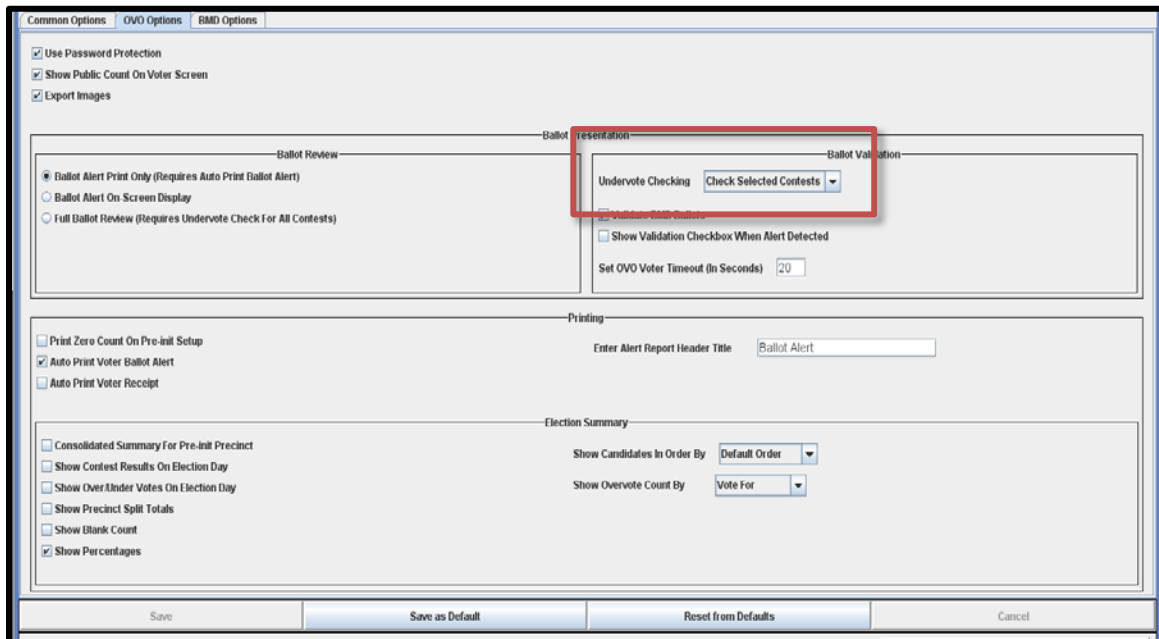
When all party logos have been entered, it will look similar to the following screen.



## Section Eight

# Undervote Check

**Undervote Check** is enabled on the top button bar *only* if under OVO Election Options you chose **Check Selected Contests** for the Undervote option (circled in Red below) and Save the setting.

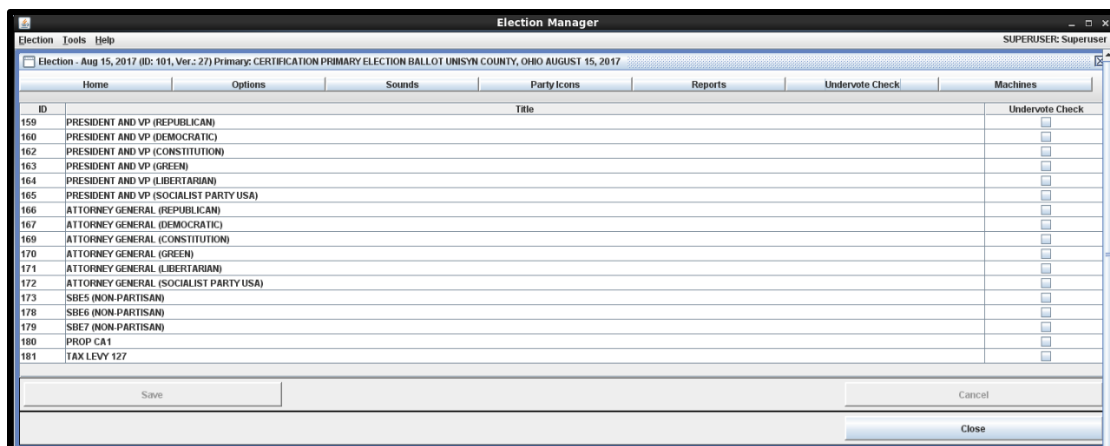


Use the Undervote Check panel to choose the contests you want the OVO to check for undervotes during Election Day voting.



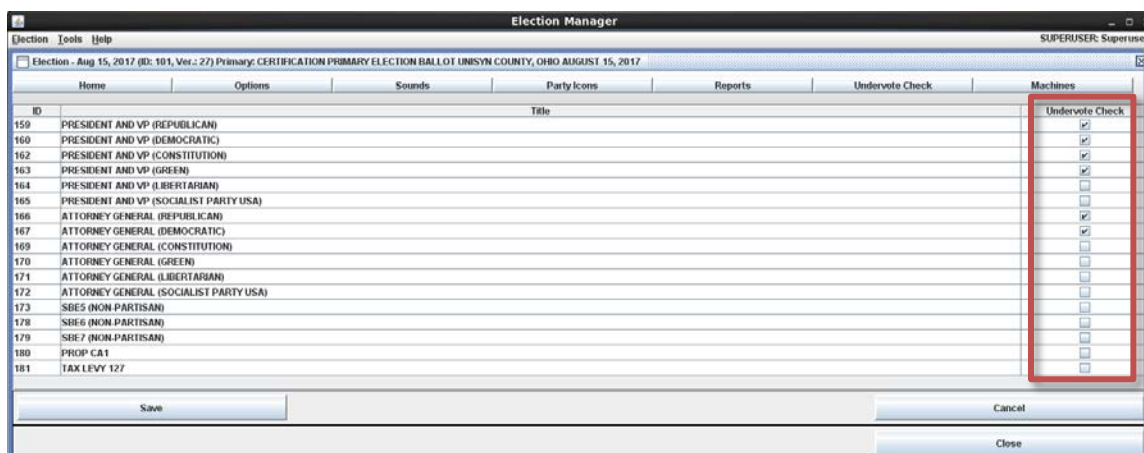
When you click the **Undervote Check** button, a list of all contests on the ballot appears.

## 8.1 Election Undervote Check



To select contests for undervote checking:

1. Next to each contest you would like the OVO to check, click to mark the **Undervote Check** box in the right column.  
Click again to remove the checkmark.



Only marked contests will be checked by the OVO for undervotes.

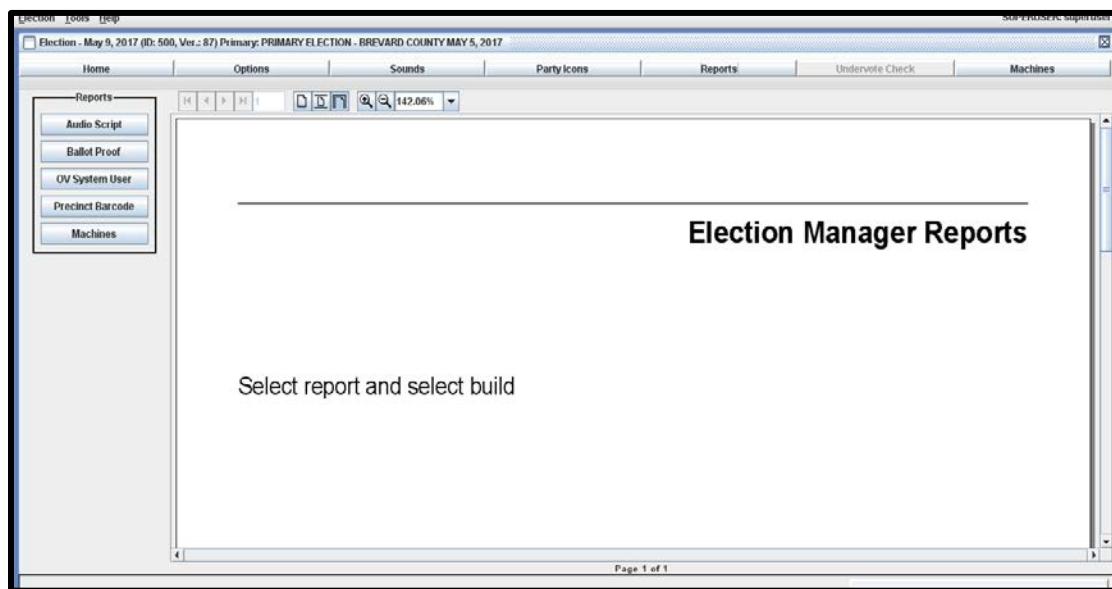
2. Click **Save**.
3. A pop-up window will prompt for confirmation to save the changes; click **Yes** to confirm the Save.

## Section Nine

# Reports

When the Reports button is initially clicked, the following screen is shown, prompting the user to select report and select build. The following reports can be generated from this screen:

- Audio Script
- Ballot Proof
- OV System User
- Precinct Barcode
- Machine



**IMPORTANT**

*Final reports from the BLM and EM should be retained to prove accuracy of election contents and definition.*

## 9.1 Audio Script

The audio script provides a written narrative of the election and the MP3 sound file names for all files required for the Audio Script component of the OVI. Sound files include election title, and all contests and candidates in all languages.

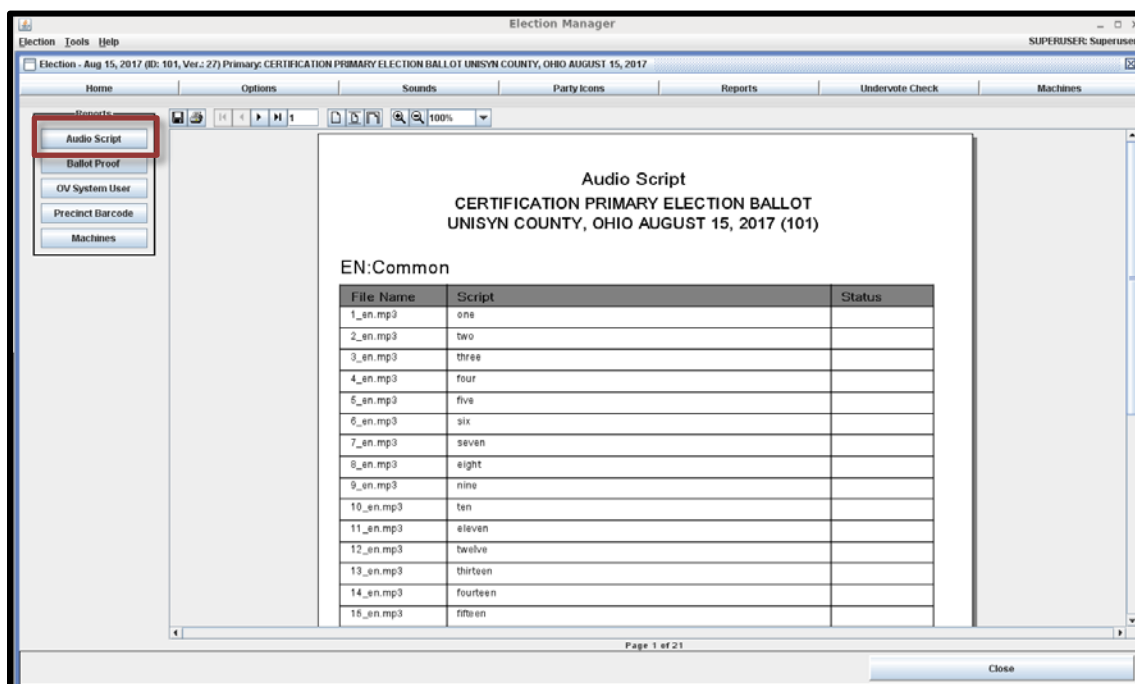
The audio script report can only be generated when the **Requires Sound Files** box is checked on the Common Options tab. If the **Requires Sound Files** box is not checked, the audio script report button is disabled on the report screen.

Be sure to complete all necessary translations for the ballot before generating a script for non-English audio production.

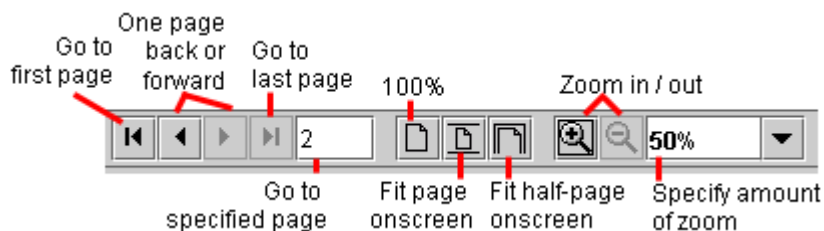
### To create the audio script:


1. Click **Reports** on the toolbar, or open the **Election** menu and select **Reports**.
2. Click **Audio Script** to view and print a script for the election.

### Reports / Audio Script

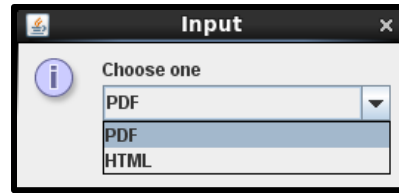


3. View the report on screen using the paging and zoom controls. The report displays the election introduction as the first page, and you can page forward to candidates, contests, parties and translations.



4. Save the report by clicking  on the toolbar.
5. A pop-up window will prompt for the report's format. Select either PDF or HTML.



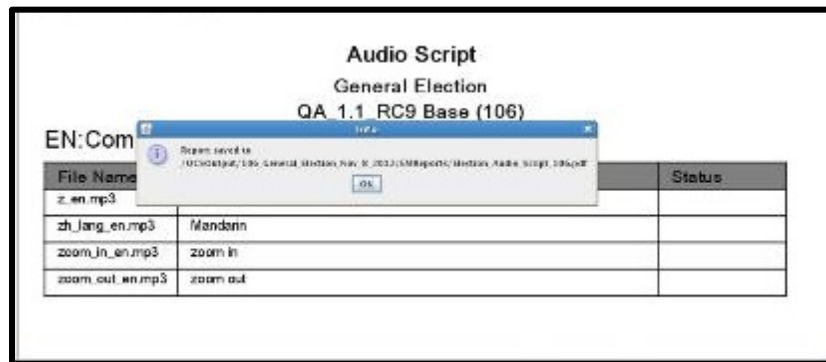



6. The report is saved to the election folder under the OCS Output folder, for example:

/OCSEOutput/<election id>\_General\_Election\_mmm\_dd\_yyyy/EMReports/Election\_Audio\_Report\_<election id>.pdf

For a primary election, the destination is:

/OCSEOutput/<election id>\_Primary\_Election\_mmm\_dd\_yyyy/EMReports/Election\_Audio\_Report\_<election id>.pdf



7. If the EM is connected directly to a printer, print the Audio Script by clicking  on the toolbar. A Print dialog box opens allows you select a printer, and select pages and copies to print. Click **OK** to print the report. Otherwise, save the PDF file to a TM and take it to a system that is connected to its own printer to print the report.

The Election Manager provides the audio script to help you produce your election-specific sound files. You can use any standard sound recording software, or you can use an optional text-to-speech generator. All sound files names are exactly as specified by the Audio Script report, and are converted to a MP3 format before uploading to the Election Manager. See Section 6.1, *Sound Production Overview*.

## 9.2 Ballot Proof Report

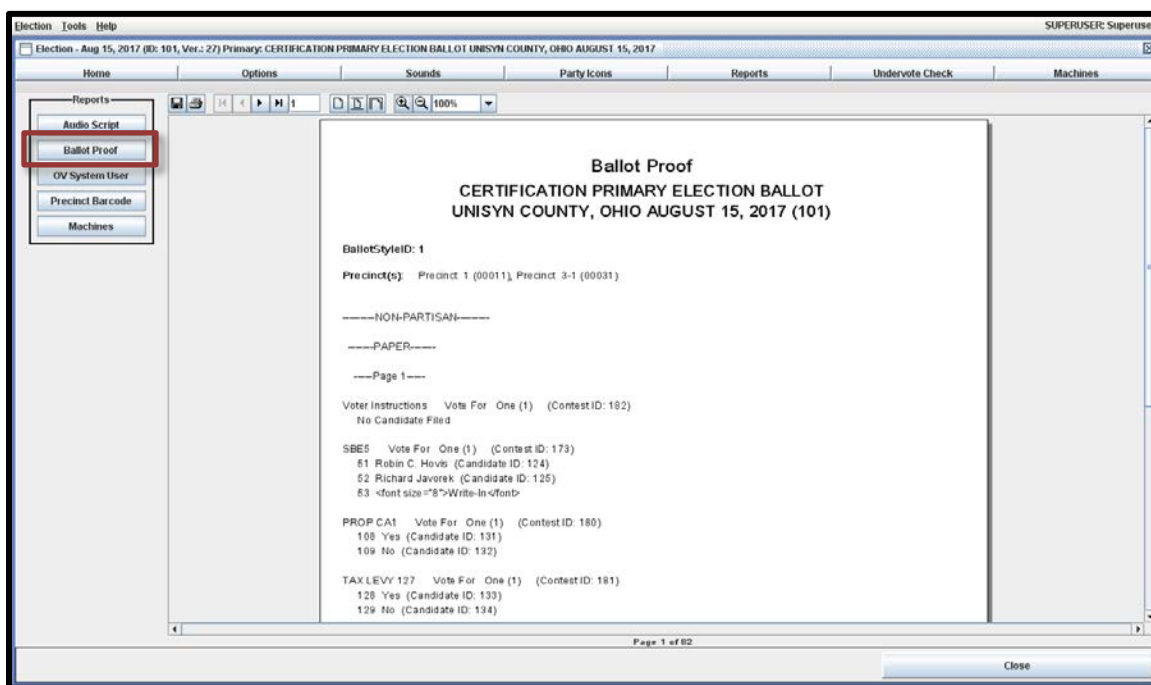
The Ballot Proof report shows one ballot style at a time, listing the ballot style ID, precincts that will be using the ballot style and each contest on that ballot. This report allows you to proof each ballot style generated for the election to make sure it is accurate:

- Check the precincts associated with each ballot style.
- Check contests and candidates for each ballot style.

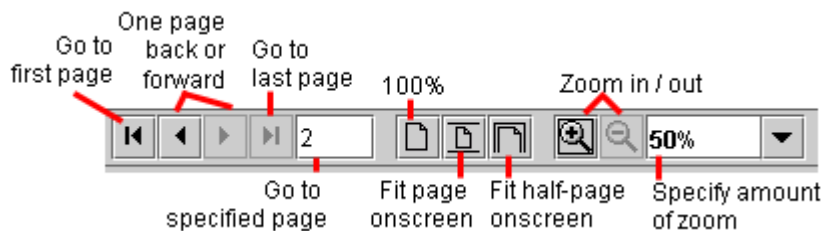
**To create a Ballot Proof report:**

1. Click **Reports** on the toolbar.
2. Click **Ballot Proof** to generate a script of the contests, candidates and measures defined for the election.

### Reports / Ballot Proof

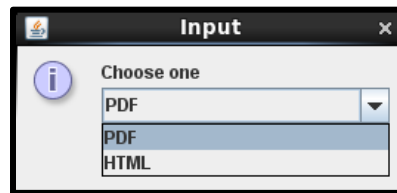


3. View the report on screen using the paging and zoom controls.



4. Save the report by clicking  on the toolbar.

5. The system will ask for format to save the information in. Select PDF or HTML.




The report is saved to the election folder under the OCS Output folder, for example:

/OCSOutput/<election id>\_General \_Election\_mmm\_dd\_yyyy/EMReports /Ballot\_Proof\_Report\_<election id>.pdf

For primary election, the destination is:

/OCSOutput/<election id>\_Primary\_Election\_mmm\_dd\_yyyy/EMReports /Ballot\_Proof\_Report\_<election id>.pdf

6. If the EM is connected directly to a printer, print the Ballot Proof Report by clicking  on the toolbar. A Print dialog box opens allows you select a printer, and select pages and copies to print. Click **OK** to print the report. Otherwise, save the PDF file to a TM and take it to a system that is connected to its own printer to print the report.

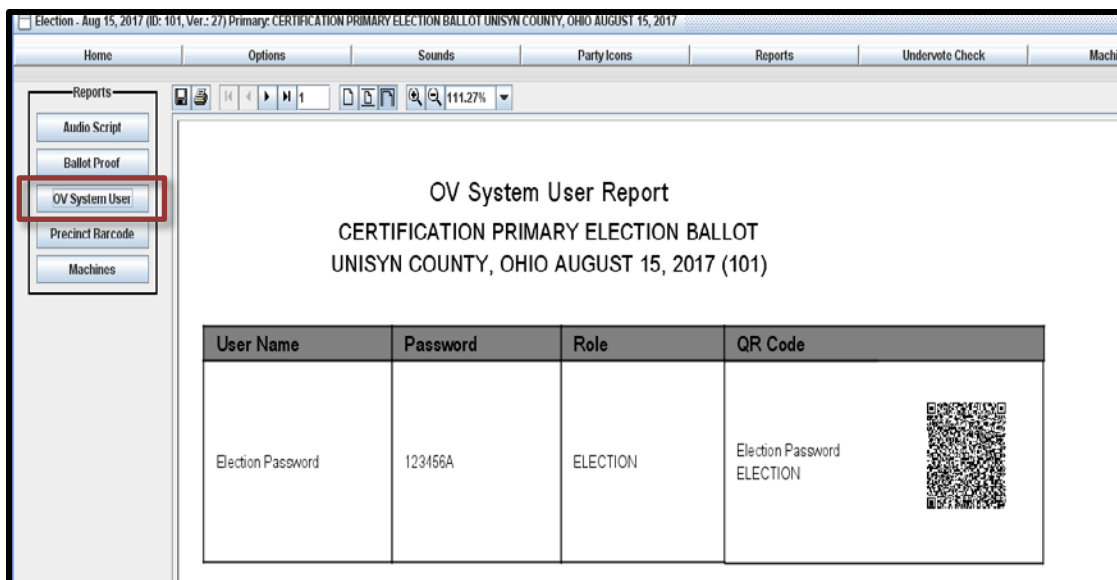
## 9.3 OV System User Report

The OV System User Report displays the list of maintenance and supervisor users and their passwords that are produced for an election. The users and passwords are created in the User Management section of Election Manager. The Election password is also listed in the report.

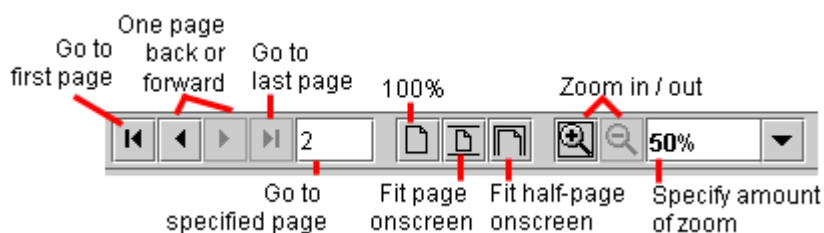
On the OV System User Report table, each user has its own encrypted QR barcode. The purpose of these barcodes is to allow entry of the passwords into the FreedomVote Tablet (FVT) or other device by scanning the barcode.


### To create an OVO System User Report:

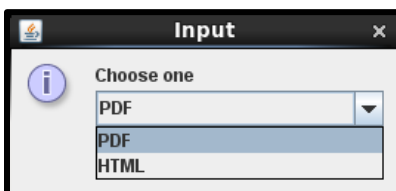
1. Click **Reports** on the toolbar.
2. Click **OV System User** to produce a report that lists the maintenance and supervisor users and their password for the election.



3. View the report on screen using the paging and zoom controls. The report shows the User Name in the first column, the Password in the second column, and the Role in the last column.



4. Save the report by clicking  on the toolbar.
5. The system will ask for format to save the information in. Select PDF or HTML.




The report is saved to the election folder under the OCS Output folder, for example:

/OCSOutput/<election id>\_General\_Election\_mmm\_dd\_yyyy/EMReports/OVOUsersReport.pdf

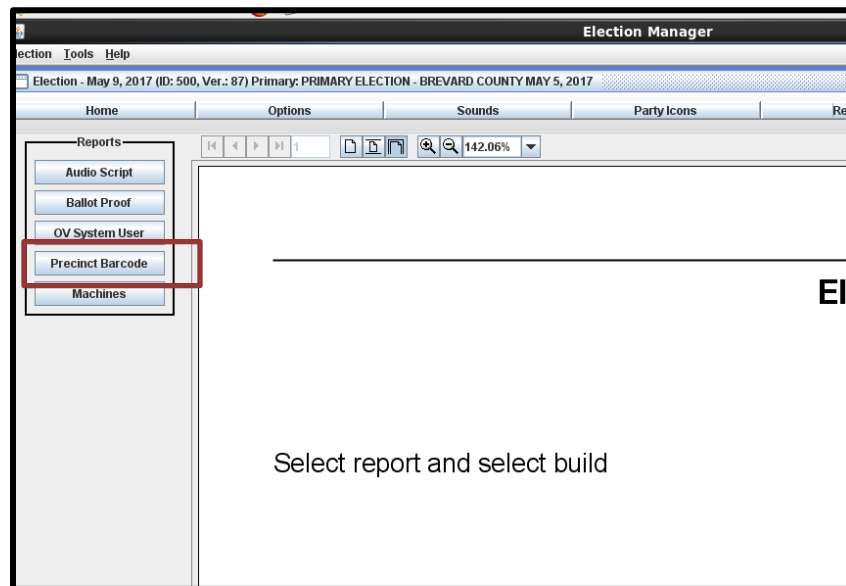
For primary election, the destination is:

/OCSOutput/<election id>\_Primary\_Election\_mmm\_dd\_yyyy/EMReports/OVOUsersReport.pdf

6. If the EM is connected directly to a printer, print the OVO User Report by clicking  on the toolbar. A Print dialog box opens allows you select a printer, and select pages and copies to print. Click **OK** to print the report. Otherwise, save the PDF file to a TM and take it to a system that is connected to its own printer and print the report.

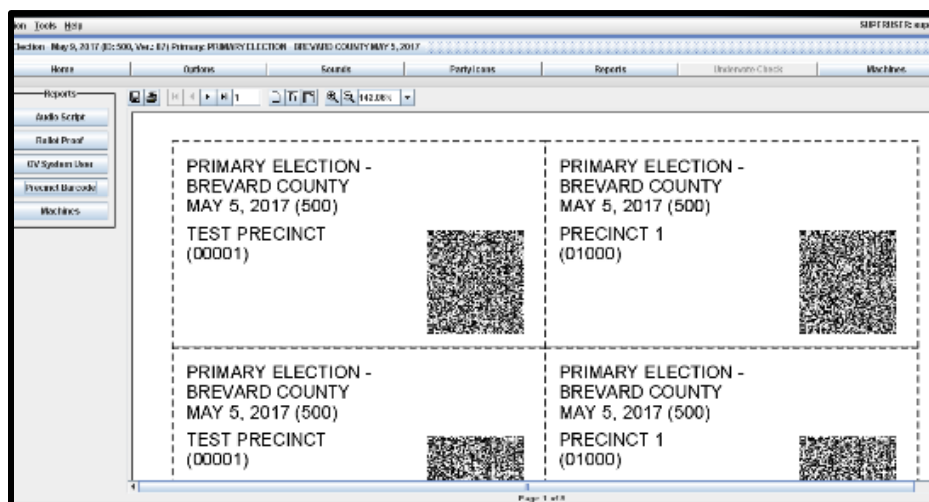
## 9.4 Precinct Barcode

A Precinct Barcode report button displays the initialization barcodes within a precinct. These barcodes can be used to start a voter session on a FVT and bring up the correct ballot for a specific voter on the interface.

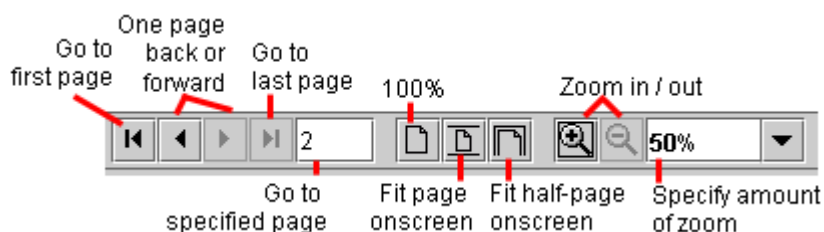



### To create a Precinct Barcode Report:

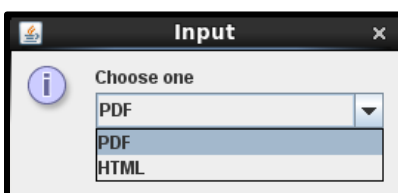
1. Click **Reports** on the toolbar.
2. Click **Precinct Barcode** to produce a report that provides barcodes that contain the precinct ballot information.



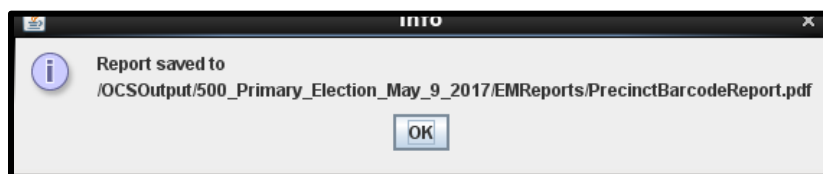
3. View the report on screen using the paging and zoom controls. The report shows the User Name in the first column, the Password in the second column, and the Role in the last column.




4. Save the report by clicking  on the toolbar.
5. The system will ask for format to save the information in. Select PDF or HTML.



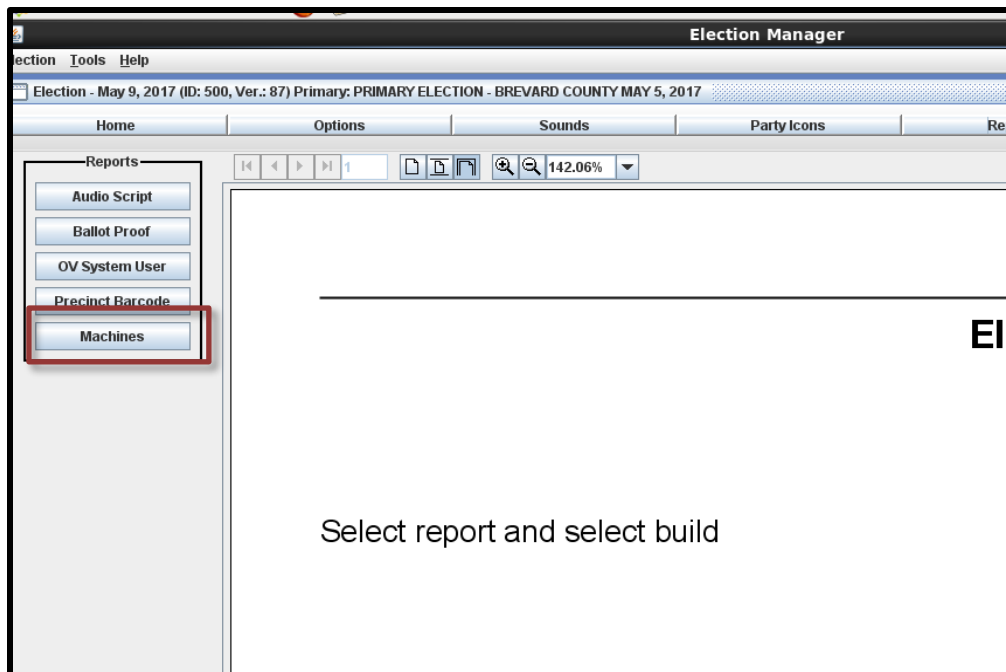
6. The report is saved to the election folder under the OCS Output folder, for example:



7. If the EM is connected directly to a printer, print the Precinct Barcode Report by clicking  on the toolbar. A Print dialog box appears. Select a printer, the pages and the number of copies to be printed, and then click **OK** to print the report. Otherwise, save the PDF file to a TM and take it to a system that is connected to its own printer to print the report.

## 9.5 Machine Report

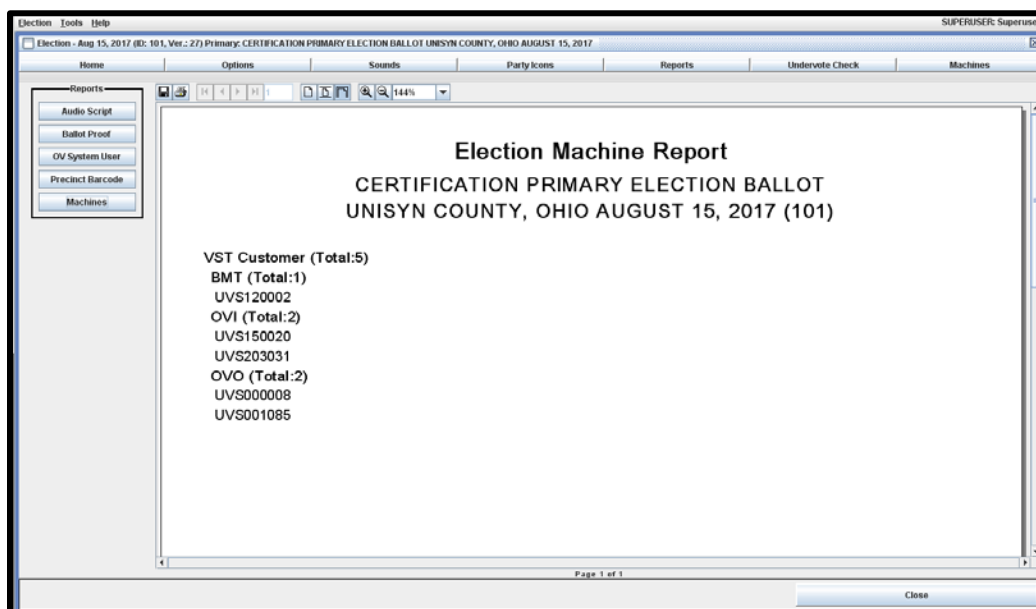
The machine report button generates a list of all the election machines assigned for an election. This report lists machines in a specific area (district/precinct), and then groups them by types. The machine report uses multiple column and if necessary, multiple pages.



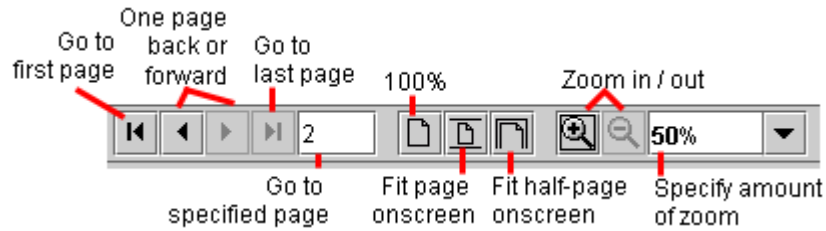
As with the other reports, to create a Machine Report:


1. Click **Reports** on the toolbar.
2. Click **Machines** to produce a report that provides a listing of all the election machines, by location and type used in an election.

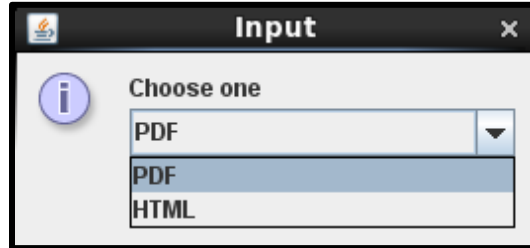
### Reports/Machines




3. View the report on screen using the paging and zoom controls.



4. Save the report by clicking  on the toolbar.
5. The system will ask for format to save the information in. Select PDF or HTML..
6. The report is saved to the election folder under the OCS Output folder.



7. If the EM is connected directly to a printer, print the Machine Report by clicking  on the toolbar. A Print dialog box appears. Select a printer, the pages and the number of copies to be printed, and then click **OK** to print the report. Otherwise, save the PDF file to a TM and take it to a system that is connected to its own printer to print the report.



## Section Ten

# Export Election to Media

When an election is exported, it is signed with the customer specific key .The application keystore file (obtained from Unisyn), that is used for installation contains the customer key specific to the customer.

Only one customer key is supported in the keystore file; this customer key is used for export encryption automatically without any user interaction.

## 10.1 Exporting a Training Election

A Training Election is useful for training poll and election officials in OVS voting procedures. A Training Election can consist of fictional contests/ candidates and has no connection to any "real" election.

- All Training Election files are internally marked as "Training."
- When the Training Election is loaded on an OVO, the bottom of the OVO Election screen displays "Training."
- Training voting files are deleted on the OVO.
- Training voting files can only be accepted by a Tabulator Client "Training Session."

**Note:** To perform a Logic Test for an Election, export the "real" election. The election can be set to Logic Test from the OVO interface before it is run.

Requirements for exporting a Training Election are the same as for exporting an election:

- Tech Support number is set.
- At least one Maintenance user is defined.
- At least one Supervisor user is defined.
- All required sound files are uploaded and accepted.

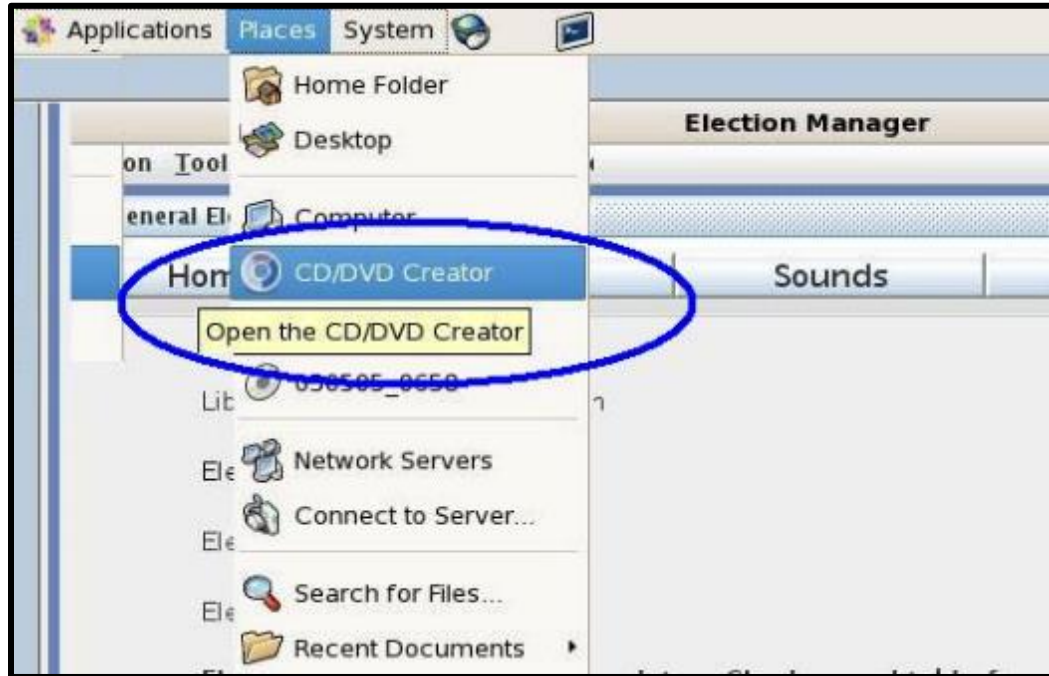
### To export a Training Election:

1. Open the election.
2. Open the **Tools** menu and select **Export Training Election**.  
If the above requirements are not yet met, **Export Training Election** will be inactive on the **Tools** menu.

The election data is processed into files that can be used by the Tabulator, TC, ES, OVO, OVI FVT and OVCS. The files are placed in a "TRAINING CD Image" folder within a folder that takes the name of the election:

/OCSOutput/<election id>\_General\_Election\_mmm\_dd\_yyyy/<customer ID>TRAINING\_CD\_Image

Copy the files in the **TRAINING CD Image** folder to a USB Drive or to a CD, using the CD-burning software included with the Linux installation on your PC system,



3. Label the Election CD/USB Drive as a Training Election.

After being exported, the Training Election progresses to the "Exported" state.

## 10.2 Exporting an Election

When the following requirements are met, the open election is eligible for exporting:

- Tech Support number is set
- At least one Maintenance user is defined
- At least one Supervisor user is defined
- All required sound files are uploaded and accepted (if the **Required Sound Files** box is checked on the Common Options tab.)

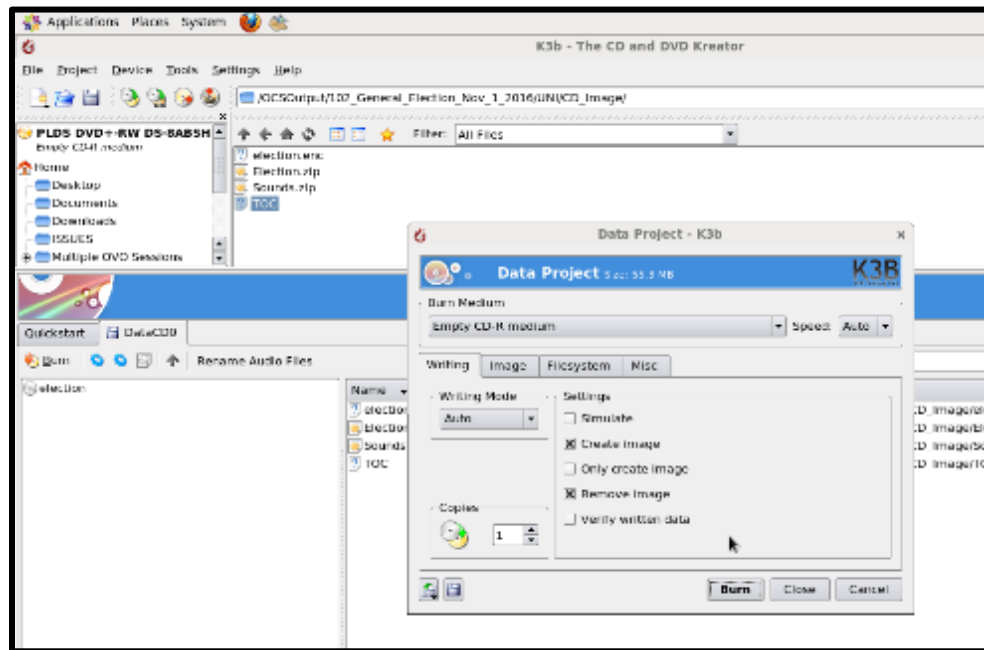
The election can then be output to an Election USB Drive or Election CD and installed on OVO and OVI systems via the ES. The USB Drive can also be used to load an election on individual OVOs, OVIs and FVTs. The USB is also used to load an election on the Tabulator, Auditor, TC and OVCS.

**NOTE:** Only a Superuser can export the election.

## 10.3 To Export the Election for an EOS 2.0 System:

To export the Election for an EOS 2.0 system using a CD:

1. Insert a blank CD into the CD/DVD drive on the machine.
2. From the OS top menu bar select Applications → Sound and Video → K3b
3. On the 'Welcome to K3b - The CD and DVD Kreator' screen, click 'New Data CD project'. In the upper panel browse to 'root\OCSOutput' and select the election's CD Image folder. Then click the files needed or drag and drop the files to Project pane in the bottom panel.
4. Select 'Burn' button in the bottom pane, the 'Data Project - K3b' screen is displayed. Deselect 'Verify Written Data' option, and select the 'Create Image' and 'Remove Image' options. Press the 'Burn' button, the CD will now be burned and ejected when it is complete.



5. Select 'Close' to exit the screen. Upon exiting the application, the user can select 'discard' on the final pop up screen.
6. Label the election CD with the election title, ID and version.

To export an Election for an EOS 2.0 system using a USB Drive, follow the instructions for creating an Election USB from the Training Instructions above. Label the Election USB with the election title, ID and version.

### 10.3.1 To Export the Election for an EOS 1.1 System:

1. Open the election. Write down the Election ID and version shown on the Home Window.
2. Open the **Tools** menu and select **Export**.  
If the above requirements are not yet met, **Export** will be inactive on the **Tools** menu.
3. The election data is processed into files that can be used by other OVS components. The files are placed in a "CD Image" folder within a folder that takes the name of the election:

/OCSOutput/<election id>\_General Election Nov\_12\_2007/<customer ID>CD Image

Open the **Tools** menu and select **Export**

4. Follow the instructions for creating an Election CD or USB Drive from the Training Instructions above.
5. Label the Election media with the election title, ID and version.

After being exported, the election progresses to the "Exported" state. You can make no more changes to the election from the Election Manager until a Superuser Re-opens the election. See **Re-open Election** in Election Home Window.

## 10.4 Export Election Files

When you export an Election, the Election Manager writes the following files to a directory. You will copy the entire directory to Election Media. The files contained in the directory are:

- **election.enc**
- **Election.zip**  
Jurisdiction and ballot data for the Election.
- **Sounds.zip**  
Sound files for the audio ballot (used by the OVI-VC only).

If the **Require Sound Files** box on the Common Options tab is not marked, no sound files will be exported.

- **TOC**
- **TOC.sig**

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## Section Eleven

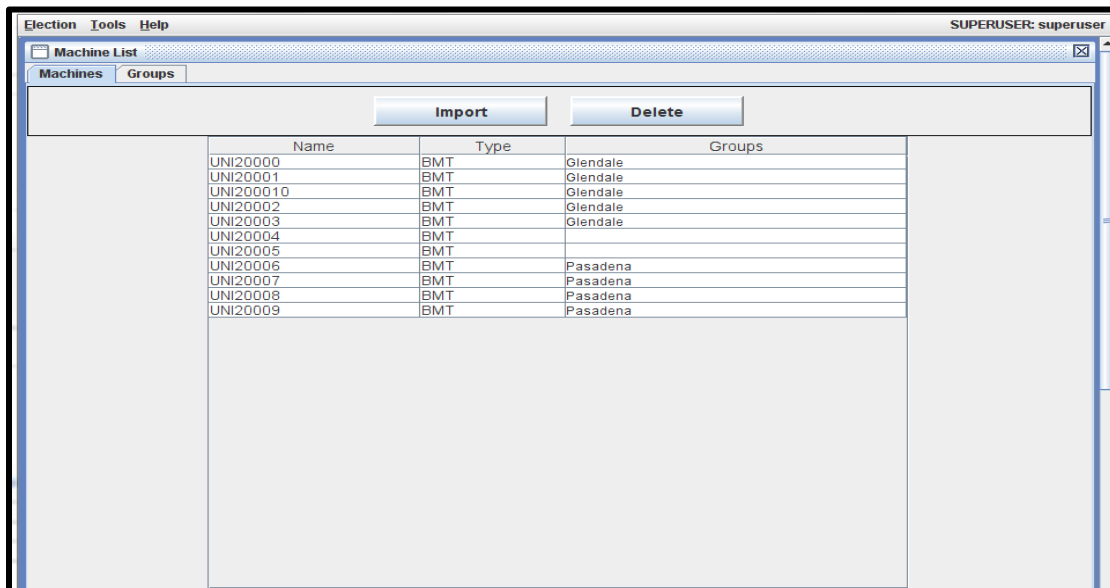
# Machine Management

To improve security the Election Manager 2.0, uses public/private keys for signing and encrypting files. The first time the EM 2.0 application is loaded on each OVO, OVCS, OVI and FVT device they will be required to generating their own public key. Each device must then output their machine name/IP, device type, and their public key into a file. The file is named using the machine name and put on a TM; a TM can have one or more such files. Each jurisdiction will collect all of the machine files for their devices and import them into EM. The EM's Machine List function manages the machines.

The Machine List function is accessible through the **Tools->Machine List menu**. Here the user can manage machines and add machine groups using this interface.

### 11.1 Machine List Management

The Machines tab is the default screen for the Machine List function on the Tools menu bar. This screen is used to import machines from TM machine files and delete existing machines. It also displays all the machines in the system.



#### 11.1.1 Import Machines

Import function imports machines from TM machine files. Click on the Import button to bring up the file browser. The user chooses a directory that contains the machine file(s). All machine files, that have a .pub extension in the chosen directory, are processed.

If a machine is already in system, then the data in system is automatically updated with the new data in the machine file. If a machine is from a machine file that is not in system, then the machine will be added to the system.

If a machine is successfully imported, its input files, including the .pub file and the .sig file, are copied to the **/OCSOutput/MachineKeys** folder. In the event the user manually deletes or adds files to **/OCSOutput/MachineKeys** folder, the EM will not validate the contents of the altered folder.

### 11.1.2 Delete Machines

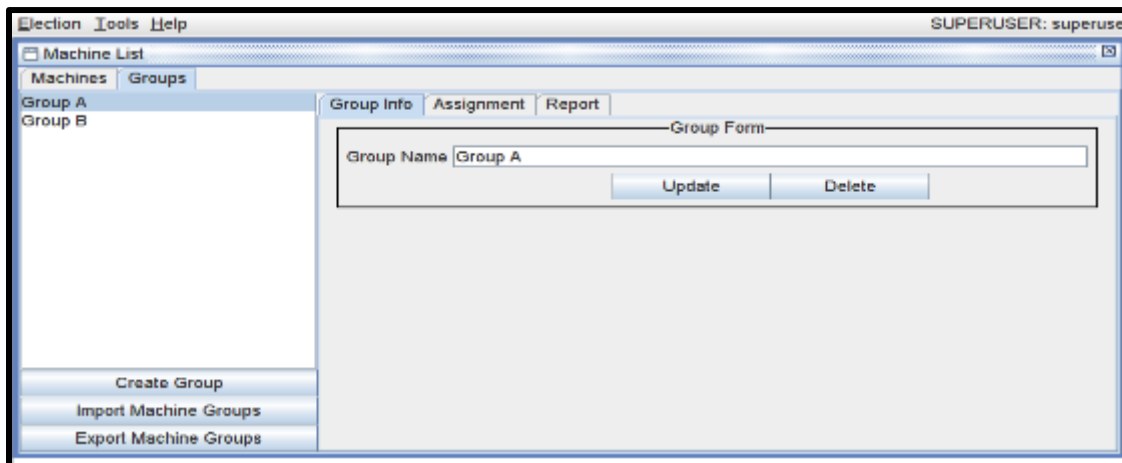
The Delete function deletes the selected machines. A machine can be deleted if it is not used by any election. If a machine is deleted, its original input files, including the .pub file and the .sig file, are removed from **/OCSOutput/MachineKey** folder.

## 11.2 Group Management

Machines can be assigned to different groups. Then groups can be assigned to elections. The groups screens manages group list.

### 11.2.1 Group Info

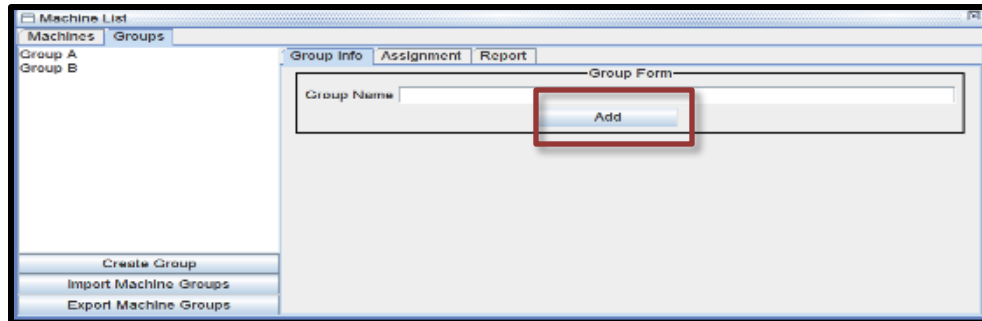
The group info screen handles group creation, updates and deletions. Users can also export machine groups to an external file and import machine groups from an external file.



#### 11.2.1.1 Add Group

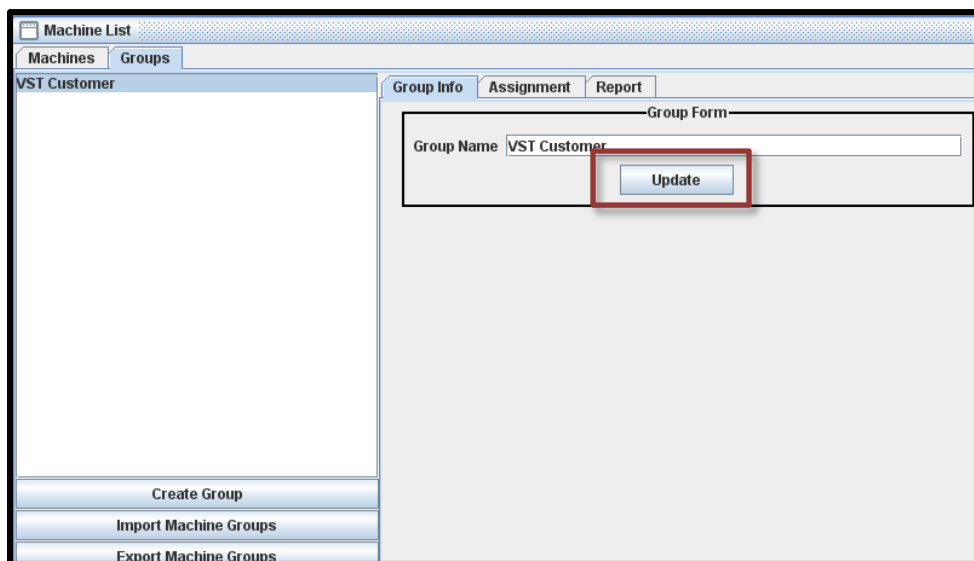
To create a group on the Group Info screen, click the **Create Group** button at the bottom of left panel, enter a group name and click the **Add** button. The Group name must be unique.





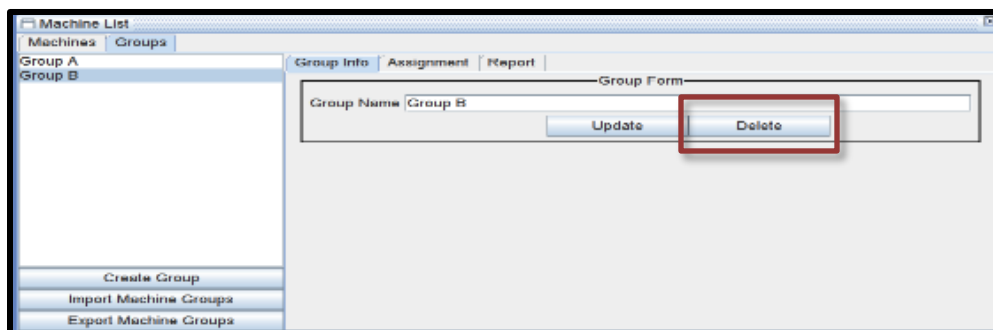
### 11.2.1.2 Update Group

To update a group on the Group Info screen, select the group to modify from left side group list, update the group name and click the **Update** button.



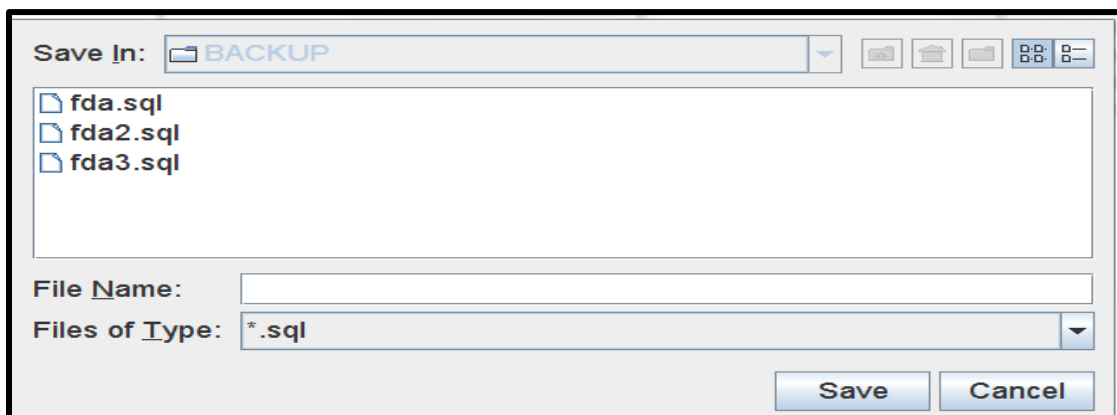
### 11.2.1.3 Delete Group

To delete a group on the Group Info screen, select the group to delete from left side group list and click the **Delete** button. The **Delete** button is only shown for groups that are not used by an election.



#### 11.2.1.4 *Export Machine Groups*

Users can export groups and their machine assignments. The Export function does not include the actual public keys, only the group definitions and group machine associations are exported. To export a machine group the user clicks the **Export Machine Groups** button at the bottom of left panel. A dialog box displays requesting the user to specify the export file name.

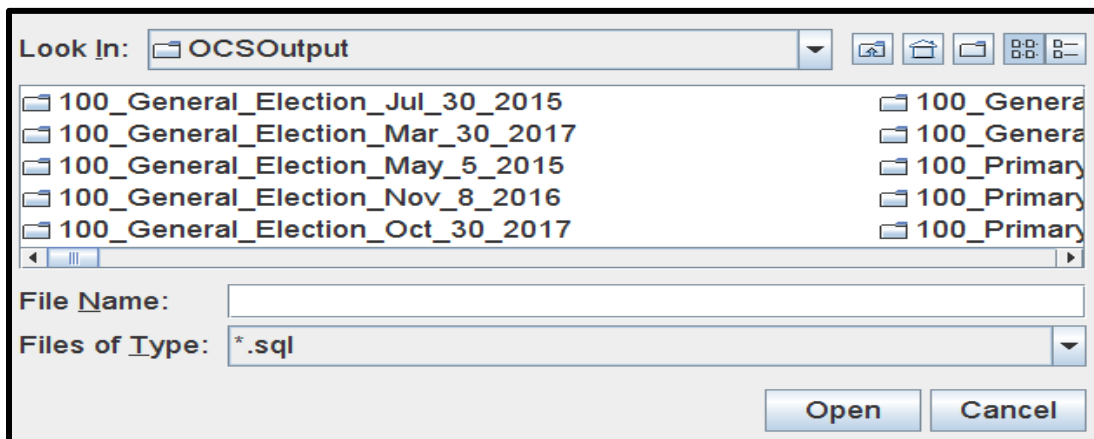


The user enters the file name and clicks the **Save** button, the data is exported to a sql file. A signature file (.sig) is also generated for the sql file. The user can use the **Cancel** button to cancel the export process.

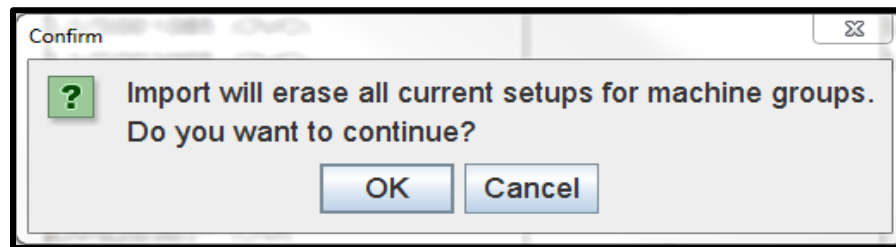
#### 11.2.1.5 *Import Machine Groups*

Users can import groups and their machine assignments using sql files generated with the 'Export Machine Groups' function. The Machine Group import should not touch the actual public keys; only the group definition and the machine associations are imported. The import is a full replacement of current groups and their machine associations in the EM. All machines, from the relationships in the import file that are not defined by current EM, are removed at end of the import process.

When the user clicks the **Import Machine Groups** button at the bottom of the left panel, a dialog box displays asking the user to select the .sql file to import.



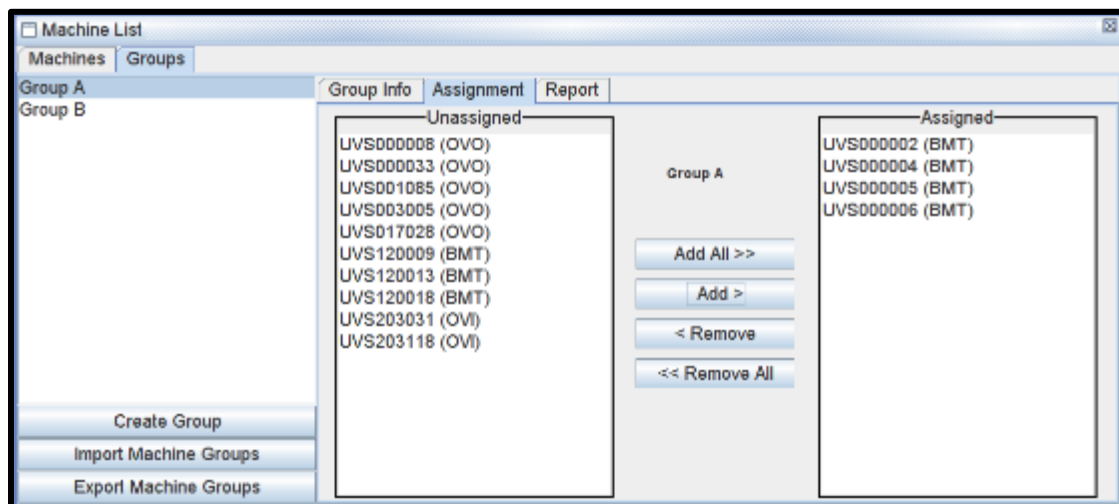
The user selects a .sql file and clicks the **Open** button. The .sql file's signature, which is generated by the **Export Machine Group** function, is then verified. If verification succeeds, a dialog displays warning user of the consequence of the import action and ask for user confirmation to continue.



When the user clicks the **OK** button, the selected .sql file is executed. The associated groups and their machine assignments are replaced in EM. The user can use the **Cancel** button to cancel out of the import process.

### 11.2.2 Group Machine Assignment

Users can assign machines to a group. One machine can be assigned to more than one group.

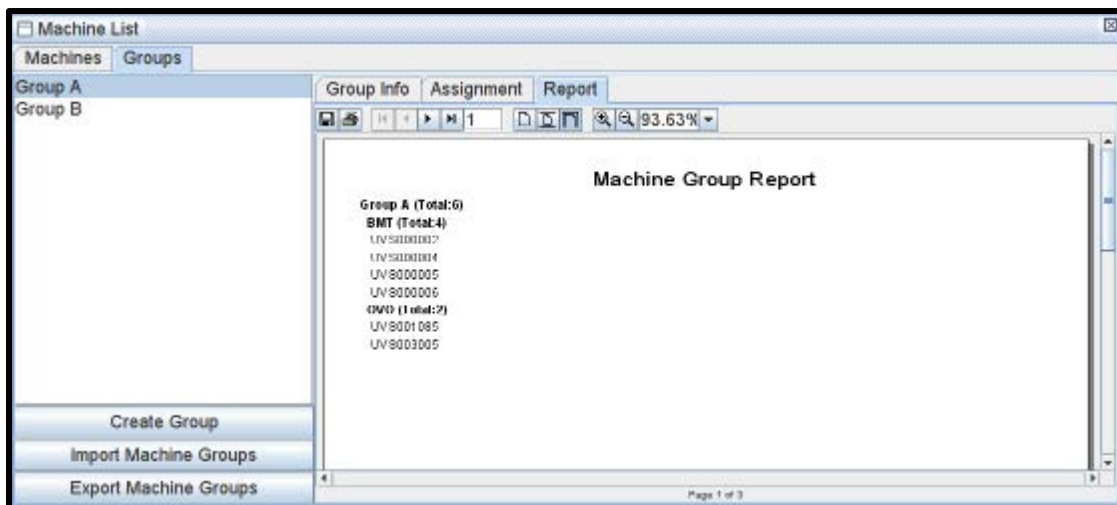


- **Add All** - assigns all machines in unassigned machine list to the group.
- **Add** - assigns all selected machines in unassigned machine list to the group.
- **Remove** - removes all selected machines in assigned machine list from the group.
- **Remove All** - removes all assigned machines from the group.

### 11.2.3 Machine Group Report

The report screen shows the machine group assignment.

The report is first grouped by group name then by machine type. Machines are sorted by machine name within each group. Each group starts on a new page. If there are machines not assigned to any group, then an unassigned machines list is added at end of this report.

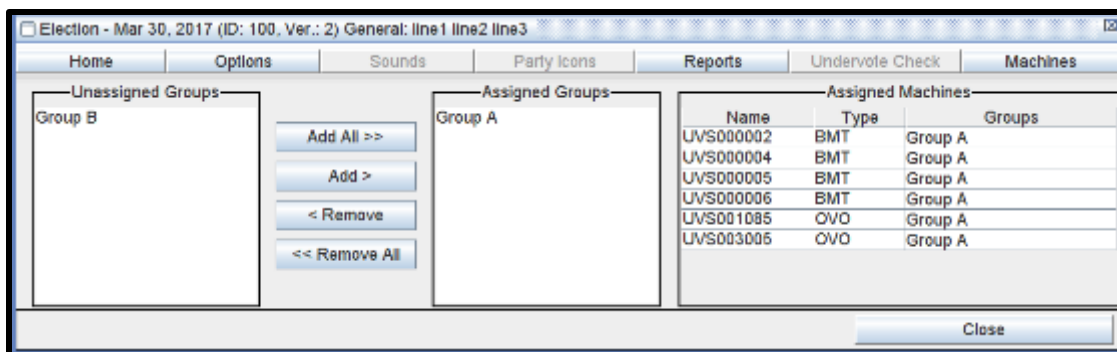


## 11.3 Election Machines

Each election can have different groups of machines. The Election Machine Group assignment function is accessible through the **Machines** menu button when an election is open.

### 11.3.1 Election Machines Assignment

A User can assign groups of machines to the election.



- **Add All** - assigns all groups in unassigned group list to the election.
- **Add** - assigns all selected groups in unassigned machine list to the election.
- **Remove** - removes all selected groups in assigned group list from the election.
- **Remove All** - removes all assigned groups from the election.

The groups that are not assigned to the election are listed in the Unassigned Groups list. The groups that are assigned to the election are listed in the Assigned Groups list. The machines in the Assigned Groups are shown in the right side Assigned Machines table.

### **11.3.2 Election Backup and Restore for Election Machine Groups**

In order to restore all machines from a backup election file:

- The restore has to be done on the same EM machine the backup is from
- The machines and machine groups on the EM machine must not been changed since the election backup

When election is backed up, only the Machine Group IDs assigned to the election are backed up. When election is restored, if the same machine groups are not in EM system any more, the election will be restored without the full set of original election machine groups.

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## Section Twelve

# User Management

There are two major types of users managed in Election Manager Application, Election Manager Users and OpenElect® Voting System (OVS) Users. The OVS users are those who have rights to access certain functionality on Unisyn OVS systems in the field, as well as being able to use the Tabulator Client, OVCS and Election Server applications. Election Manager Users can only use the Election Manager application.

The Election Manager users have the rights to change data and user information in the Election Manager application. If an Election Manager User also needs access to the other applications, they will need to create a separate user account for that application.

### 12.1 Election Manager Users

The Election Manager supports two types of users to perform the functions within the Election Manager application (Supervisor and Admin) with different levels of access.

**Table 12-1. Election Manager Users and Functions**

Superuser	Admin User
Login to the Election Manager	Login to the Election Manager
Load a new Election	Load a new Election
Set any options	Set any options
Upload Party Icons	Upload Party Icons
Upload and accept sound files	Upload and accept sound files
Upload and clean Transport Media (TMs)	Upload and clean Transport Media (TMs)
View machine logs	View machine logs
Manage Supervisor and Maintenance user accounts	Manage Supervisor and Maintenance user accounts
Backup the Open Election	Backup the Open Election
Restore and Delete an Election	
Export an election	
Manage Admin and Superuser accounts	
Deactivate and Activate user accounts	
Mark an Election as concluded	
Re-open an Election	

## 12.2 Election Maintenance and Supervisor (OVS) Users

The Election manager application manages the usernames and passwords for the maintenance and supervisor users that can operate the other applications (ES, OVI, OVO, OVCS and Tabulator Client).

**Table 12-2. Election Maintenance and Supervisor User Functions**

Maintenance	Supervisor
Login to and use the Election Server.	Login to and use the Election Server.
Login to and use the OVCS.	Login to and use the OVCS.
Login to the Tabulator Client and only import election vote data to the Tabulator Client hard drive.	Login to the Tabulator Client and import of election vote data to the Tabulator Client hard drive and upload of that data to the Tabulator.
Can run diagnostics, load an election (if not Election Day), print reports and start a special voting session.	Can run diagnostics, load an election (if not Election Day), print reports and start a special voting session.
	Can force the start of a voting session and force a close of a session.

Election user passwords are seven digit alphanumeric numbers that are dynamically generated and unique for each election, and are not repeatable or changeable. These users and password combinations are only useful for that election.

## 12.3 UNI User

There is a special account: UNISPCL. The UNISPCL user is only used to perform a special read test (Shoeshine Mode) which is allowed only with a Training Election. The UNISPCL user name and password will only be put into the exported file of the election, if the election is being exported as a Training Election. There is only one UNISPCL user allowed.

This account cannot be deleted; however, the interface can change the password.

## 12.4 Creating a New User

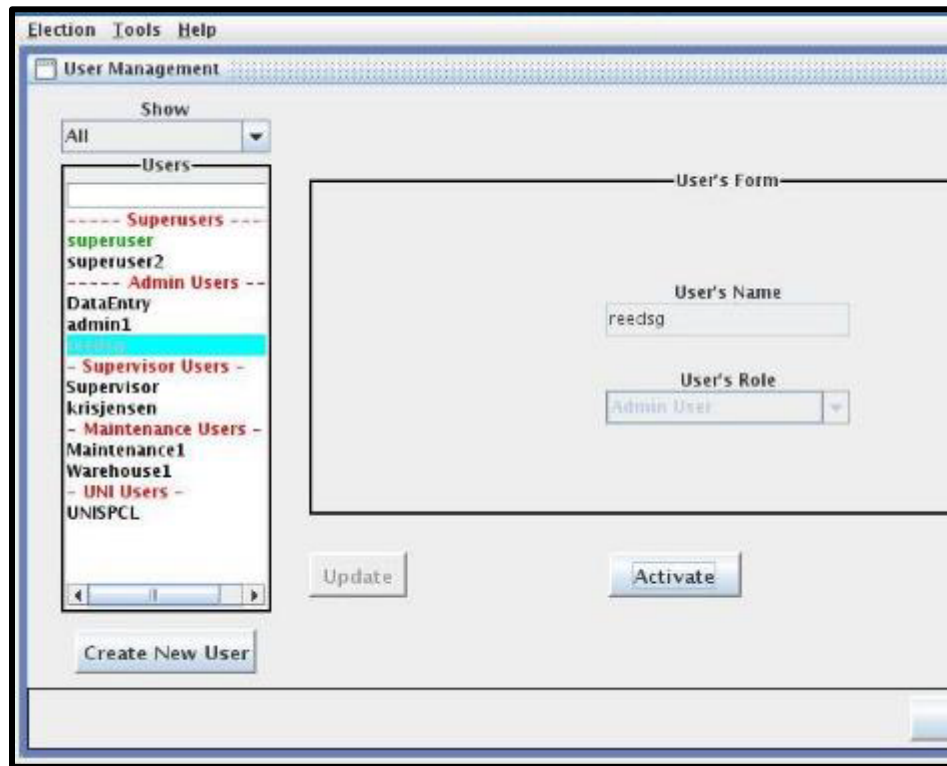
**Follow these steps to add a user.**

1. Open the **Tools** menu and select **User Management**.

If an Election is Open when User Management is entered, the election will be closed.



2. Click **Create New User**. The button is at the bottom of the Users list. The User form at right clears.
3. Type a User Name.  
Superuser and Admin User names are from 5 to 15 characters, using no spaces.



4. Select the User's Role: Superuser, Admin User, Supervisor or Maintenance User. Only a Superuser can create a new Superuser or Admin account.
5. Click **Add**. If the user role is Superuser or Admin User, the Add User password box appears. For Supervisor or Maintenance users, a seven-digit password is automatically generated when the existing election is exported, or when new election is imported.



6. Type a password; passwords must contain 7 to 15 characters with at least one letter and one number, and using no spaces. Verify the password by typing it again, and then click **Enter**.

The Supervisor and Maintenance User passwords are generated for each election. To see these passwords, when an election is open, select the Reports button and select the 'OV System User' report.

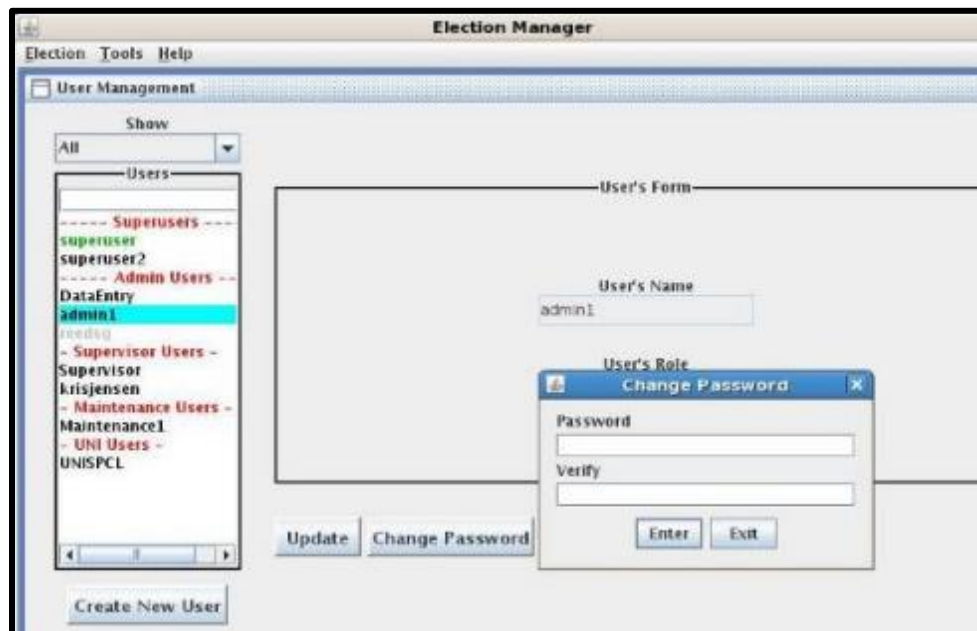
The user is added to the left-column list of Users under the role defined for the user. If the role was not already displayed, it will be added to the list at the time of the first user being defined for that role.

The screenshot shows the 'User Management' window from the Election Manager software. The window has a menu bar with 'Election', 'Tools', and 'Help'. Below the menu bar is a 'Show' dropdown menu set to 'All'. The main area is divided into two sections. On the left, under the heading 'Users', is a list of users categorized by role. The categories and users are: Superusers (superuser, superuser2), Admin Users (DataEntry, admin1), Supervisor Users (Supervisor, krisjensen), Maintenance Users (Maintenance1, Warehouse1), and UNI Users (UNISPCL). The 'admin1' user is highlighted in blue. On the right, under the heading 'User's Form', are two input fields: 'User's Name' with the text 'reedsg' and 'User's Role' with a dropdown menu showing 'Admin User'. Below the list of users are 'Update' and 'Activate' buttons. At the bottom left is a 'Create New User' button.

## 12.5 Changing Passwords

To change any user's password:

1. Open the **Tools** menu and select **User Management**.
2. Select the user from the Users list (for Superuser, Admin user and UNI Users).
3. Click the **Change Password** button. A Change Password pop-up window appears.



4. Type the new password in the Password field and again in the Verify field, and then click **Enter**.

## 12.6 Deactivate / Activate a User Account

Personnel may change before a new election. The Election Manager allows a Superuser to deactivate users who should no longer have access to the Election Manager or, as a Maintenance Technician, to the OVCS, OVO, FVT or OVI.

To deactivate a user:

1. Click on the user account name in the left column or start typing the user's name in the box at the top of the Users list. When selected, the user's name and role are displayed.
2. Click **Deactivate**. The name in the left-hand list becomes gray, and the user no longer has access.

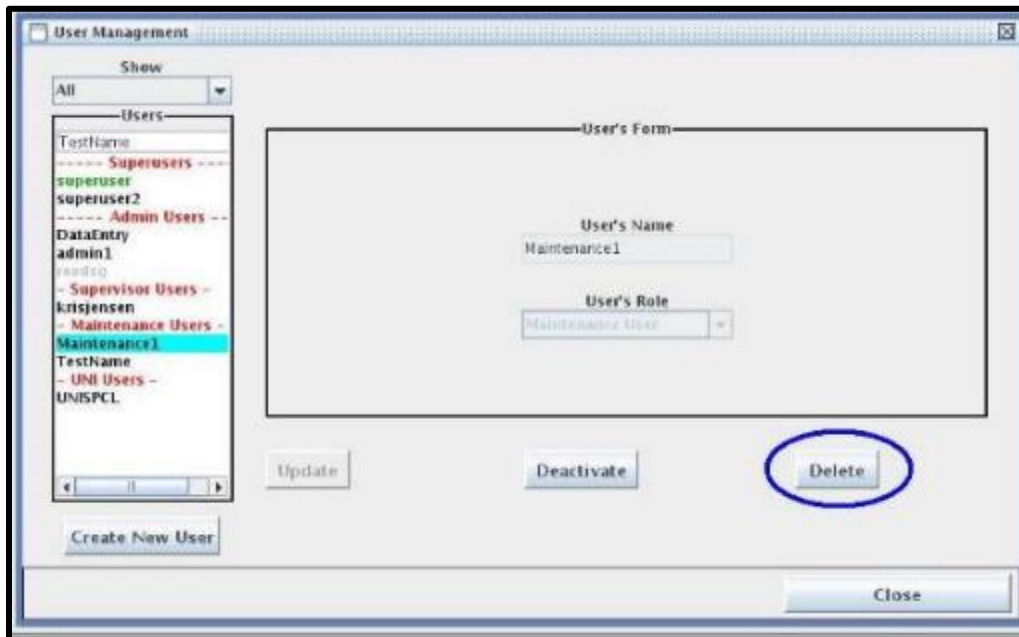
To reactivate a user:

1. Select the gray, deactivated user account from the left Users list.

2. Click the **Activate** button that appears when you select the account.

## 12.7 Delete User

When a user is eligible for deletion, the Delete button will appear on the screen.



If there is no other active Supervisor or active Maintenance user, the user will not be eligible to be deleted.

1. Select the user to delete in the left windowpane.
2. Click Delete.

## Section Thirteen

# TM Upload and Cleaning

The TM Maintenance function can be accessed from the Tools menu at any time. The TM Maintenance function opens the TM window. The window has two pages, one for uploading the TMs and another for cleaning the files off the TM.

When the TM Maintenance window is open, the application automatically begins scanning the PC for inserted USB storage drives. When a new drive is detected, either the upload or cleaning process begins, depending on selected tab.

## 13.1 TM Maintenance

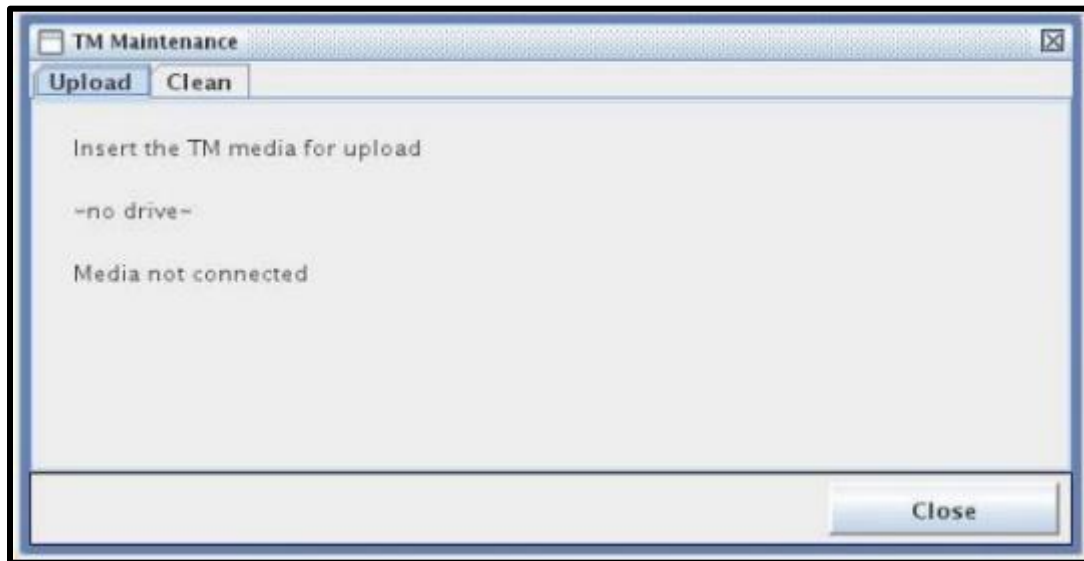
As soon as you open the **Tools** menu and select **TM Maintenance**, the Election Manager looks for a TM from an OVO that has been inserted in the USB drive. The Election Manager detects whether vote files and machine logs have been uploaded already, and instructs you on what to do.

Transport Media (TMs) are USB storage drives used in the OVO to store and transport voting data. They are also used by the FVT and OVI to store Admin Logs. This section describes the TM maintenance provided by the Election Manager.

### **TMs proceed through an Election as follows:**

- Unisyn provides all TMs.
- An OVO and OVI require a TM inserted in its PC component USB port and when a new Election is loaded onto an OVD the TM inserted needs to be blank before the download is allowed.
- TMs are one of three storage devices in the OVO and OVI that collect data during voting.
- When polls are closed on Election Night, poll officials remove TMs from the OVOs and deliver them to Election Headquarters. The OVI TM is removed at the Warehouse by Maintenance Technicians.
- At Election Headquarters, the OVO TMs are inserted into Unisyn Tabulator Client, where the voting data is uploaded for tabulation.
- At a convenient time following the Election, all TMs used during the election are inserted into the Election Manager, which detects, uploads and stores OVO and OVI Administrative Log files (also known as “machine logs” since they audit all activity on a particular OVO or OVI machine). You can view these logs using the Machine Logs window of the Election Manager.
- The FVT does not need a TM for an election. It stores the Administrative Log files to the tablet’s SSD drive. Should the Log files need to be retrieved to troubleshoot an issue with a FVT they can be downloaded to the TM, see the *Warehouse Technicians User Guide, Section 10.4*.

- When voting data and machine logs have been uploaded, the TMs can be "cleaned" of all voting data so that they can be used in another Election.



## 13.2 TM Machine Log Upload

### To upload OVO Machine Logs:

1. In the Election Manager, open the **Tools** menu and select **TM Maintenance** to upload OVO/FVT/OVI Machine Logs (also referred to as Admin Logs).
2. Insert a valid TM into the USB port of the PC.
3. The Administrative Log is automatically uploaded

If the machine logs have already been uploaded, a message tells you that the TM is ready for cleaning.

When the admin log files are uploaded into the EM from a TM, they are put in the folder '\Voting\AdminLog\Election\_xxx\Machine\_UNIyyyyyy'. The 'xxx' is the Election ID and the 'yyyyyy' is the OVO/FVT/OVI/OVCS machine ID (IP).

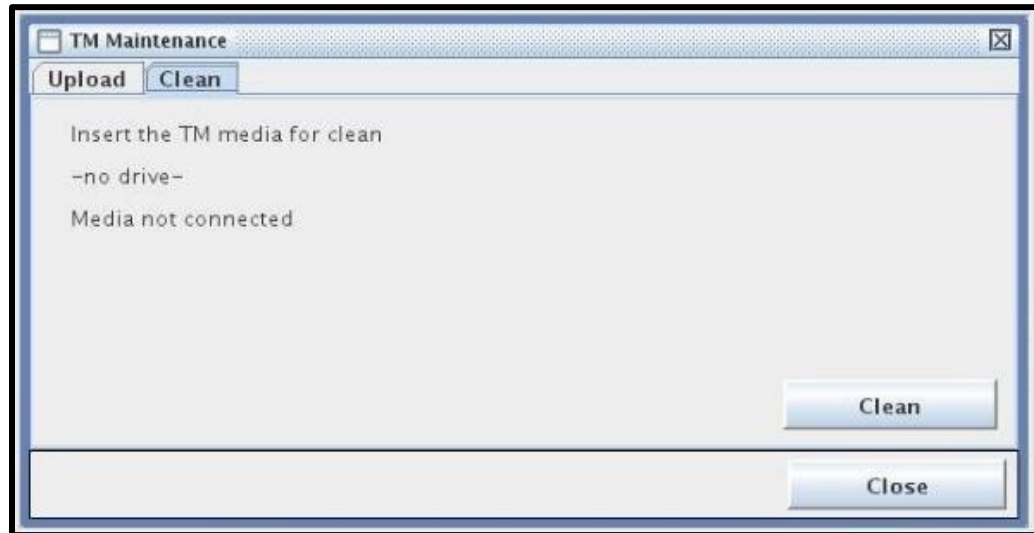
The admin log files are stored in clear text so it can be read by any editor program.

## 13.3 TM Cleaning

You can clean all files off a TM after the machine log has been uploaded. The clean process removes files from the previous election. It simply removes all vote files and logs.

**To clean a TM:**

1. In the Election Manager, open the **Tools** menu and select **TM Maintenance** panel.
2. On the Maintenance panel, click the **Clean** tab.



3. Insert the TM into the Election Manager PC's USB drive. If you have just uploaded log files, you remove and reinsert the TM to start the clean process.
4. As soon as the clean panel opens, the Election Manager detects if the TM has had its files uploaded. If all files uploaded, the user is notified to use the **Clean** button to clean the TM. If there is any error with the TM, a confirmation window appears asking the user if they want to force clean the TM.

### 13.4 Multiple Session TM (MS-TM)

A multiple session TM has one or more folders with names starting with OVO. Each 'OVO' folder has a Data folder that contains the voting session data and images. This 'Data' folder has same structure as a 'Data' folder in the root of a regular single session TM.

During validation, if a TM is considered a multiple session TM, the 'Data' folder inside each 'OVO' folder is validated.

When uploading a Multiple Session TM, the admin logs in each 'OVO' folder are processed and uploaded. Only the 'Data' folder in 'OVO' folders are processed. The 'Data' folder in TM root is not processed.

When cleaning a Multiple Session TM, the 'Data' folder in TM root is cleaned so that it only contains the anchor file, all other files and folders on the TM are deleted.

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## Section Fourteen

# Log Files and Help

### 14.1 OVO and OVI Machine Logs

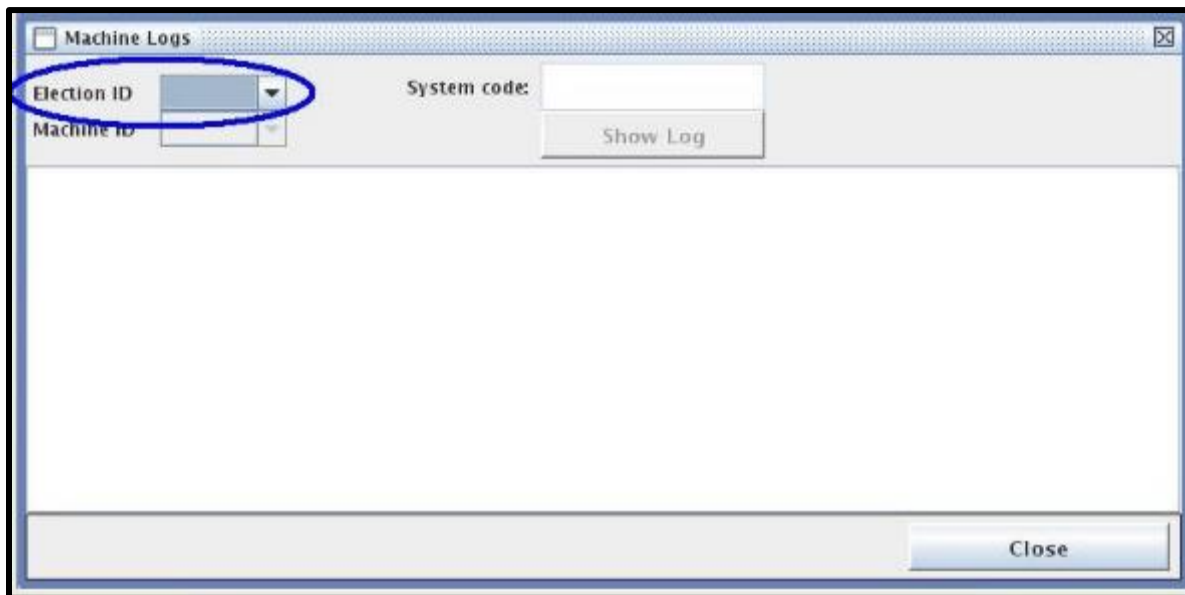
Machine Logs are the Administrative (Admin) Logs created by each OVO/FVT and OVI. The Election Manager uploads these logs from the Transport Media (TM). See *Section 12.0 TM Upload* to learn how to upload a TM and acquire the log.

When the admin log files are uploaded into the EM from a TM, they are put in the folder '\Voting\AdminLog\Election\_xxx\Machine\_UNIyyyyyy'. The 'xxx' is the Election ID and the 'yyyyyy' is the OVO/OVI/OVCS Machine ID (IP).

The admin log files are stored in clear text so it can be read by any editor program.

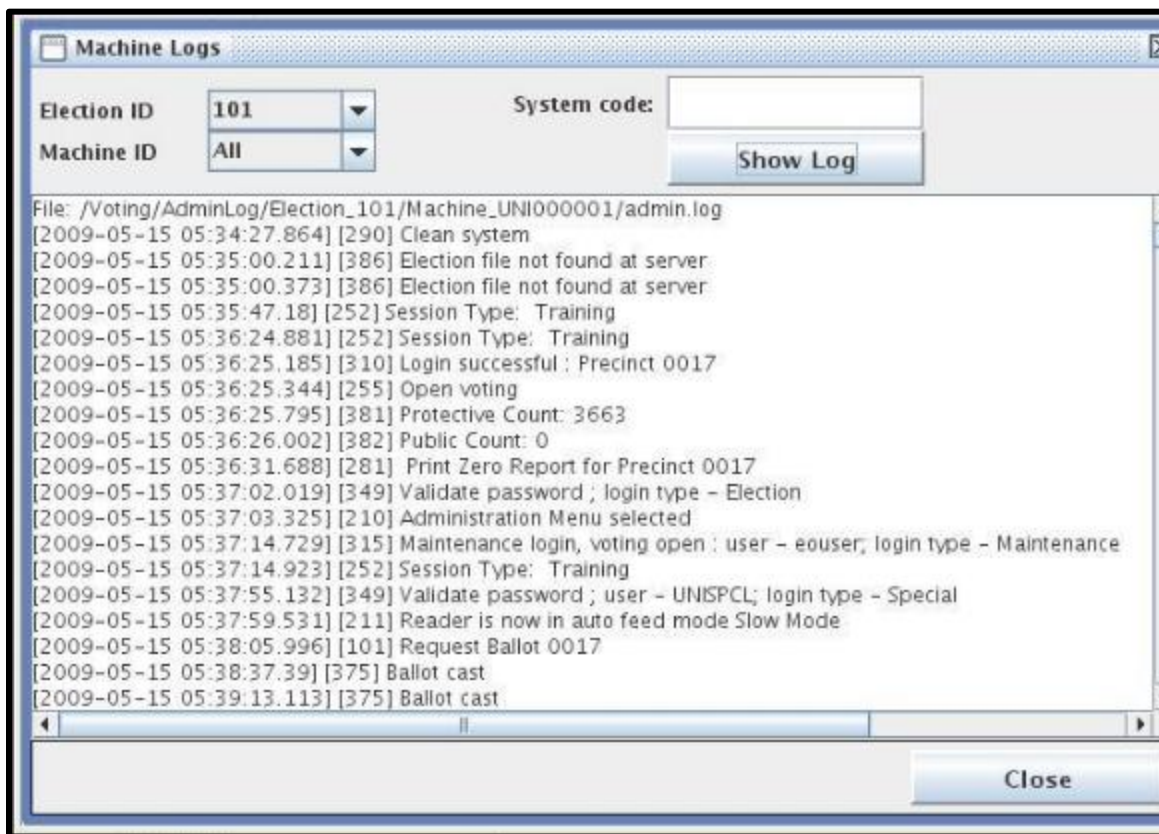
**To view a Machine Log using the EM application:**

1. Open the **Tools** menu and select **Machine Logs**.
2. Select an election by clicking on the **Election ID** drop-down list and selecting an Election to view.



3. Select a specific machine by clicking on the **Machine ID** drop-down list and selecting a machine with a log accessible to the Election Manager, to view.
4. Enter a specific system code(s) in the System code box to view the Admin logs associated with the code. If entering more than one code, separate them with commas. Please refer to the *Warehouse Technician's Guide, Appendix A* for an explanation of the system codes.
5. Click **Show Log**. The selected logs appear one page at a time.

6. To page through the log display click **Next** or **Prev**.



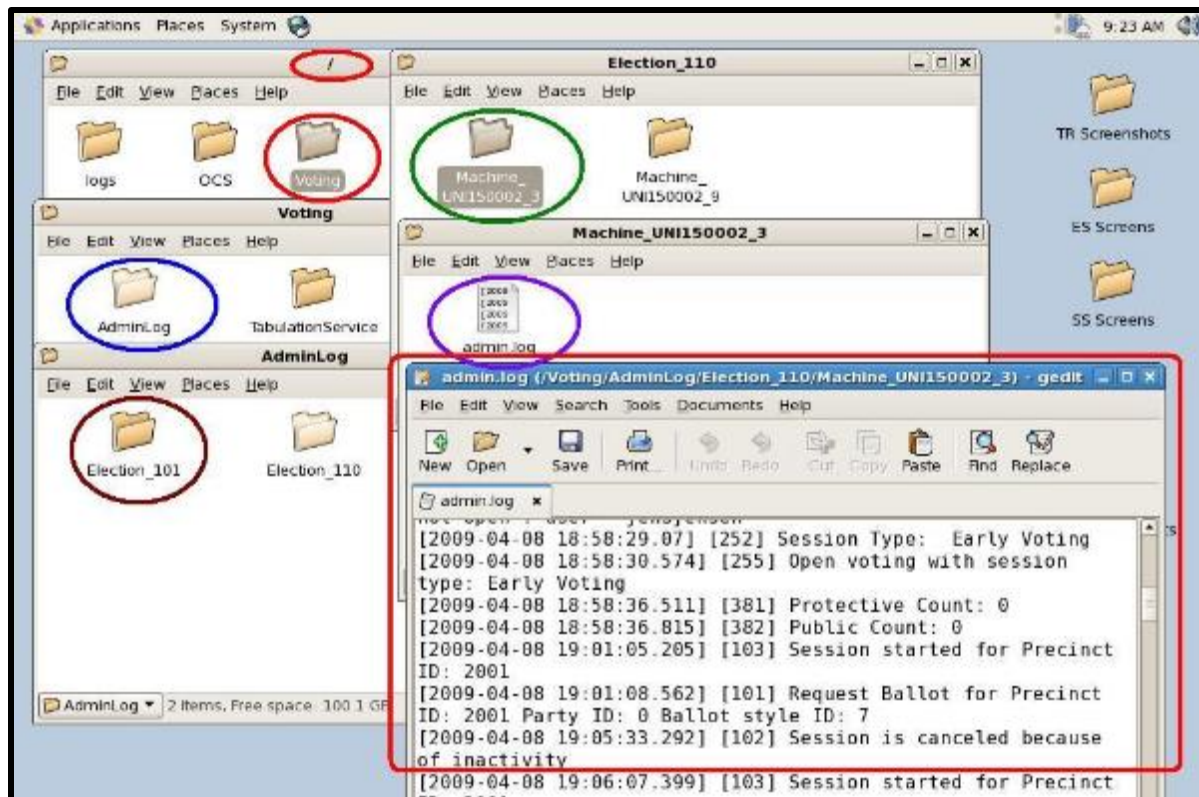
**To access a Machine Log via the file system (or to copy file off to a removable device)**

Go to the follow folder where the Machine Logs (OVO/OVI admin logs are maintained):

'\\Voting\AdminLog\Election\_xxx\Machine\_UNIyyyyyy'.

The 'xxx' is the Election ID and the 'yyyyyy' is the OVO/OVI/OVCS machine ID (IP).

The admin log files are stored in clear text so it can be read by any editor program.

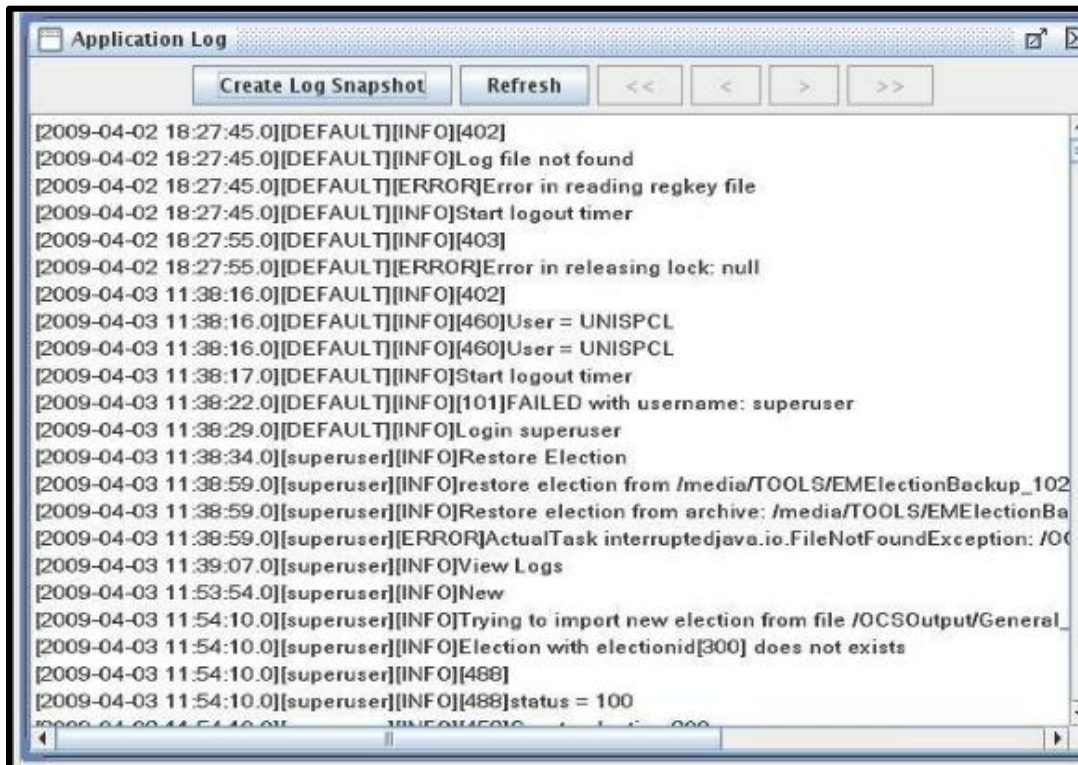


## 14.2 Application Log

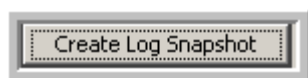
The Application Log collects events from the application, such as login and updates to the database. An Admin or Superuser can view this log at any time to track use of the Election Manager program and to ensure that no unauthorized access attempts have occurred.

### To access the Application Log:

1. Open the **Help** menu and select **View Logs** to view the current application activity log.
2. The Application log contains a date and time for activities that occur within the application, beginning the first time the application was opened. Each log file entry starts with a date/time stamp.



3. Use the buttons to refresh and navigate through the log. See explanations below.



#### Create Log Snapshot

Creates a file of the current log contents. The popup window displays the folder name and file name where this log snapshot was written.



#### Refresh

Click to update the contents of the log file in the viewer.



<<

Click this button to go to the beginning of the log file.



<

Click to go to the previous page of the log.



>

Click to go to the next page of the log.



>>

Click to go to the end of the log.

### 14.3 Database Backup and Restore

Election Manager's Backup and Restore function is automated for Election specific information. The backup data includes election definition data, sound files if there is any sound files uploaded, party icons if there is any party icons uploaded, Machine Logs from the election OVDs and jurisdiction specific parameters.

Backups should be done after the Election TM is created and then again, once all TMs have been processed following the election (to ensure the FVT, OVO, OVI and OVCS machine logs have been captured).

In the case of a serious failure of the system, where the BLM and EM are on the same PC, it is recommended that the Ballot Layout Manager, the BLM database and the past BLM Election definitions that were recovered from the most recent BLM backup be reinstalled first and then the Election Manager application be reinstalled.

It is recommended that the user manually backup up the following information when an election is exported and maintained for audit purposes:

- Reports
- A snapshot of the Application Log taken at the time the Election is exported to an Election TM and again after all Machine Logs have been captured.

The EM backup and restore does not include EM user accounts (Superusers and Admin user accounts are not backed up) or the EM application log. If the system needs to be reinstalled, the user accounts information will have to be re-entered and new passwords assigned.

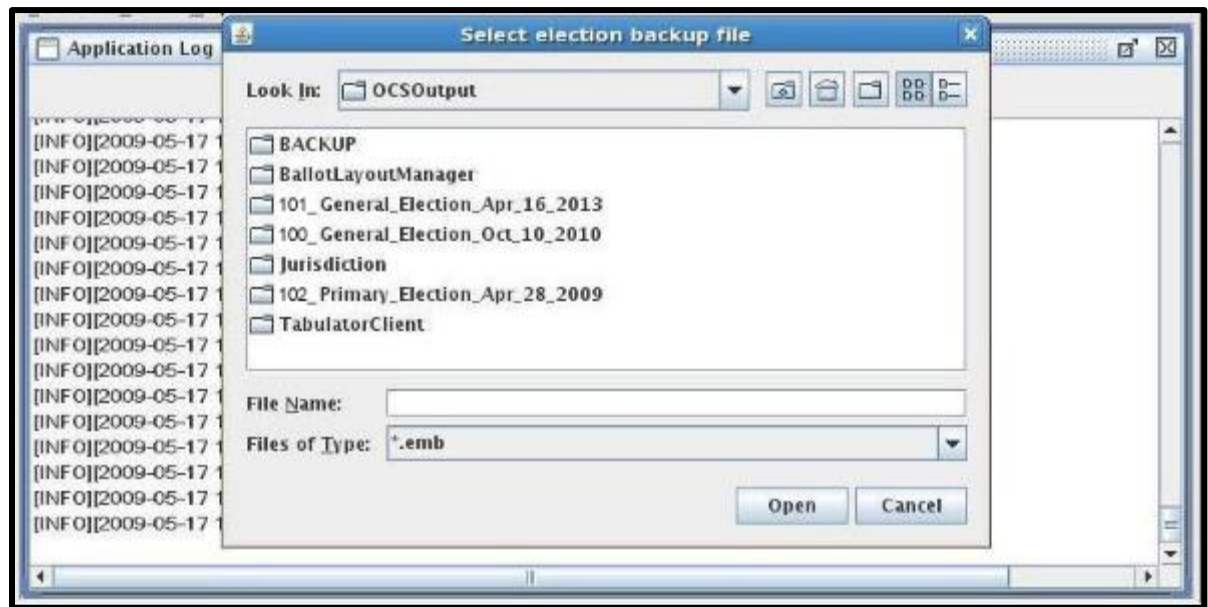
The Backup function can be performed by both EM Admin users and Superusers. The Restore function can only be performed by an EM Superuser.

In addition to backups for audit purposes, regular backups of the election being worked on should be done to minimize lost work in case of a PC hardware issue.

For permanent storage, the jurisdiction should copy all exported Election files to a USB Drive or external disk drive and store the TM or storage device in a safe and separate location.

**To back up the database:**

1. Open the election you want to backup.
2. Open the **Tools** menu and select **Backup**.



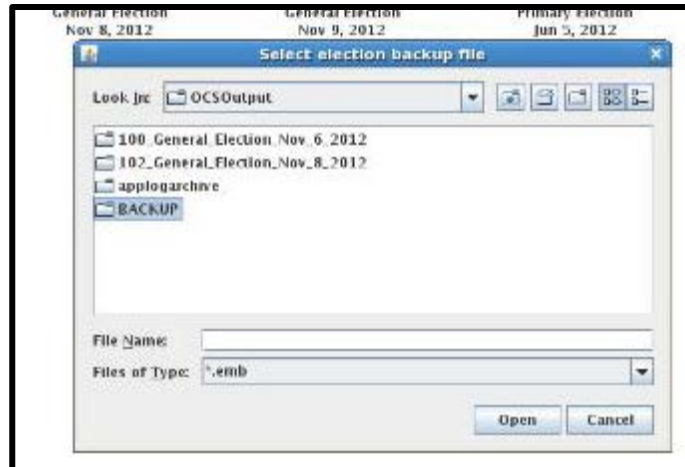
3. Destination directory cannot be changed, launch the backup.

**To restore the database:**

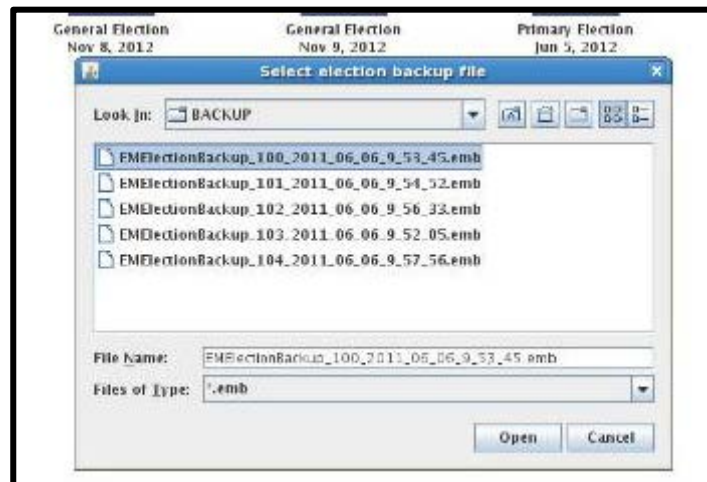
The restore procedure overwrites the current data tables, returning them to their state at the time the backup was created.

1. Close all elections on the Election Manager desktop.
2. Open the **Tools** menu and select **Restore**.
3. Select the Backup Folder and click **Open**.





4. Select the backup to recover and click **Open**.



5. The system will then prompt for restore confirmation.



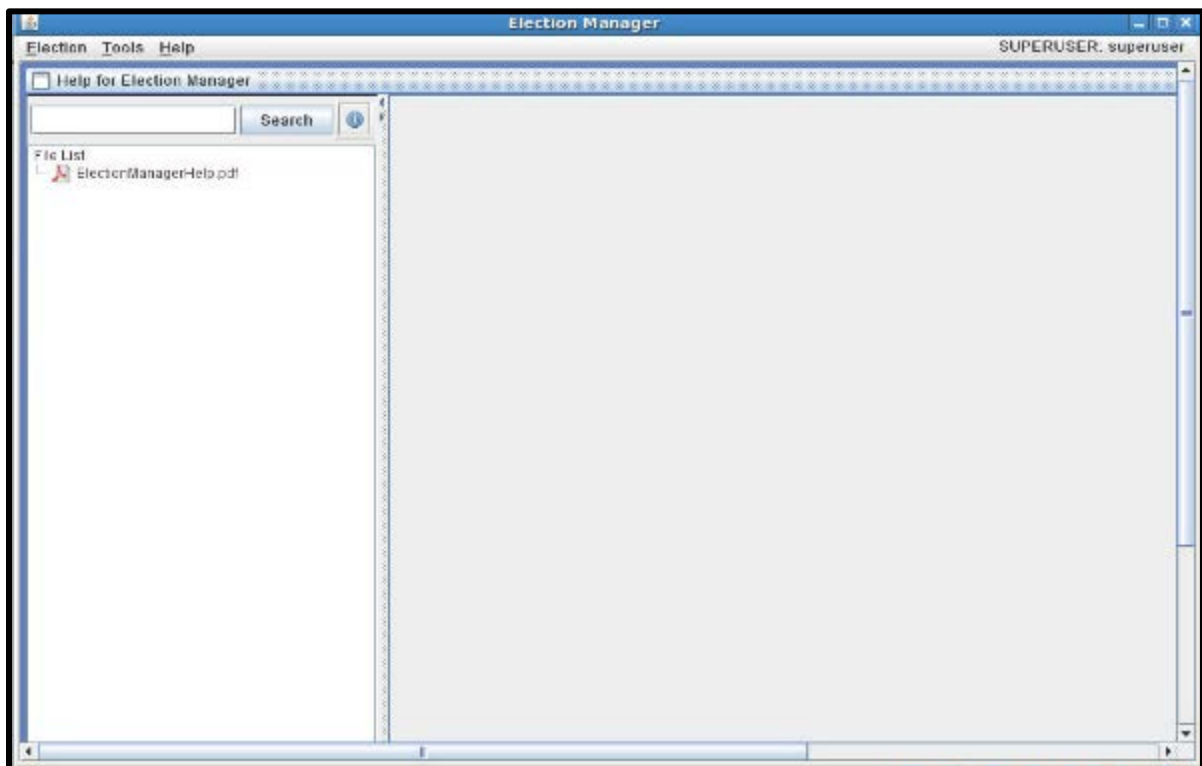
- The system will indicate if the restore was successful or an error occurred



## 14.4 Help

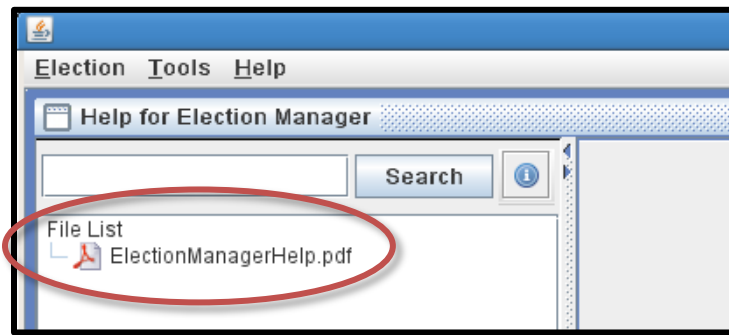
### Help Topics

To access the Help files, click on the **Help** pull down menu, and then click on **Help Topics** to display the Help window.

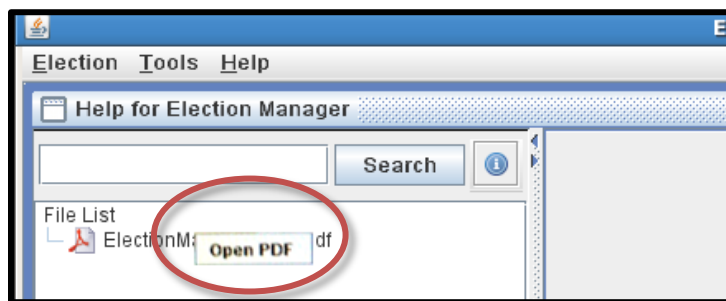


In the top of the left window is the *Election Manager Help file (PDF)* – circled below in red.

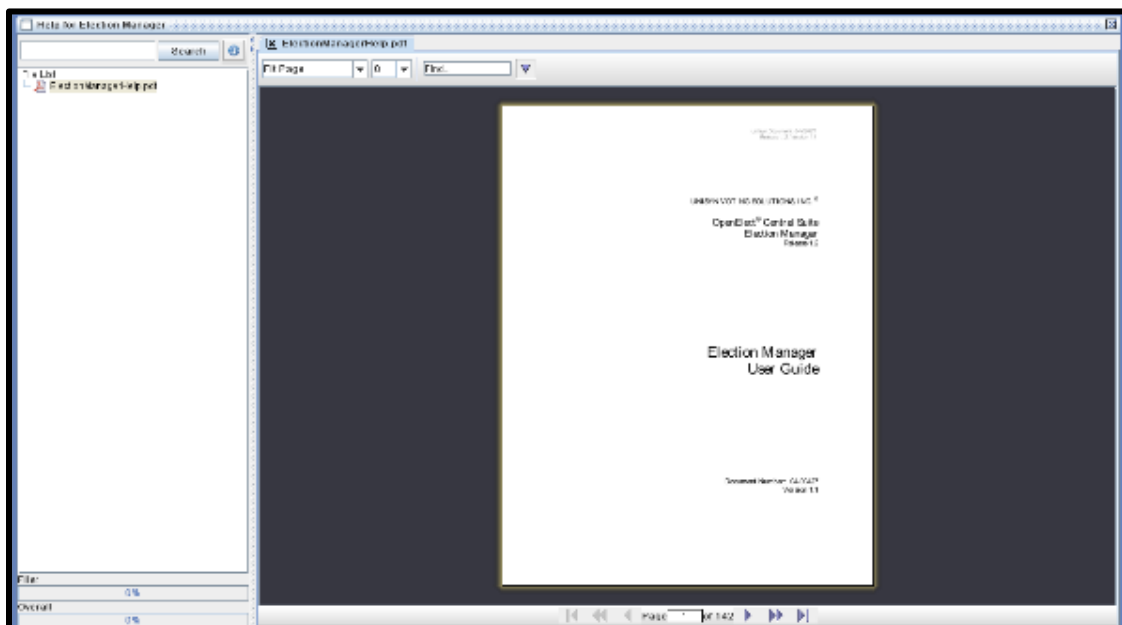




Left click on the file name and a popup will appear as shown below.

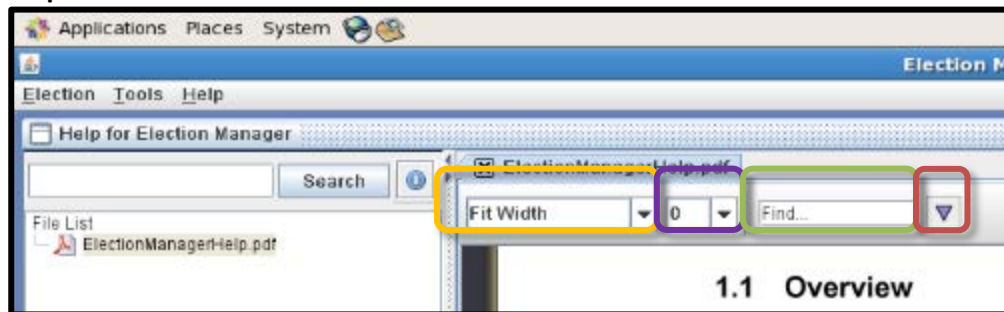


Double-click on this popup and the PDF file of the application's User guide will open in the right window as shown below.

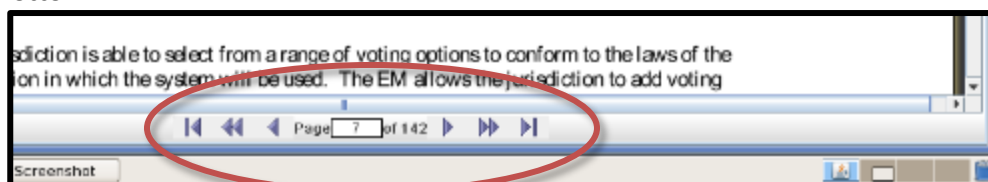


Use the right window controls in the top and bottom of the window to find the help information wanted.

### Top -

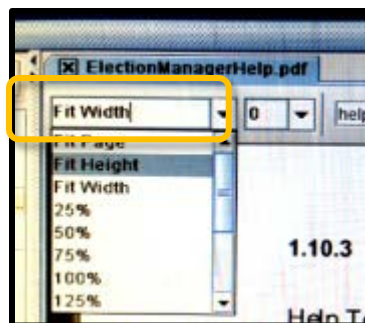


### Bottom -

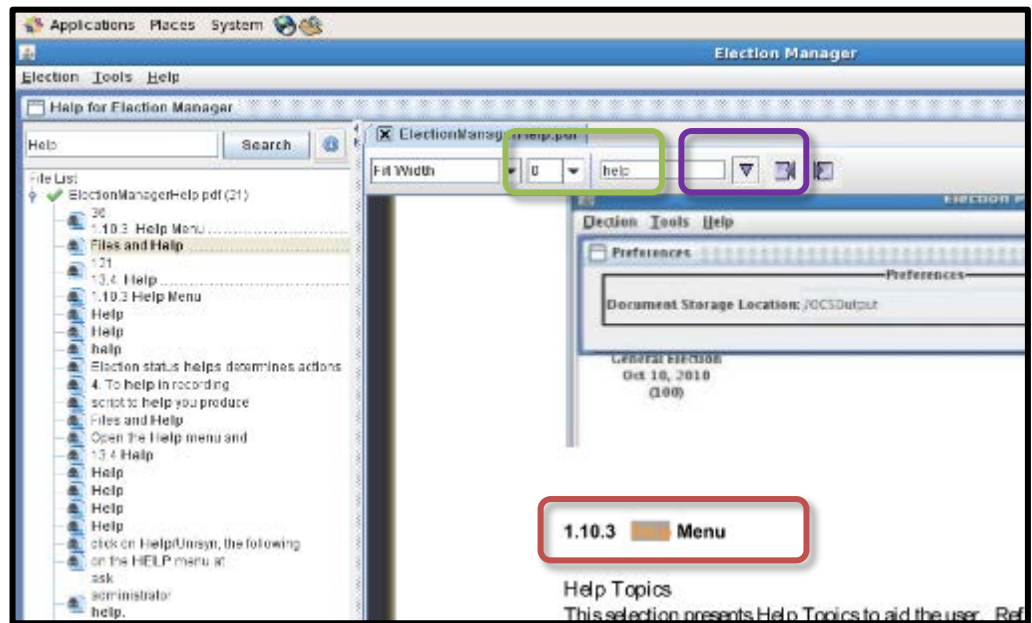


As shown above, the top left side of the Right Window four-control fields:

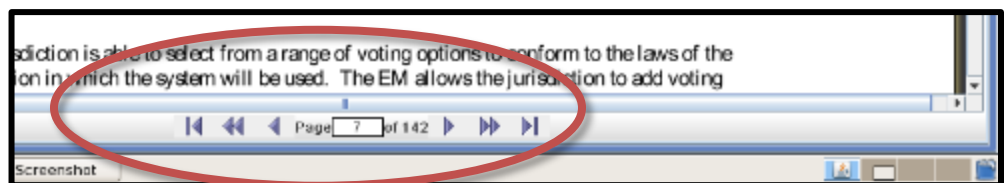
- Zoom Factor (orange outline)
  - Allows the image to be show in various zooms – simply click the down-arrow.
- Rotation control (Purple outline)
  - Allows the image to be rotated by the degrees listed (90, 180, and 270) – simply click the down-arrow.
- Find (search) (Green outline)
  - Type in the word(s) to search for in the document.
- Type of Find to be performed (red outline)
  - Choose between “find whole Words only,” Case Sensitive Search,” “Find multi line results.”



The “Find” control is very usable to find a topic (or set of words in the file); such as **Help**. Entering help (outlined in green) and return results the file being advanced to the first occurrence of Help, the word is highlighted (as circled below in red). Two new controls appear (circled in purple below) that allows you to click on the right arrow to advance to the next occurrence in the document or backup in the document to the first previous occurrence of the word(s) being searched for by clicking on the left pointing arrow .

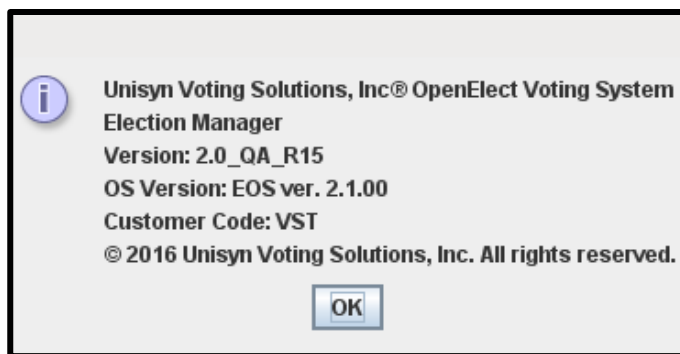


The bottom of the screen allows you to move forward or backwards in the document. You can move to the front of the document, move backward by a group of pages, one page backward at a time, jump to a specific page (enter the number and press enter), move one page forward at a time, move forward by a group of pages, or jump to the end of the document.



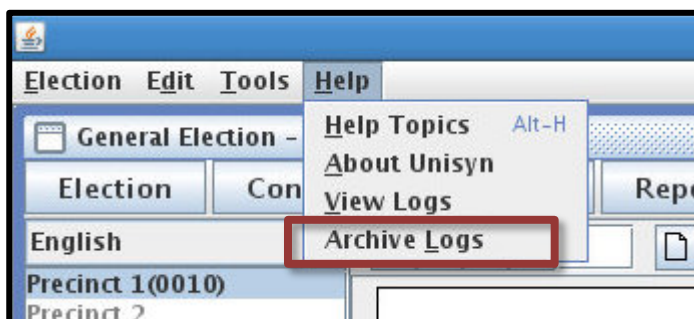
## 14.5 About Unisyn

When you click on Help/Unisyn, the following window displays presenting the product information, including company name, product name, version, copyright information and the Linux OS Version number:



## 14.6 Archive Logs

The Archive Logs function identifies all log entries 22 months or older in the current application log and puts them in a pdf file. The archived log entries placed in the PDF file are then removed from database. To access this function, click on the **Help** menu at the top of the screen and then click on **Archive Logs** (outlined in red below):



If all the entries in the current log are less than 22 months in age, the following informational pop-up is displayed. Click **OK** to complete the request.



If there are entries in the current application log that are 22 months or older, then the system will ask the user if they should be extracted and saved in a PDF file with the following pop-up:



If the operator clicks **No**, the archive will be aborted. If the operator clicks **Yes**, the system will extract the older entries and place them into a PDF file. The entries will then be removed from the Application Log file and the following popup will be displayed informing the operator where the file has been placed.

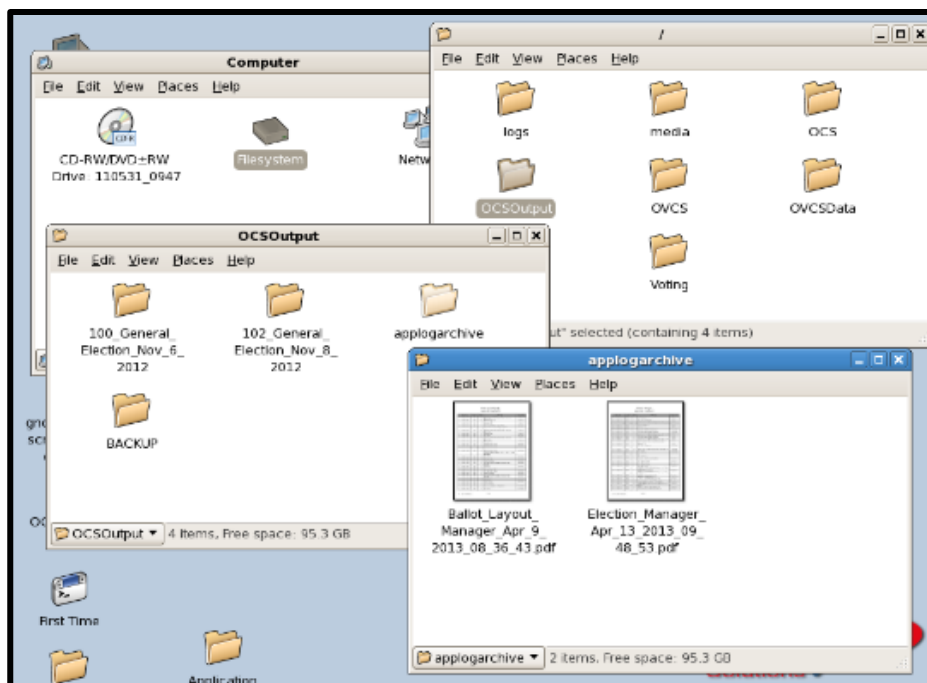


## **IMPORTANT**

**The Archived file should be saved/backed up for audit purposes.**

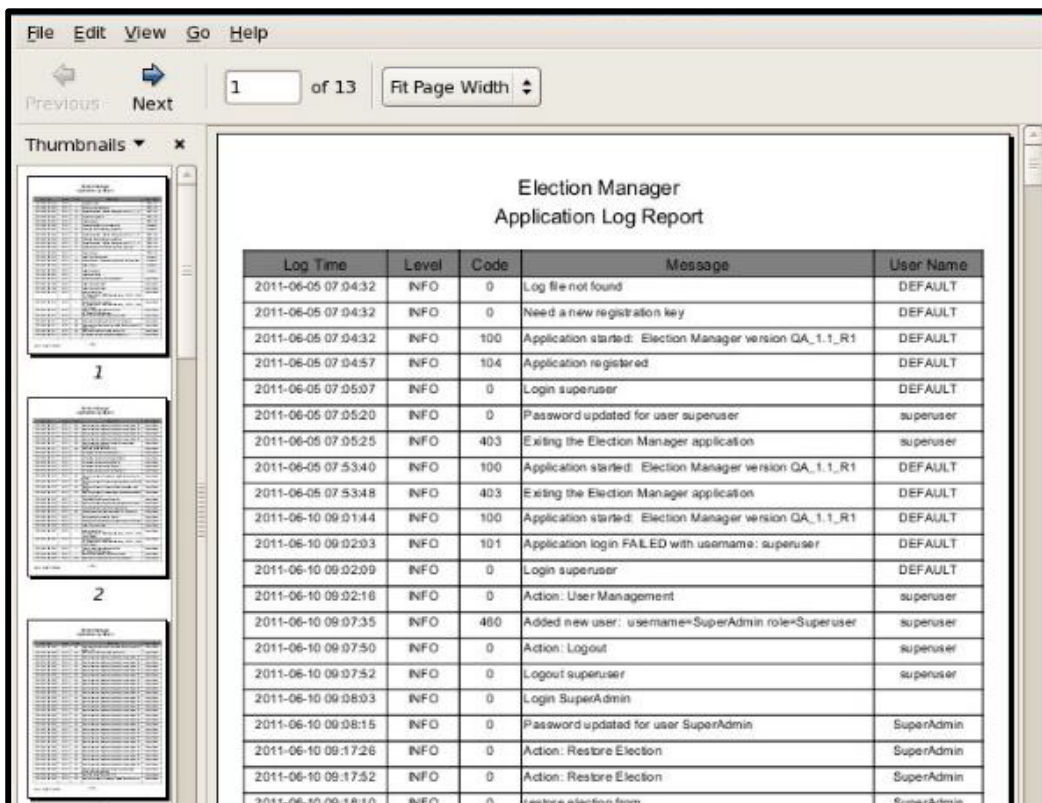
The PDF file of Archived log entries can be found by going to the desktop and clicking on the following sequence of items:

- “Computer” Icon on the desktop
- “filesystem” Icon on the computer folder
- “OCSEOutput” Icon on the “/” folder
- “applogarchive” Icon on the “OCSEOutput” folder



These actions result in the system displaying the folder that contains the archive PDF files.

If you want to display one of the files, locate the file wanted (note application name, date, and time are used for the file name) and click on the file. This will result in the file being displayed as presented below:



## Appendix A

# User Interface Error Messages

Error Text	When the Error Message Occurs	User Action to be Taken
A group with this name already exists	When adding a machine group with a group name already used.	Use a unique group name
Audit log file upload error	When upload audit log from TM.	Try again. If problem persist, put the TM aside.
BallotBean.pageNumber=[#] is NULL/EMPTY or > the size allowed [1]	When import election with ballot style has more than the maximum pages allowed. User unlikely run into this message because BLM shall already has page limit checked.	Need to go back to BLM where the election.enc is created and adjust the election definition and make sure no ballot styles exceeds maximum pages allowed.
Cannot load application signature properly	When application cannot find the signature file	Re-install the application
Check party icon table for missing/invalid party icons	When election requires party icons and there are party icons missing	User needs to upload party icons for each party in Party Icon Panel
Concluded election can only be deleted 22 months after election day	When delete an concluded election prior to 22 months after election day	Delete the concluded election 22 months after election day.
Duplicate OE User Name Exists	Duplicate OE user name found during user management.	Contact administrator. System is messed with.
Election Export Failed: xxx	When unexpected error occurs during election export.	Try again. If problem persist, ask administrator for help.
Error add machine assignment for group xxx	When unexpected error occurs during assigning machines to group.	Try again. If problem persists, contact administrator.

Error Text	When the Error Message Occurs	User Action to be Taken
Error adding/updating group: xxx	When unexpected error occurs during adding/updating machine group.	Try again. If problem persists, contact administrator.
Error assigning machine group to election : xxx	When assigning machine group for election.	Try again. If problem persists, contact administrator.
Error deleting group xxx	When unexpected error occurs during machine group deletion.	Try again. If problem persists, contact administrator.
Error deleting machines: xxx	When unexpected error occurs during machine deletion	Try again. If problem persists, contact administrator.
Error importing machine files from ...	When error occurs during importing machine files.	Try again. If problem persists, contact administrator.
Error in checking application signature	When unexpected error occurs at signature verification to test application file integrity at application startup.	Re-install the application
Error in playing file xxxx	When playing a sound file	re-upload the sound file
Error in starting/running application	This problem may only occur when there is problem with the system or application installation.	If problem persists, contact system administrator.
Error in updating sound status	When unexpected error occurs during sound file status update.	Try to update and save the status again. If problem persists, contact administrator.
Error occurred adding user	Add a new user	Try to add the user again. Contact administrator if problem persists.
Error occurred while activating xxxx	Activating a user.	Try to activate the user again. Contact administrator if problem persists.
Error occurred while deactivating xxxx	Deactivate a user.	Try to deactivate the user again. Contact administrator if problem persists.



Error Text	When the Error Message Occurs	User Action to be Taken
Error occurred while updating password for xxxx	Unexpected error during updating password.	Try to update the password again. Contact administrator if problem persists.
Error occurred while updating role for xxxx	When fails to update user role during user management.	Try again. Contact administrator if problem persists.
Error populating election data	When tries to open an election and election data fails to load	Try again. If problem persists, contact administrator.
Error populating group display: xxx	When unexpected error occurs while populating machine group display.	Try again. If problem persists, contact administrator.
Error populating group info panel: xxx	When unexpected error occurs while populating a machine group display after creating machine group.	Try again. If problem persists, contact administrator.
Error populating machine list for election: xxx	When unexpected error occurs while populating machine list for election.	Try again. If problem persists, contact administrator.
Error populating machine list for group: xxx	When unexpected error occurs during populating machine list display	Try again. If problem persists, contact administrator.
Error remove machine assignment for group xxx	When removing machine(s) from group.	Try again. If problem persists, contact administrator.
Error removing machine group assignment for election : xxx	When removing machine group assignment for election.	Try again. If problem persists, contact administrator.
Error retrieving election key for export	When export election and cannot retrieve the election key	Try again. If problem persists, contact administrator.
Error verifying the selected file	When restoring election from EM election backup and the backup file fails signature verification.	Try again. If problem persists, contact administrator.

Error Text	When the Error Message Occurs	User Action to be Taken
Exited without entering password	When exits password update dialog using exit button.	Close the dialog and do nothing or try to enter the password again.
Failed to access db.properties file or connect to database	When database connection somehow cannot be established at application startup.	Contact administrator if problem persists
Invalid data set on TM. Do you still want to clean TM?	When clean a TM with invalid data set.	User can choose to set the TM aside for further investigation or force a TM clean.
Invalid Input File: xxx	Import new election with invalid election.enc file.	Use a valid election.enc file to import new election.
Invalid User Type - xxxx	When invalid user type used during user management.	The user type is invalid – Use a valid user type.
Loading election failed. Invalid input file	Import new election with invalid election.enc or some other error during importing new election.	Use a valid election.enc file to import new election.
Log file cannot be verified	When upload audit log files from TM	Try again. If problem persist, put the TM aside.
No application log entries to archive. Note: Only application log entries older than 22 months can be archived.	When there is no log entries (old than 22 months) to archive and user requests archive logs	No Action Required
No OVI receipt file is found. Log file cannot be uploaded.	When upload audit log from an OVI TM with receipt file missing.	User shall take the TM back to the machine and see if the voting is closed.
Please Enter a value	Click Edit Password button for election password entry on election option panel. Click Enter on Election Password dialog without enter anything for password and verify entries. This also occurs with user management when user changes user password but clicks Enter leaving password fields on change password dialog empty.	Enter a valid password

Error Text	When the Error Message Occurs	User Action to be Taken
Passwords must be 7 characters	Click Edit Password button for election password entry on election option panel. Enter a password with less than 7 characters.	Enter a valid election password
Password must contain at least 1 non-numeric character	Click Edit Password button for election password entry on election option panel. Enter a password that has all numeric digits.	Enter a valid election password
Password must contain at least 1 non-alpha character	Click Edit Password button for election password entry on election option panel. Enter a password that has no numeric digits.	Enter a valid election password
Please enter the user name	Add a new user without enter a user name	Enter a valid user name
Please select the user role	Add a new user without select a user role	Select a user role
Signature not valid for file xxx	When application file fails signature verification	Try again. If problem persists, re-install the application.
Sorry, the password must be between 7 and 15 characters. And have at least one number and one letter. Please try again.	Add a new user with valid user name and user role. On password entry dialog, click 'Enter' with invalid password entry.	Enter a valid user password
Sorry, the password does not match the confirmation. Please try again.	When updating user password	Make sure verify entry has the same content as the password entry.
Sorry, the username or password you entered is invalid. Please try again.	When login the application with invalid username and password combination.	Enter valid username/password to login
SQL Error: n records found for user xxxx	User management.	Contact administrator. System is messed with.
<i>soundfilepath</i> is not found	Playing a file that is missing from the system	Re-upload the sound file
<i>soundfilepath</i> is corrupted	Playing a corrupted mp3 sound file	Re-upload the sound file
<i>soundfilepath</i> failed to play	Error playing a sound file	Re-upload the sound file

Error Text	When the Error Message Occurs	User Action to be Taken
Tabulator Client application is running. Please close Tabulator Client application and restart Election Manager.	Start EM application while Tabulator Client application is running on the same machine.	Close the Tabulator Client application and try to start Election Manager application again.
The application is already running.	Start EM application and try to start another instance of the EM application.	Close the dialog and use the EM application that's running.
The application cannot run on xxxx	Run the application on a system that is not Linux.	Contact administrator.
The application experienced a problem executing query (or queries). Please retry. If problem persists, please contact administrator.	Failure query or update the database.	Click OK button on the dialog. Check input data. Contact administrator if problem persists.
The application failed to connect to DB server. Please contact administrator.	This problem may only occur when there is problem with the system or application installation.	Click OK button on the dialog. Try to restart the application or restart the machine. If problem persists, contact administrator.
The exported election cannot be deleted	When delete an exported election	Don't delete election in exported state.
The sound file xxx is missing.	Sound file is missing when it is expected to be found in file system.	Upload the sound file. If problem persists, contact administrator.
There was a problem in archiving application log. View log for details or try again.	When there is a problem to archive the logs	Try again. If problem persist, ask administrator for help.
Try again... Password and Verify fields did not match	Click Edit Password button for election password entry on election option panel. Enter a valid password and enter something different in verify field.	Enter the same valid password in password field and verify field.
The sound file xxxx is missing	Play a sound file that is missing	re-upload the sound file
This task cannot be cancelled	When trying to close a progress dialog that cannot be cancelled	Stop cancelling the task and wait for the task to be finished

Error Text	When the Error Message Occurs	User Action to be Taken
User name must be alphanumeric between 5 and 15 characters	Add a user with invalid user name.	Enter a valid user name
User name xxxx is reserved	When using reserved user name.	Avoid using the reserved user name.
Valid OVI/FVT voter timeout value should be between 120 and 600	When trying to save election options and OVI/FVT timeout value is invalid.	Correct the OVI/FVT voter timeout value on election options screen and save.
Valid OVO voter timeout value should be between 20 and 600	When trying to save election options and OVO timeout value is invalid.	Correct the OVO voter timeout value on election options screen and save.
Votes have not been uploaded to central tabulation system. Log file cannot be uploaded.	On TM Maintenance Upload screen, insert a TM with OVO data that not yet uploaded to tabulator yet.	Upload the content of the TM to Tabulator first then try to upload log on EM again.
xxxx already exists	Add user with a user name already used	Enter a unique user name

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## Appendix B

# Election Manager System Limits

Value	Limit	Input Type
<b>Election Manager</b>		
Max # of Elections	8	
Total number of pages per ballot	1-3	
Application log archive time frame	22 Months	Hard coded.
<b>Common Options</b>		
Fields		
Require Sound Files	checked = Yes, unchecked = No	Checkbox
Clear USB Election Files After Load	checked = Yes, unchecked = No	Checkbox
Election Password	7 Digit Alphanumeric	Text
Election Password Confirm	7 Digit Alphanumeric	Text
Technical Support Number	30 Digit Alphanumeric	Text
Enter Text For The Signature Line	1,000 Digit Alphanumeric	Text
Enforce Close Polls Time	checked = true, unchecked = false	Checkbox
Close Time: Hours	Number Range: 01 - 12	Drop Down
Close Time: Minutes	Number Range: 00, 15, 30, 45	Drop Down
Close Time: AM/PM	Possible Values: AM, PM	Drop Down
<b>OVO Options</b>		
Fields		
Use Password Protect	checked = Yes, unchecked = No	Checkbox
Show Public count On Voter Screen	checked = Yes, unchecked = No	Checkbox
Export Images	checked = Yes, unchecked = No	Checkbox
Ballot Alert Print Only	checked = Yes, unchecked = No	Radio Button
Ballot Alert On-Screen Display	checked = Yes, unchecked = No	Radio Button

Value	Limit	Input Type
Full Ballot Review	checked = Yes, unchecked = No	Radio Button
Undervote Checking	Possible Values: No Undervote Check, Check All Contests, Check Selected Contests	Drop Down
Set OVO Voter Timeout (in Seconds)	Number Range: 20-600	Integer
Validate BMDBallots	checked = Yes, unchecked = No	Checkbox
Show Validation Checkbox When Alert Detected	checked = Yes, unchecked = No	Checkbox
Print Zero Count On Pre-init Setup	checked = Yes, unchecked = No	Checkbox
Auto Print Voter Ballot Alert	checked = Yes, unchecked = No	Checkbox
Auto Print Voter Receipt	checked = Yes, unchecked = No	Checkbox
Enter Alert Report Header Title	20 Digit Alphanumeric	Text
Consolidated Summary For Pre-init Precinct	checked = Yes, unchecked = No	Checkbox
Show Contest Results On Election Day	checked = Yes, unchecked = No	Checkbox
Show Over/Under Votes On Election Day	checked = Yes, unchecked = No	Checkbox
Show Precinct Split Totals	checked = Yes, unchecked = No	Checkbox
Show Blank Count	checked = Yes, unchecked = No	Checkbox
Show Percentages	checked = Yes, unchecked = No	Checkbox
Show Candidates in Order By	Values: Default Order, Number of Votes	Drop Down
Show Overvote Count By	Values: Vote For, Voter	Drop Down
<b>BMD Options</b>		
Fields		
Use Password Protect	checked = Yes, unchecked = No	Checkbox
PA Straight Ticket	checked = Yes, unchecked = No	Checkbox
Default Number of Columns Displayed (OVI-VC Only)	Values – 1, 2, 3	Drop Down
Enable Automatic Deselection	checked = Yes, unchecked = No	Checkbox



Value	Limit	Input Type
Use Separate Party Sound For Candidate	checked = Yes, unchecked = No	Checkbox
Show Party Icon	checked = Yes, unchecked = No	Checkbox
Set OVI/FVT Voter Timeout (in Seconds)	Number Range: 120-600	Integer
Barcode Expiration (In Minutes)	Values: 1-60, NEVER	Drop Down
<b>Sounds</b>		
Fields		
Sound Script	1000 Digit Alphanumeric	Text
<b>Party Icons</b>		
Fields		
Icon	.gif image exactly 55 x 55	Image
<b>Machine Logs</b>		
Fields		
Election ID	Election IDs that admin log has been uploaded	Drop Down
Machine ID	Machine IDs that admin log has been uploaded for the election.	Drop Down
System code	0-50 characters	Text
<b>User Management</b>		
Fields		
User Name	5 to 15 Digit Alphanumeric	Text
User Role	Possible Values: Superuser, Supervisor, Maintenance, Admin User	Text
Password	7 - 15 Digit Alphanumeric	Text
Verify	7 - 15 Digit Alphanumeric	Text
Retention time for old passwords.	24 months	Integer (Hard coded)

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