

5.0 GUI Components

This section describes the graphical user interface components in the **etsgen** GUI .

5.1 The Command List

The **Command List** is the text area on the right hand side of the GUI main window, shown empty and unsaved in Figure 3.1. It is the current list of batch input file lines being edited. The types of lines displayed in the **Command List** include the following:

- o blank lines
- o Comments
- o Commands

A blank line is a line with nothing in it.

A comment is preceded by a # and is ignored when the batch file is executed.

A command provides configuration information used by the **etsgen** GUI to create the HCL input decks. The commands are described in more detail below.

The **Command list** is a selectable list of items, each of which is one batch input line. To select a line from the **Command List**, click on that line. To select multiple lines, use the <shift> and <ctrl> keys, as is standard for any windows application.

The label above the **Command List** is the name of the batch input file followed by the string "<modified>" if the file has been altered in anyway since its initial opening or latest save.

5.2 The Command Panel

The command panel is the panel on the left hand side of the GUI main window shown in Figure 3.1. There is only one command panel in the GUI, the Segment Information Setup command panel. This command panel is used to define the information to setup the ESP hindcast runs.

Each panel in the Command Panel permits the user to control a specific aspect of the hindcast process.

- ☒ **Carryover Group:** This panel is used to specify the carryover group to be run or the carryover group in which the forecast group and segments to be run are included.
- ☒ **Forecast Group:** This panel is used to specify the forecast group to be run or the forecast group in which the segments to be run are included. If All is selected, then all of the Forecast Groups in the Carryover Group will be run.
- ☒ **Segment:** This panel is used to specify the Segments to be run. If All is selected, then all of the Segments in the Forecast Group will be run.
- ☒ **Current carryover:** This panel is used to specify the carryover date on which to start the ESP Historical simulation used to generate the past carryover. This date is merely used to start ESP; it does not affect the hindcasts since the first year of the Historical simulation is used to "spin up" the models. No carryover is saved until after this "spin up" year.
- ☒ **Save carryover:** This panel is used to specify the date (month and day) on which the historical carryover is to be saved. This will also be the date on which the hindcasts start.

- ☒ **Hindcast start year:** This panel is used to specify the year on which the hindcasts are to start. Carryover will be saved for all the years except the first year (see above), but all the years will be used in generating the hindcast ensembles.
- ☒ **Hindcast end year:** This panel is used to specify the year on which the hindcasts are to end.
- ☒ **Hindcast start date:** This panel is used to specify the date (month and day) on which the hindcasts are to be started. This must be the same as the **Save Carryover** date and therefore this date is not editable. It is provided for information purposes.
- ☒ **Hindcast end date:** This panel is used to specify the end date of the hindcasts.
- ☒ **ESPOTDIR:** This panel is used to specify the ESPOTDIR Technique value. This technique is used to identify a directory under the \$(espts_dir) directory into which the ESP time series will be written. This technique behaves in the same way for these hindcasts as it does for the regular ESP runs.
- ☒ **ESPINDIR:** This panel is used to specify the ESPINDIR Technique value. This technique is used to identify a directory under the \$(espts_dir) directory from which the ESP time series will be read. This technique behaves in the same way for these hindcasts as it does for the regular ESP runs.

5.3 The File Menu

The **File** menu, displayed in Figure 5.1, contains the following menu items:

- ☒ **New:** Clicking on **New** will trigger the **etsgen** GUI to open up an empty **Command List** with which to work.
- ☒ **Open:** Clicking on **Open** will trigger the **etsgen** GUI to open a dialog which will allow the user to select an existing file to open. For instructions on how to open a file, see Section 6.1.
- ☒ **Save and Save As:** Clicking on either **Save** or **Save As** will trigger the **etsgen** GUI to save the currently displayed **Command List**. For instructions on how to save a file, see Section 6.2.
- ☒ **Run Batch:** Clicking on **Run Batch** will trigger the **etsgen** GUI to parse the current **Command List** and create the HCL input decks for running ESP as described by the **Command List**, and then initiate the `espvs_generate.sh` script to run all the HCL decks.
- ☒ **Exit** Clicking on **Exit** shuts down the the **etsgen** GUI.

*NOTE: Some menu items have key combinations that can be pressed to trigger it, just as if it had been clicked. For example, to trigger an **Open**, the user can press <ctrl-o>. If such a key combination is available for a menu item, it will be displayed after the menu item title on the GUI.*

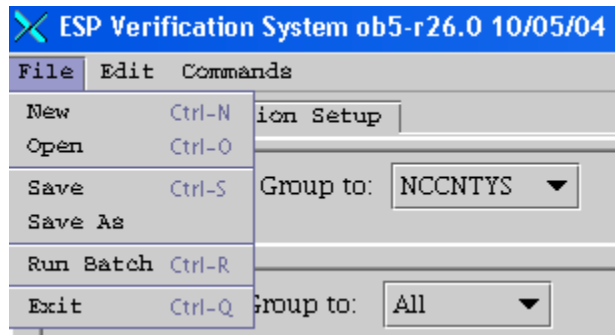


Figure 5.1 The File menu.

5.4 The Edit Menu

The **Edit** menu, displayed in Figure 5.2, contains the following menu items:

- ⌘ **Undo and Redo:** Clicking on **Undo** undoes the last change made to the **Command List** that is on the "undo" stack. **Redo** redoes the last change that was undone that is on the "redo" stack. The undo and redo stacks are described in the Box below.
- ⌘ **Edit:** Clicking on **Edit** will trigger the **etsgen** GUI to open up an edit window for the currently selected batch input line in the **Command List**. For instructions on how to edit a command, see Section 6.6.
- ⌘ **Delete:** Clicking on **Delete** will trigger the **etsgen** GUI to remove the currently selected batch input line(s) from the **Command List**.
- ⌘ **Delete ALL:** Clicking on **Delete ALL** will trigger the **etsgen** GUI to remove all of the batch input line(s) from the **Command List**.
- ⌘ **Copy:** Clicking on **Copy** will trigger the **etsgen** GUI to copy the currently selected batch input line(s) from the **Command List** for use with a future **Paste**.
- ⌘ **Cut:** Clicking on **Cut** will trigger the **etsgen** GUI to perform a **Copy** and **Delete** for the currently selected batch input line(s) from the **Command List**. The deleted lines will then be available for use with a future **Paste**.
- ⌘ **Paste:** Clicking on **Paste** will trigger the **etsgen** GUI to insert the most recently copied batch input line(s) into the **Command List** just before the position of the currently selected line or append the line(s) at the end, if no line is currently selected.
- ⌘ **Select All and Unselect All:** Clicking on **Select All** will trigger the **etsgen** GUI to select all of the lines in the **Command List**, which clicking on **Unselect All** will unselect all of the lines.

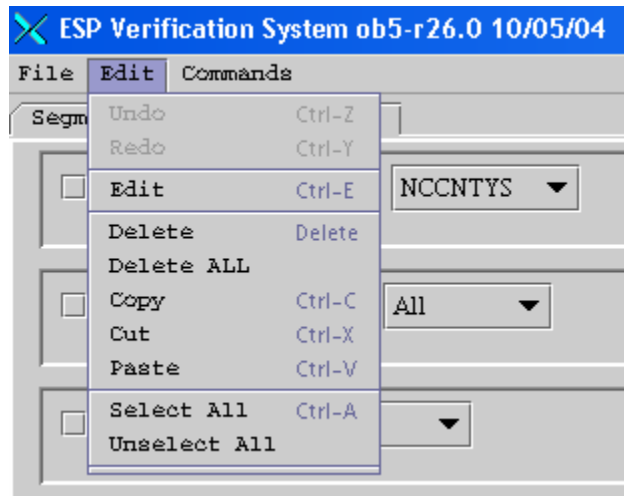


Figure 5.2 The Edit menu.

UNDO and REDO Stacks

Each change to the **Command List** is stored in an "undo" stack of changes. When **Undo** is clicked, it takes the change that was most recently made, which is on top of the undo stack and undoes it. That change is then pushed on to a "redo" stack. When **Redo** is clicked, it takes the most recently undone change, which is on top of the redo stack and redoes that change. That change is then pushed on to the top of the "undo" stack. Both stacks are cleared whenever a file is saved or opened.

5.5 The Commands Menu

The **Commands** menu, displayed in Figure 5.3, contains the following menu items:

- ⊗ **Insert Commands:** Clicking on **Insert Commands** will trigger the **etsgen** GUI to insert the currently specified command(s) or action(s) into the **Command List** just before the currently selected line or append the command(s) or action(s) at the end if no line is selected. For instructions on how to insert commands or actions, see Section 6.4.
- ⊗ **Append Commands:** Clicking on **Append Commands** will trigger the **etsgen** GUI to append the currently specified command(s) or action(s) at the end of the **Command List** if no line is selected. For instructions on how to append commands or actions, see Section 6.4.
- ⊗ **Insert Blank Line:** Clicking on **Insert Blank Line** will trigger the **etsgen** GUI to insert a blank line into the **Command List** just before the currently selected line or append it at the end if no line is selected.

- ☒ **Insert Comment:** Clicking on **Insert Comment** will trigger the **etsgen** GUI to insert a comment into the **Command List** just before the currently selected line or append it at the end if no line is selected. For instructions on how to insert a comment, see Section 6.5.
- ☒ **Insert User/Date:** Clicking on **Insert User/Date** will trigger the **etsgen** GUI to insert a comment into the **Command List** just before the currently selected line or append it at the end if no line is selected. The comment will contain information about when and who last edited the file.
- ☒ **Comment Out Command:** Clicking on **Comment Command** will trigger the **etsgen** GUI to turn the currently selected line(s) in the **Command List** into comments, adding a '#' to the beginning.
- ☒ **Uncomment Command:** Clicking on **Uncomment Command** will trigger the **etsgen** GUI to remove any '#' from the beginning of the currently selected line(s) in the **Command List**. However, it will not uncomment a line which, without the '#', would not be a valid blank line or command.

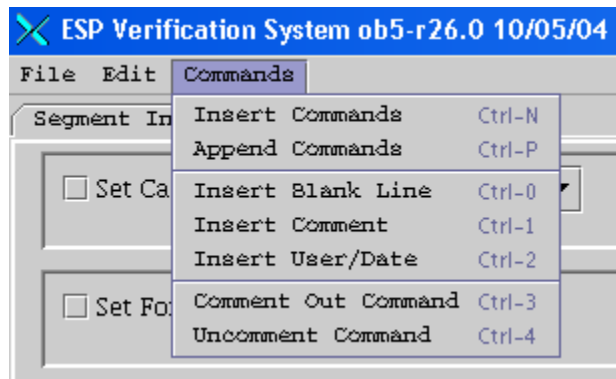


Figure 5.3 The Commands menu.

5.6 The Buttons

Each of the buttons located in the middle panel of the GUI main window, displayed in Figure 3.1, corresponds to one of the menu items described in the preceding sections and shown in Figure 5.3. Clicking on the button will result in the exact same action as clicking on the corresponding menu item. This correspondence is as follows:

- ☒ **Insert = Commands >> Insert Commands**
- ☒ **Append = Commands >> Append Commands**
- ☒ **Delete = Edit >> Delete**
- ☒ **Edit = Edit >> Edit**
- ☒ **User/Date = Commands >> Insert User/Date**
- ☒ **Blank = Commands >> Insert Blank Line**
- ☒ **Comment = Commands >> Insert Comment**
- ☒ **Run=File>>Run Batch**

5.7 The Edit Window

The **Edit Window** is a window that will open whenever the **Edit >> Edit** menu item or **Edit** button is clicked and a single valid batch input line is selected from the **Command List**. An example is given in Figure 5.4. For instructions on how to edit a batch input line, see Section 6.6.

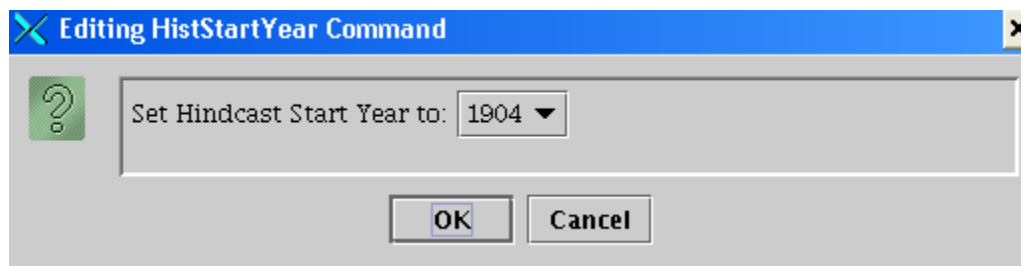


Figure 5.4 An example of an Edit Window.

5.8 The Error Window

The **Error Window** is a window that displays some error message generated by the **etsgen** GUI . When it pops up, whatever action was taken that generated the error is aborted and the window will close once "OK" is clicked. Please read the error message before closing so that you know what caused the error and can correct it.

*NOTE: Not all error messages will appear in an **Error Window**. Some messages, typically those that will not prevent an action from completing, will be sent to stdout. However, any error that causes an abort will be displayed in an **Error Window**.*