**AESO ILF Application Manual**

There are three separate applications for the ILF process.

1. ILF State-1 (Initial State Process)
2. ILF State-2 (Redispatched State Process)
3. ILF Write Workbook (Writing results into the workbook)

**Run from .EXE Files**

**ILF State-1**

1. Run the application named “ILF State-1.exe”. It will open up the progress terminal and the application side by side.
2. Select the Input files directory path by clicking the “Browse” button in the application.
3. Select Start Date, End Date and Year
4. Select “Range Selection” for preparing State-1 cases for a range of dates (and hours).
5. Select “Manual Selection” for adding dates one after one. This selection does not require End Date selection.
6. Click “Add Dates” and check the progress terminal for the selected dates.
7. Click “Clear Dates” to clear the date selection.
8. Click “Start State-1” button to start the State-1 Process.
9. Check the progress terminal to monitor the progress or errors.
10. Click “Exit” to close the application once the process is finished.
11. For interrupting the process during the simulation click the “X” button on the top right corner of the progress terminal.
12. The State-1 cases will be saved in the “Sate-1 Cases - XXX” directory located at the same directory where the program is running. “XXX” means the simulation start time.
13. Intermediate cases and progress files will be saved in “State-1 - XXX” Folder. “XXX” means the simulation start time.
14. A folder named “Logfiles” will have the log files where the State-1 Marginal Unit and HVDC information will be saved. This logfile will be required in the State-2 application.

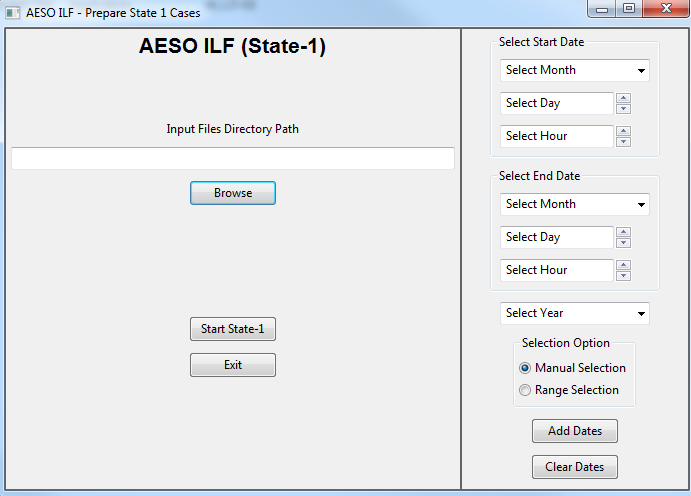


Figure 1: ILF State-1 Application

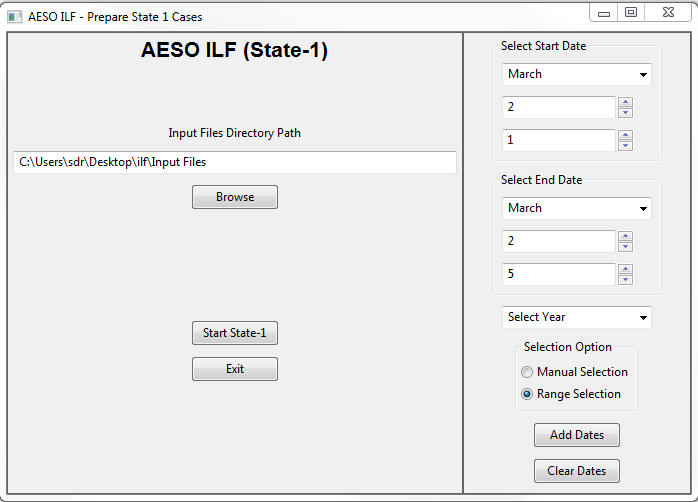


Figure 2: ILF State-1 Application with Date selection



Figure 3: ILF State-1 Application Progress Terminal

**ILF State-2**

1. Run the application named “ILF State-2.exe”. It will open up the progress terminal and the application side by side.
2. Select the Input files directory path by clicking the “Browse” button in the application.
3. Select the State-1 case(s) (prepared from the “ILF State-1” application) to start State-2 process.
4. Select the Log File(s) (prepared from the “ILF State-1” application).
5. Click “Start State-2” button to start the State-2 Process.
6. Check the progress terminal to monitor the progress or errors.
7. Click “Exit” to close the application once the process is finished.
8. For interrupting the process during the simulation click the “X” button on the top right corner of the progress terminal.
9. The State-1 cases will be saved in the “Sate-1 Cases” directory located at the same directory where the program is running.
10. A folder named “State-2 – XXX” will be created at the same directory where the “ILF State-2.exe” application is kept. “XXX” is the simulation start time.
11. Intermediate cases and progress files will be saved in Outputs folders named by the hours inside the “State-2 - XXX” directory. The hourly state-2 results spreadsheets (.xls) will be saved in the “State-2 Results” folder under the “State-2 - XXX” directory.
12. All the hourly State-2 results spreadsheets will be required in the “Write Workbook” phase to generate the result workbook.

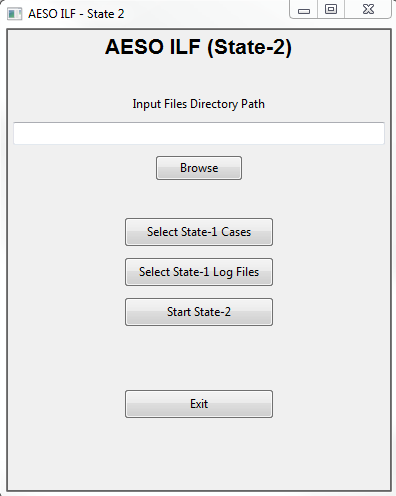


Figure 4: ILF State-2 Application

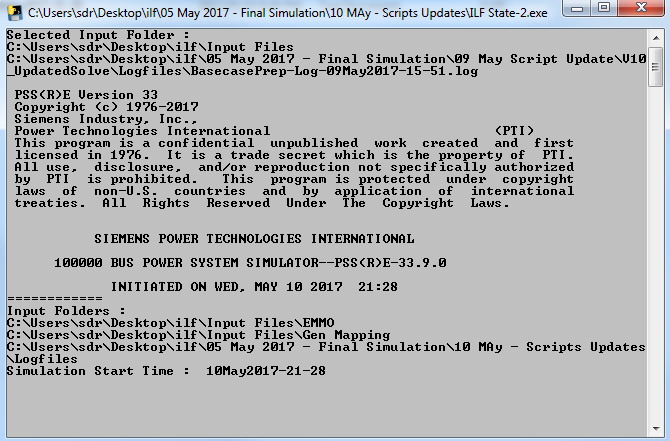


Figure 5: ILF State-2 Application Progress Terminal

**ILF Write Workbook**

1. Run the application named “ILF Write Workbook.exe”. It will open up the progress terminal and the application side by side.
2. Keep all the State-2 results spreadsheets (.xls) in a folder and select that folder path by clicking the “Browse” button in the application.
3. Select the “2017 LF Results Template.xlsx”. This is the template for the output workbook.
4. Click “Generate Workbook” button to start the writing process.
5. Check the progress terminal to monitor the progress or errors.
6. Click “Exit” to close the application once the process is finished.
7. For interrupting the process during the simulation click the “X” button on the top right corner of the progress terminal.
8. The workbook will be generated in folder where the “ILF Write Workbook.exe” is kept.
9. This workbook will write the results in the following three sheets:
   1. Volume Increase
   2. Initial State Loss
   3. Redispatched State Loss
10. The contents of these three sheets will be transferred to the final workbook.

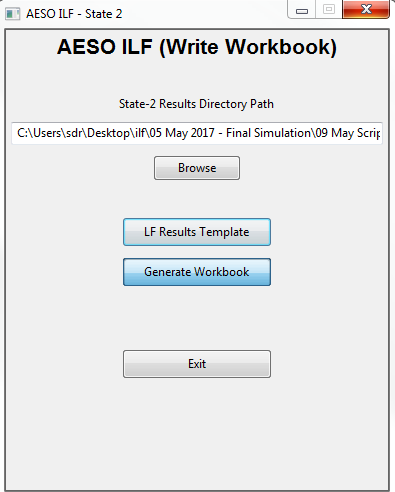


Figure 6: ILF Write Workbook Application

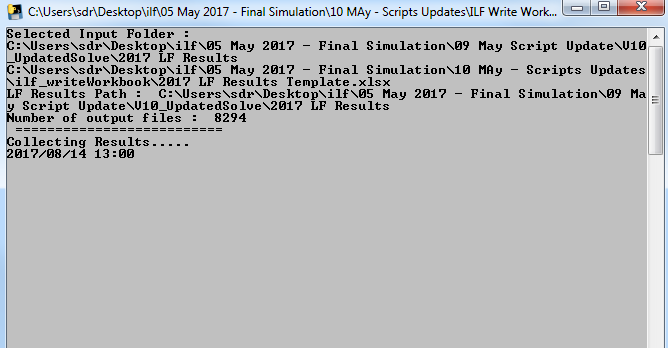


Figure 7: ILF Write Workbook Progress Terminal

Run from Source Python Codes

Please follow the steps below to run from the python scripts:

1. Keep all the python scripts in the same folder.
2. Open the command prompt in windows.
3. Type “python **xxx**.py” in the command prompt and hit enter to run the appropriate script where “**xxx**” can be one of the following scripts:
   1. ilfmain\_state1
   2. ilfmain\_state2
   3. ilfmain\_WriteWorkbook
4. This will open the corresponding application
5. Follow the steps mentioned in the “Run from .EXE File” section
6. To run the program from the python scripts one may need to install python modules used in the scripts if they are not already installed. Running from the .exe files should not require doing so as they are standalone files. The only requirement will be the PSSE software.

**Input Files**

The program requires the following input files to be kept under a single folder (Input files directory path) but into their own respective directories with the following names. ILF State-1 and ILF State-2 applications require the directory path of the

1. “EMMO” – This folder will have the monthly EMMO files
2. “Load Data” - This folder will have the monthly Load files
3. “TSS Data” - This folder will have the monthly TSS files
4. “Gen Mapping” - This folder will have the monthly Gen mapping files
5. “Load Mapping” - This folder will have the monthly Load mapping files
6. “Cases” - This folder will have the monthly topology PSS/E cases (.sav)