

OLI Tips #28 Importing Streams in ESP.

Frequently it is desirable to perform simulations on a stream within a large process. This can be time consuming to do if you have to re-run the simulation. You can import a stream from an existing process into a new or existing process.

In this example, we have run a process called "Case01". There is an intermediate stream "To Separator". This is not an entry stream, rather it is the result of a block calculation.

```
EXISTING PROCESS CONSISTS OF THESE STREAMS:  
  
Gas feed          Entry<-->Quench 1  
Quench           Entry<-->Quench 1  
To separator     Quench 1<-->Vent  
Vent             Vent<-->Outlet  
Liquid to proces Vent<-->Outlet
```

Figure 1 Stream Results Menu

We have selected the stream “To Separator” and have displayed the true species report. This is just to show you what the program has calculated.

To separator Stream
By Phase
Ionic Basis

Phases----->	Aqueous	Solid	Vapor	Organic
Temperature, C	27.2069	27.2069	27.2069	27.2069
Pressure, atm	1.	1.	1.	1.
pH	4.1034			
Total mol/hr	10019.41	0.0	10.6192	0.0
	mol/hr-----	mol/hr-----	mol/hr-----	mol/hr-----
H2O	9989.63	0.0	0.3837637	0.0
CO2	3.49182	0.0	6.482189	0.0
H2S	6.23819	0.0	3.751208	0.0
NH3	6.83744E-05	0.0	7.22197E-08	0.0
SO2	0.0324815	0.0	0.002039513	0.0
OHION	3.35012E-08	0.0	0.0	0.0
HCO3ION	0.0259688	0.0	0.0	0.0
HION	0.0174393	0.0	0.0	0.0

Select an action, or press <Enter> to continue.
<Esc> Quit <F1> Help <F3> End (Save) <F10> Actions <Enter> Continue

Figure 2 Stream Report

We will now create a new process with a new chemistry model. In this example we have created the process “Case02” with the chemistry model “Case02”. In this process we wish to use the “To Separator” stream results from the output of an existing process. To facilitate the example, we have created a simple mix block.

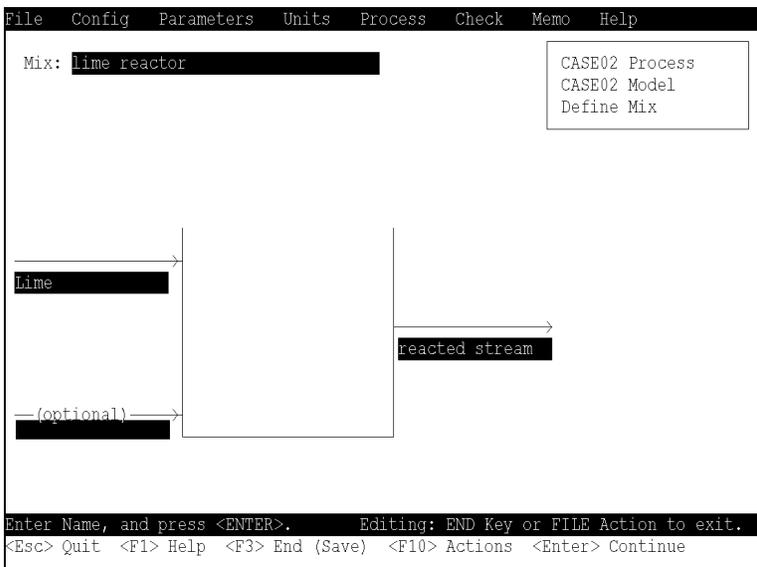
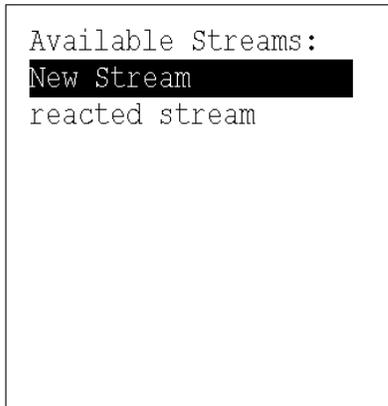
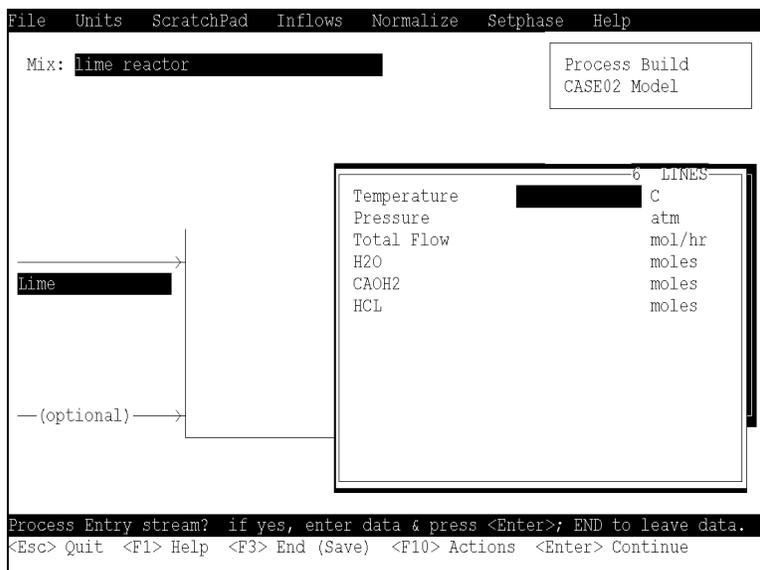


Figure 3 Press enter on a blank stream

To begin, position the cursor on a blank entry line for this unit and press the <Enter> key. This will display the Stream Selection Dialog.

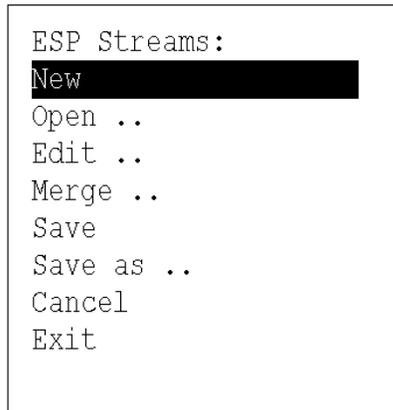


Position the cursor on the “New Stream” line and press <Enter>. This will display the traditional stream entry dialog.

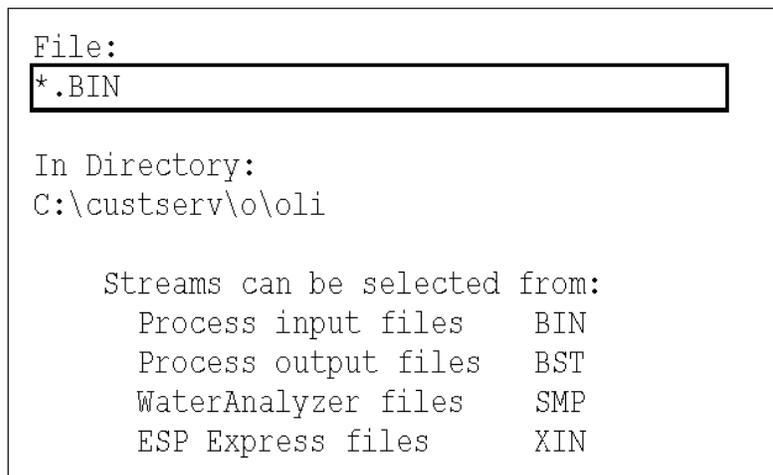


From the <Action> line, select “File” using either <F10> or the mouse. This will bring up the file actions.

Select "Open" from the choices.



By default, the program will look for existing process files. These files only contain the entry stream information and not any output information.



Change the *.BIN designation to *.BST, the file designations are:

- BIN - Process input files
- BST - Process output files
- SMP - Water Analyzer files
- XIN - OLI/Express files.

```
File:
*.bst

In Directory:
C:\custserv\o\oli

Streams can be selected from:
Process input files    BIN
Process output files   BST
WaterAnalyzer files    SMP
ESP Express files      XIN
```

Once you have changed the designation to *.bst, press the <Enter> key to display previously run processes in the current working folder.

```
Select from:
BAT1
BAT2
TC2
CAUSTIC
DH01
ADSF
CASE01
CASE02
DL1
```

Here we will select the process “Case01” since it contains the stream we want. Position the cursor appropriately and press <Enter>

```
Select from:
GAS FEED
QUENCH
TO SEPARATOR
VENT
LIQUID TO PROCES
```

The process contains streams that have been calculated. This includes the streams that you entered. Here we are selecting the stream "To Separator"

Frequently the current model is different from the model that was associated with the stream in question. It is usually recommended that you KEEP the current model. Position the cursor on "Keep" and press <Enter>

```
Model CASE01 associated with this process,  
is different than the current Model CASE02  
Would you like to switch Models?  
  
Keep      Switch
```

Often the stream in question has components that are not in the current model. You will be asked to add all the missing components (which is recommended) or to take no action. It is almost always the case that you want to "Add All" Position the cursor and press <Enter>

```
At least one inflow is missing from Model  
CASE02. Add missing inflows to the Model?  
  
No Action  Add All
```

The following stream definition contains the information from the previous process. The values have been converted to molecular flows and may not look exactly like the report.

10 LINES

Temperature	27.2069	C
Pressure	1.	atm
Total Flow	10040.	mol/hr
H2O	10000.	moles
CAOH2		moles
HCL		moles
CO2	10.	moles
H2S	10.	moles
NH3	10.	moles
SO2	10.	moles

After this step, you will be prompted to re-generate the chemistry model prior to running the simulation.