SOP-OUTSCH.0030.0065
Short Term Outage Economic Analysis

Contents

1. Objective

1. Evaluate short term transmission outages for a given Operating Day based on anticipated loads, network configuration and Resource outages and to determine production cost increase for those outages not selected for Financial Transmission Right (FTR) annual or monthly auctions.

2. Evaluate repositioning transmission outages that exceed an incremental production cost of $200,000 per week and that are at risk for economics based on the "Perform Short Term Outage Coordination" processes.

2. Background/Introduction

1. This procedure is intended to provide instructions for performing a market simulation to support economic analysis of transmission outages in the Short Term using the Portfolio Ownership Bid Evaluation (PROBE) program.

2. The Short Term Outage Economic Analysis is based on a one day or multi-day case that looks from one to five days in advance. This analysis will determine the production cost impact of the particular outage under study, and projections of the Locational Marginal Price (LMP) and Resource commitment. By providing an assessment of potential market inefficiencies a few days before the actual transmission outage, System and Market Operations is afforded an opportunity to evaluate actions that could alleviate the economic exposure, such as committing long run-time units, cancelling the transmission outage, or sending out notifications.

3. This procedure is not intended to evaluate moving transmission outage time frames. Instead, Short Term Outage Economic Analysis is intended to evaluate shorter term issues such as high LMPs and Production Cost issues caused by scheduled transmission and Resource outages. Also, because this analysis procedure is performed only a few days in advance of the actual Operating Day, there are fewer assumption uncertainties. This is especially true for the load forecast; therefore, this procedure will use the latest actual forecasted load, and not a statistical representation of the load curve.

4. Triggers:

   - Transmission outages categorized as Approved, Interim Approved, Submitted, Negotiate and Study in the Outage Scheduler application may be evaluated. This procedure is performed as desired, Monday through Friday, excluding weekends and holidays.

5. Inputs:

- Resource offers
- Demand bids
- Asset Related Demand bids
- Increment offers and decrement bids
- Transmission outages
- Resource outages
- Load Forecast
- Operating Reserve Requirements
- Interface limits
- External tie-line bids
- Resource requirements for reliability/voltage

6. Outputs:
   - Outage cost determination
   - PROBE case reports
   - STEconAnalysisLog
   - Completed Short Term Outage Economic Analysis Checklist – Attachment A

3. Responsibilities

1. Transmission Outage Coordination is responsible for the process outlined in this procedure.

4. Controls

1. System Access

   PROBE, CROW, Casebuilder, and TARAENFP1A access is required and obtainable through the Access Management database with the appropriate approvals.

2. Efficiency/Effectiveness

   This procedure is periodically reviewed for best business practices and accuracy.

3. Software/Systems/Tools

   ISO Outage Scheduling software (CROW)

   EMS WebFG

   EMS DOUBLC

   TTC Calculator

   PROBE

   Casebuilder

   GRT spreadsheet

4. Training

   Transmission Outage Coordination qualification

5. Peer Review

   Additional reviews by Transmission Outage Coordination staff (as needed)

5. Instructions

5.1 Set Up Initial PROBE Look Ahead Case

5.1.1 Create Case Folder

NOTE

The folder created will contain electronic documents pertaining to relevant case inputs. For specific individual economic outage studies, the checklist should be retained in \\rtsmb\oasis\Outage Coordination\Common\Short Term Economic Analysis. For routine daily market runs, hard copies do not need to be printed and retained.

1. CREATE a new case folder in the "filepath" as follows: \\Iso-ne.com\shares\outage\TARA Results\Probe Results

   A. START "Remote Desktop Connection"

   B. LOG IN to the PROBE/TARA Analysis software production server "taraenfp1a"

   C. NAVIGATE to appropriate user directory on the (D:) drive

   D. CREATE study folder with appropriate name with sufficient information to identify the outage that the study was performed for (e.g., "Jan2-Jan5 337 Analysis" etc.)

5.1.2 Review Transmission Outages for Desired Operating Day

1. LOG IN to ISO Outage Scheduling software and generate the transmission outage repor by performing the followingt:

   A. SELECT "ISO Report" on the Transmission Outage reports menu

   B. CLICK the "Custom" bullet in the "Date Range" section and ENTER desired "Start Date On or Before" and "End Date On or After"

   C. VERIFY "Submitted, Negotiate, Study, Interim Approved, Approved and Implemented" are selected in the "Outage Status" box

   D. CLICK "Generate"

   E. CLICK "addins", CLICK "CROW" and then CLICK "Filters/Summary Lines

F. If desired, SAVE as .an .xlsx file with the appropriate name, i.e., "CROWmm_dd_yyyy" or "CROWJan21-Jan25 2012", etc., in the case folder

2. REVIEW each outage and IDENTIFY those that should be excluded based on overruns, deadbuses, Trip Tests, etc.

3. IDENTIFY each outage to be studied and RECORD on Attachment A - Short Term Outage Economic Analysis Checklist

5.1.3 Create PROBE input files

1. CREATE PowerWorld model and contingency database files for the PROBE market runs as follows:

A. LOAD all-lines-in basecase to EMS powerflow and RUN the solution

B. CLICK "Data Retrieval"

(1) ENTER the appropriate Savecase Title that includes the network model number and date (e.g., ALI_2.3.15_Jan26)

C. CLICK "Model File" to generate the PowerWorld Model file

(1) VERIFY the letters "model_pf_pwrflow" are automatically appended

D. COPY the "EMS all-lines-in basecase" into STCA

(1) RUN the solution

E. CLICK "Data Retrieval"

(1) ENTER the appropriate Savecase Title to include the network model number and date (e.g., ALI_2.3.15_Jan26)

F. CLICK "Generate PowerWorld Contingency File"

NOTE

Casebuilder will create a folder for each study day selected (e.g., if 5 day spread is selected, 5 separate daily folders will be created with custom files for that day). Only one market (source) day is allowed per casebuilder run. If more than one source day is desired for batch run studies, casebuilder will need to be run as many times as market (source days) are needed.

2. Refer to Attachment C – Casebuilder Set-Up and Operation" and RUN "Casebuilder" to create input files for PROBE as follows:

A. START the casebuilder application by DOUBLE CLICKING the "casebuilder.exe" icon

B. CLICK excel icon in upper left hand corner

C. SELECT PROBE Short Term Outage Coordination Study Mode

D. SELECT data source (market) day for bids and offers

E. SELECT study day or spread of study days

F. NAVIGATE to "casebuilder manual files" folder

(1) SELECT the Contingency, model (created earlier in this step) and appropriate monthly zonal factors files

G. CLICK "RUN" to create input files for PROBE

H. PLACE casebuilder output folder (PROBE input files) into study day case folder

NOTE

The following codes apply to the unit_status.csv file:

- A = Available, or offered in economics
- P = Pool scheduled, will appear if unit_status.csv file is produced from a solved Day-Ahead case
- M = Must run, meaning self-schedule
- U = Unavailable
- S = Manually scheduled

I. If a unit is to be manually committed (e.g., for reliability), SET the unit status as "S" for each hour the unit is to be committed

5.1.4 Modify Interface Limits

1. REVIEW outage notes for any interface limit or other restrictions.
2. PRODUCE interface limits using the TTC Calculator as follows:

A. If using an EMS basecase:

(1) COPY an appropriate basecase into EMS Powerflow and VERIFY a "Valid Solution"

(2) CLICK Data Retrieval

(3) ENTER desired Name in the "Enter Savecase Title" box using the form: mm_dd_yyyy_"optional"
(e.g., 07_29_2011_base case)

(4) CLICK "Model File" to generate and EXPORT a PowerWorld model file

a. If more than one case will be evaluated, COPY model file and PASTE into the \\rtsmb\TTC_Calc_BatchMode_InputFiles directory

(5) CLICK "OK"

B. If using TARA basecases:

(1) CREATE basecases in TARA using AMB

(2) COMPRESS basecases in a .zip file

(3) COPY file and PASTE into the \\rtsmb\TTC_Calc_BatchMode_InputFiles directory

C. START TTC calculator

D. ENTER ID and password as needed and CLICK on "OK"

E. PERFORM the following:

(1) If evaluating more than one basecase:

a. SELECT "Batch Mode" in upper right hand corner

(2) SELECT Hour Ending (normally the peak hour but can be an off peak hour)

(3) SELECT Target Application "DayAhead"

(4) CLICK "OPEN" in the "Study Case:" selector and either:

a. SELECT the case to be evaluated; OR

b. If more than one case is to be evaluated,

i. NAVIGATE to the \\rtsmb\TTC_Calc_BatchMode_InputFiles directory

(5) ENTER a description for the case

(6) SELECT desired study basecase

(7) IDENTIFY a single interface or all interfaces for processing

(8) CLICK "Run"

(9) CLICK "Yes" to confirm that all interfaces should be run if prompted

F. WHEN the TTC calculator has finished: PRINT the report that is automatically generated and/or SAVE as a .pdf document to case folder

G. REVIEW each interface calculation for validity

(1) COPY those values to be used in the DASS GRT sheet

3. COPY desired interface limits and proxy limits into "Flowgate_Override.csv" file.

4. If desired, SAVE copy of GRT sheet as .xlsx file with a filename such as GRT.

5.1.5 Add Required Manual Constraints

1. ENTER any constraints, such as stability limits or unit limits as determined by a review of the outage applications, into the "Flowgate_Override.csv" file.

5.1.6 Identify Must Run Resource

NOTE

Any units designated as "Must Run" for 1st or 2nd contingency reliability based on outage record information may be entered into the "unit_status.csv" file with a designation of "S" for the hours desired.

1. If desired, IDENTIFY 2nd contingency units using the EMS "Double C" program.

A. ENTER the Line/Gen and Line/Line limits, identified in step 5.1.5 above, into the "Double C" program in EMS in "Study" mode

B. ENTER peak load for the Operating Day to be studied

C. CLICK on "Execute"

D. COMMIT units on the bottom of the display until the "Required increase in resources" is negative

2. If desired, IDENTIFY 2nd contingency units using the CapAnalysis software:

A. ENTER forecast peak load for desired Operating Day in the "Data" tab

B. UPDATE each interface tab with generation that will be available during the Operating Day

C. ENTER the 2nd Gen and 2nd Line limits in each interface limit tab

(1) COMMIT non-fast start units until the "deficiency" value is positive

3. If necessary, ENTER any identified non fast start units with a designation of "S" in the "unit_status.csv" file.

5.1.7 Manually Change Device Status

1. IDENTIFY any breakers or disconnects that need to be manually entered by reviewing outage records for desired Operating Day.

   A. ADD a breaker or disconnect as a new line in the "Breaker_Override.csv" file

5.1.8 Enter any Applicable Abnormal Limits or NX9 Limit Changes

1. If Abnormal Limits or NX9 Limit Changes are necessary,

   A. ENTER branch limit changes as new lines in the "Branch_Override.csv" file

5.1.9 Set Up PROBE Options

1. SET UP PROBE options and SELECT reports as follows:

   A. REFER to Attachment B - PROBE Look Ahead Study Options Set-up

   B. VERIFY options set as shown or import options file for custom studies

   C. CLICK to select desired reports from the tabs on the left of the PROBE Simulator tab

5.2 Run the Initial Day-Ahead Study Basecase With Outages Modeled

5.2.1 Run PROBE

1. If running a one day solution, PERFORM the following:

   A. From the PROBE "Input Files" tab, NAVIGATE to the study folder in the "Data Directory" window

> **NOTE**
>
> When selecting the study folder in the "Data Directory" the pertinent files are automatically loaded. Any files that PROBE cannot find will be highlighted in pink. For Look Ahead study mode, the final_dispatch, demand_dispatch and cleared_transactions files are **not** needed and should be pink.

   B. VERIFY "Use Date" is not selected

   C. SET the study date in the "StudyWindow" tab in Simulator Options

   D. CLICK "Create Reports" for only the reports showing or "Create Reports from ALL Tabs" for all reports selected

   E. When the case has solved:

      (1) REVIEW the input warnings summary for any input file errors

      (2) CLICK "Create Custom ISO-NE Reports" button

      (3) SELECT the desired reports and file path

      (4) CLICK "Create"

      (5) MODIFY input files as necessary and RE-RUN case

2. If running batch mode solutions, REFER TO Attachment D "Batch Mode Set-Up" and PERFORM the following:

   A. From the PROBE "Input Files" tab, NAVIGATE to the study folder in the "Data Directory" window

   B. VERIFY "Use Date" is not selected

   C. SET the study date in the "StudyWindow" tab in Simulator Options

> **NOTE**
>
> When selecting the study folder in the "Data Directory" the pertinent files are automatically loaded. Any files that PROBE cannot find will be highlighted in pink. For Look Ahead study mode, the final_dispatch,

demand_dispatch and cleared_transactions files are not needed and should be pink.

D. CREATE reports results folders for each study day in the batch run

E. NAVIGATE to the "BatchProcess" tab of the PROBE excel spreadsheet

(1) ENTER the following information:

a. File paths of each day's input file folders

b. Results locations

c. Study dates

d. Scenario name

F. SELECT "Probe Simulator" tab and CLICK on "Create All Selected Reports in Batch Mode" button.

G. CLICK "Validate All Input Files",

(1) RESOLVE any input file issues and then REPEAT

H. CLICK "Run Batch Process Consecutively" button or SPECIFY the number of processor cores to work simultaneously and CLICK "Run Batch Process on Multiple Processors Simultaneously" button

I. When all study cases have solved:

(1) REVIEW the input warnings summary for any input file errors

(2) MODIFY input files as necessary and RE-RUN cases

(3) CLICK "Create Custom ISO-NE Reports" button

(4) SELECT the desired reports and filepath/filename, and CLICK "CREATE"

(5) REVIEW all selected reports, MAKE adjustments and RE-RUN cases and reports as necessary

(6) When satisfied, RECORD Bid Production Costs on Attachment A - Short Term Outage Economic Analysis Checklist

5.3 Determine Incremental Production Costs

5.3.1 Run Additional PROBE Cases to Determine Incremental Production Costs

1. SET UP incremental market case as follows:
   A. MAKE CHANGES to input files to remove the outage related limits and topology. "SAVE-AS" modified input files with outage name appended (e.g., "Trans_Outage_328.csv")
      (1) RESTORE any interface limits in "Flowgate_Override.csv" file
      (2) RESTORE any breakers manually positioned due to the outage to be studied in "Breaker_Override.csv" file
      (3) RESTORE any branch limits manually changed for the outage to be studied in "Branch_Override.csv file
      (4) DELETE record for outage to be studied in "Trans_Outage.csv" file
      (5) MODIFY "Outage_override_csv" file to reflect modified Branch, Breaker or Trans Outage or Override files
      (6) CLICK "Enforce Engine Restart"
   B. CLICK "Create Reports" or "Run Batch Process…" to execute PROBE incremental case(s)
   C. When complete, ENTER production costs on Attachment A
   D. Evaluate production cost by performing the following:
      (1) SUBTRACT the incremental production cost from the Basecase value (less positive or more negative is better production cost)
   E. If incremental production cost is greater than $200,000 per week (extrapolated from a 1 day run),
      (1) NOTIFY Transmission Outage Coordination management
   F. If desired, CONTACT the affected LCC and DISCUSS potential reschedule dates

5.4 Archive Study Results

5.4.1 Archive Results

NOTE

The Archive location for the working case folder copy is on the taraenfp1a server in the following directory: C:\IT DA Supported Apps\PROBE Production\ST PROBE Production\Economic Studies.

1. COPY the electronic working case folder to the Archive directory location on the taraenfp1a server.

NOTE

In accordance with RSKMGT.0020.0010 - Manage Records Retention, the hardcopy checklist and any other paperwork filled in the Short Term Outage Economic Analysis file cabinet are to be retained per the ISO-NE Records Retention Schedule.

2. FILE the completed checklist and any other desired documents in \\rtsmb\oasis\Outage Coordination\Common\Short Term Economic Analysis .

6. Performance Measures

1. This procedure is properly followed when the Short Term Outage Economic Analysis Checklist and study folders are satisfactorily completed, archived and the applicable notifications are made.

7. References

ISO New England - ISO New England Inc. Transmission, Markets, & Services Tariff Section III, ISO New England Market Rule 1 - Standard Market Design (Market Rule 1)

ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling

SOP-OUTSCH.0030.0020 - Perform Short Term Outage Coordination

RSKMGT.0020.0010 - Manage Records Retention

Annual Maintenance Schedule (AMS)

8. Revision History

Rev. No.	Date	Reason	Contact
----		Fro previous history, refer to Rev 11. Available through Ask ISO or contact OPTI Business Analyst.	
12	09/10/25	Revision was made to reflect the reorganization of Outage Coordination, replacing Short-Term Outage Coordination with Transmission Outage Coordination; Minor edits in responsibility section. Reformatted steps throughout. Truncated Revision History.	Maya Ault

9. Attachments

Attachment A - Short Term Outage Economic Analysis Checklist

Attachment B - PROBE Look Ahead Study Options Set-up

Attachment C - Casebuilder Set-Up and Operation

Attachment D - PROBE Batch Mode Set-up and Operation

Attachment A - Short Term Outage Economic Analysis Checklist

Transmission Outage Coordinator _____Today's Date _____

Operating Day _____

Though out the case, provide any additional comments related to the scenarios in the daily write-up:

Step	Complete	
1.	_____	Determine Outages to be analyzed. Refer to transmission outage report for desired Operating Day from Outage Scheduling software. Outages to be Analyzed: _____
2.	_____	Login to PROBE/TARA/Casebuilder server "taraenfp1a"
3.	_____	Create working electronic case folder in the desired user directory - C:\IT DA Supported Apps\Users Name the working folder for the outage(s) to be studied Name of study folder _____
4.	_____	Adjust Reserve Requirements and zonal factors files as desired in casebuilder_manual_files folder
5.	_____	Execute Casebuilder run for selected Study day(s) to create input files for PROBE
6.	_____	If desired, set each unit startup and notification times to zero in "bid_data.csv" file for study day or study day one of batch run
7.	_____	Determine interface limits using TTC calculator, or manual studies, and enter into DASS-GRT.
8.	_____	Copy GRT limits into "Flowgate_Override.csv" file.
9.	_____	Enter any applicable Manual Limits into "Flowgate_Override.csv" as determined using the ISO Outage Scheduling software.
10.	_____	Identify any must run Resources for Reliability from the ISO Outage Scheduling software. Enter a status of "S" for the hours desired on "unit_status.csv" file.
11.	_____	If necessary, enter manual breakers or disconnects into the "Breaker_Override.csv" file as determined from the ISO Outage Scheduling software.
12.	_____	If necessary, enter any applicable branch limit changes into the "Branch_Override.csv" file as determined from the ISO Outage Scheduling software.
13.	_____	Set up PROBE simulator options using attachment B and select the study day or beginning study day if performing a multi-day batch run.
14.	_____	If running PROBE in batch mode, set up "BatchProcess" tab and perform data validation. using Att. D
15.	_____	Execute PROBE case(s)

Step	Complete	
16.	_____	Exclude the outage to be studied by deleting the outage record in "Trans_Outage.csv" file. Revise interface limits, branch limits as necessary for outages placed back in-service
17.	_____	Execute each incremental case. Analyze case and make adjustments as necessary as in step 16. When complete, record Production Cost.
18.	_____	Compare Production Costs between the BASECASE and the Incremental Cases.
19.	_____	For cases with incremental production cost greater than $200.000 notify Transmission Outage Coordination management.
20.	_____	Save working case folder to PROBE production archive directory - C:\IT DA Supported Apps\PROBE Production\ST PROBE Production\Economic Studies.

Production Cost - Single Day Analysis

	Case Name	Production Cost	Difference	Comments
Basecase				
Scenario 1				
Scenario 2				
Scenario 3				
		Total		

Production Cost - Multi-Day (batch run) Analysis

Basecase Name:

Day	Basecase Production Cost	Comments
Total		

Case/Scenario Name:

Day	Production Cost	Difference	Comments
Total			

Case/Scenario Name:

Day	Production Cost	Difference	Comments
Total			

Case/Scenario Name:

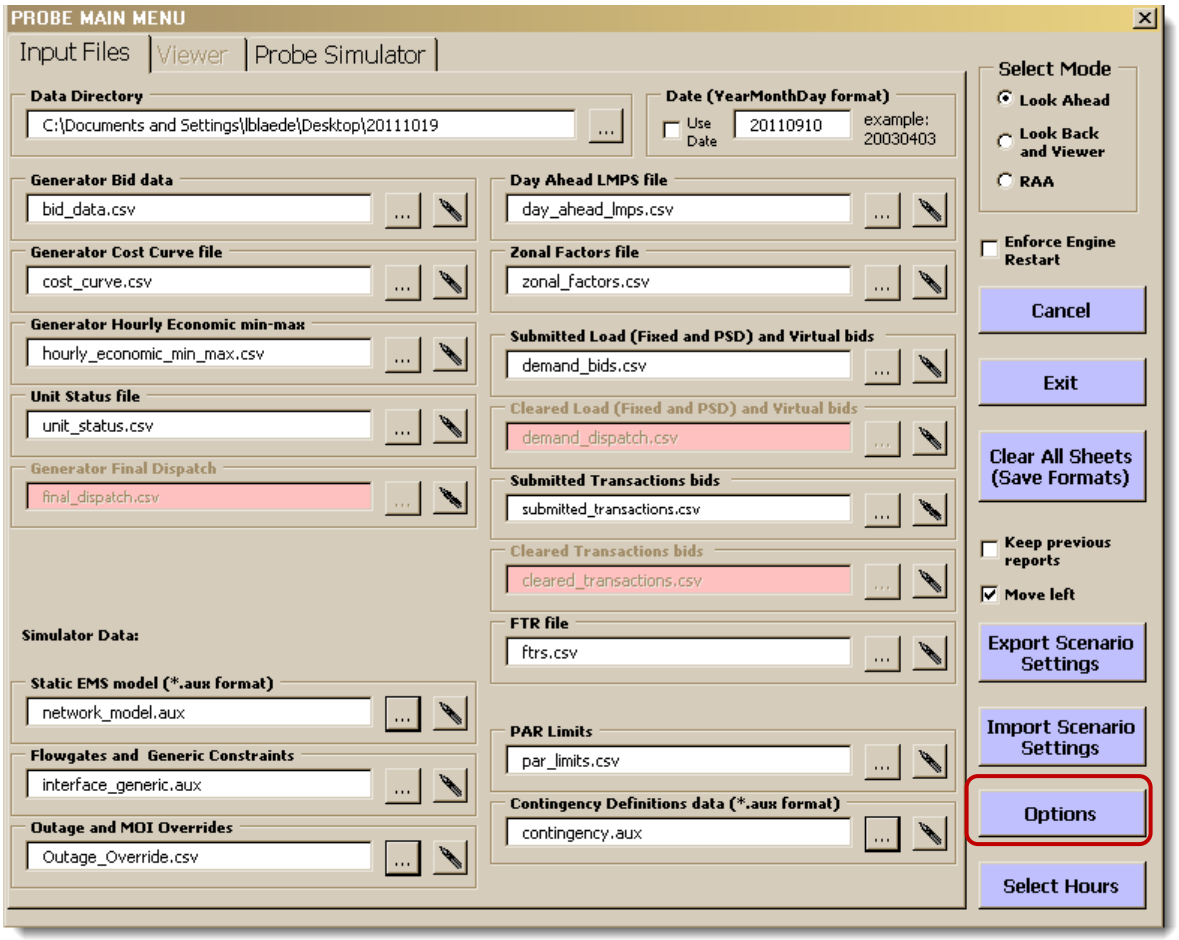
Day	Production Cost	Difference	Comments
Total			

Attachment B - PROBE Look Ahead Study Options Set-up

The following steps are used to set up PROBE for a Look Ahead study using fixed load forecast.

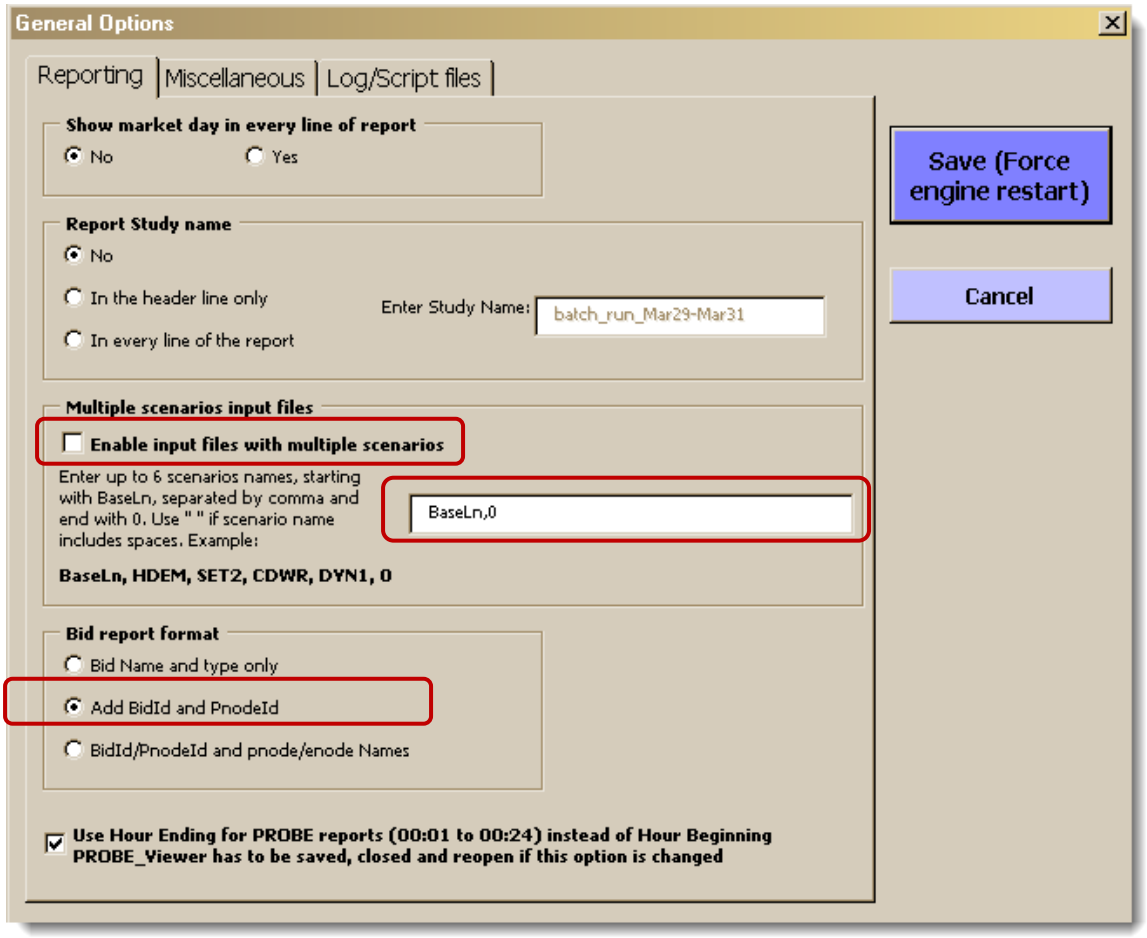
PROBE General Options:

Once PROBE has been saved, these options will also be saved.



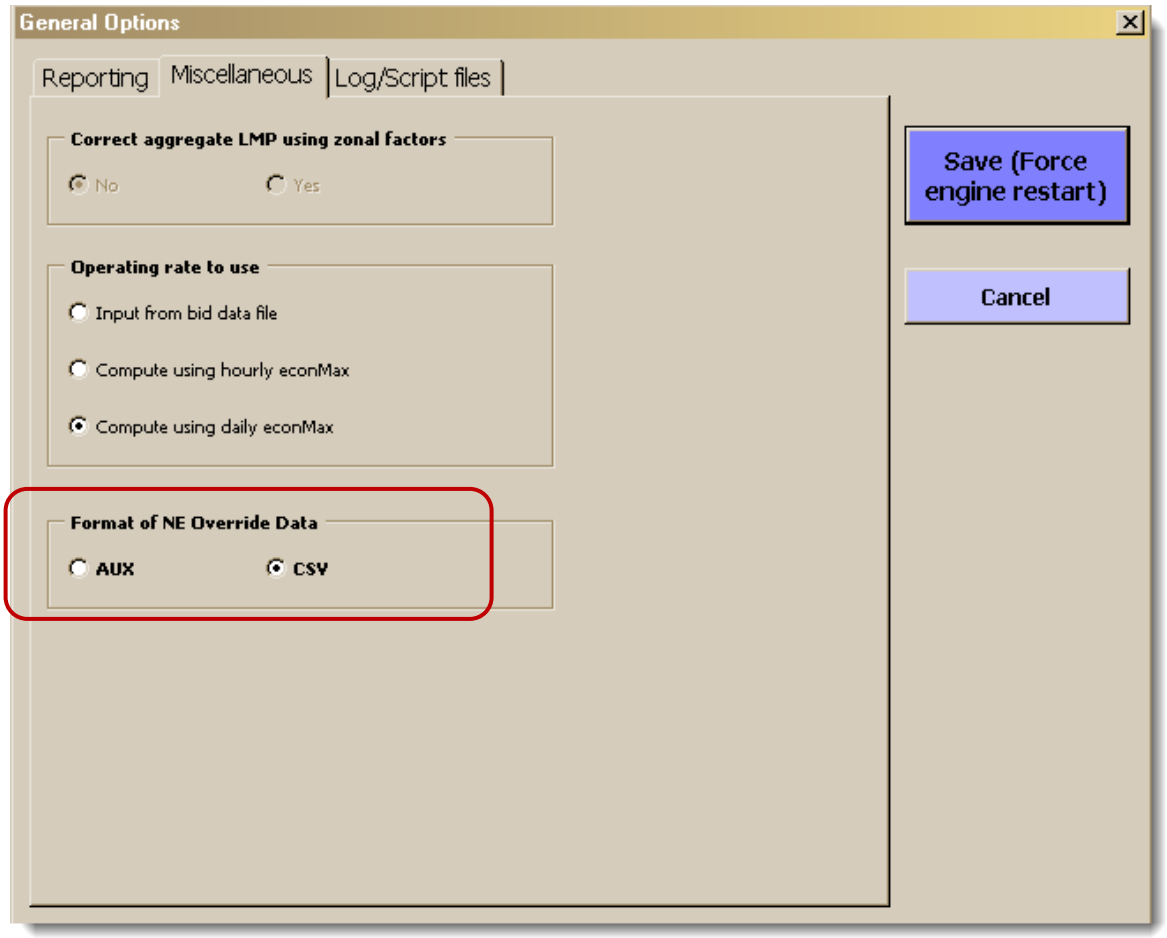
1. Reporting Tab

   a. SET selections as shown. If it is desired to use multiple scenarios ENTER scenario names and check the box.



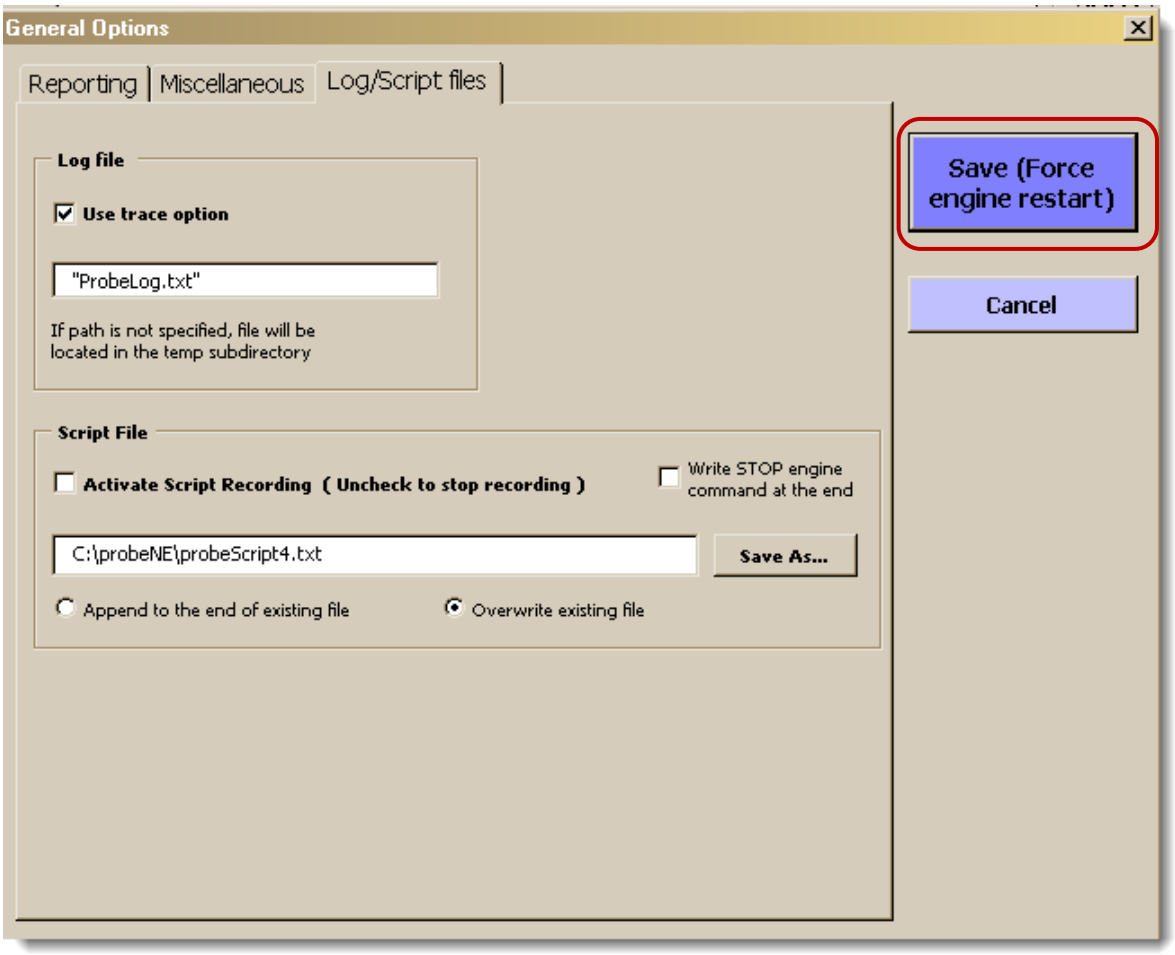
2. Miscellaneous Tab

   a. USE .csv as format for override data



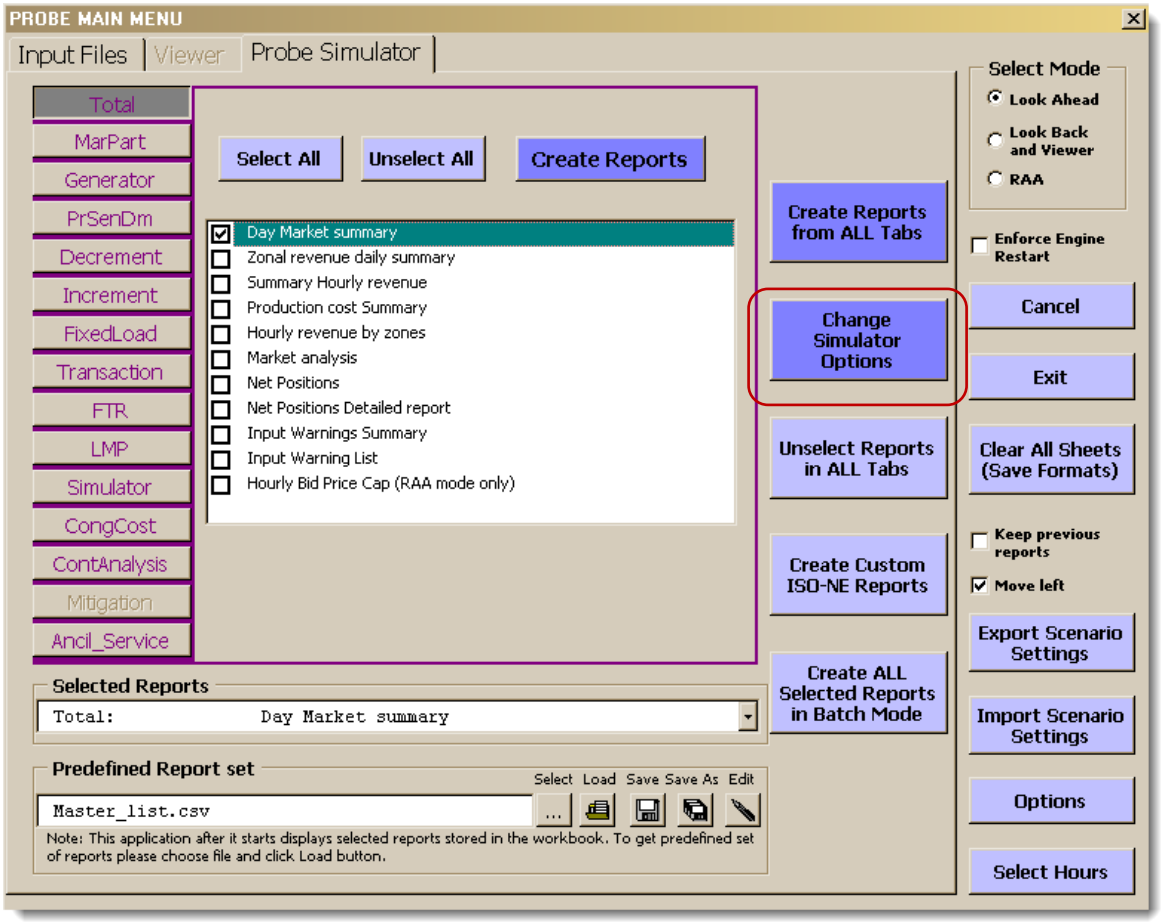
3. Log/Script files

   a. When done CLICK “Save (Force engine restart)”



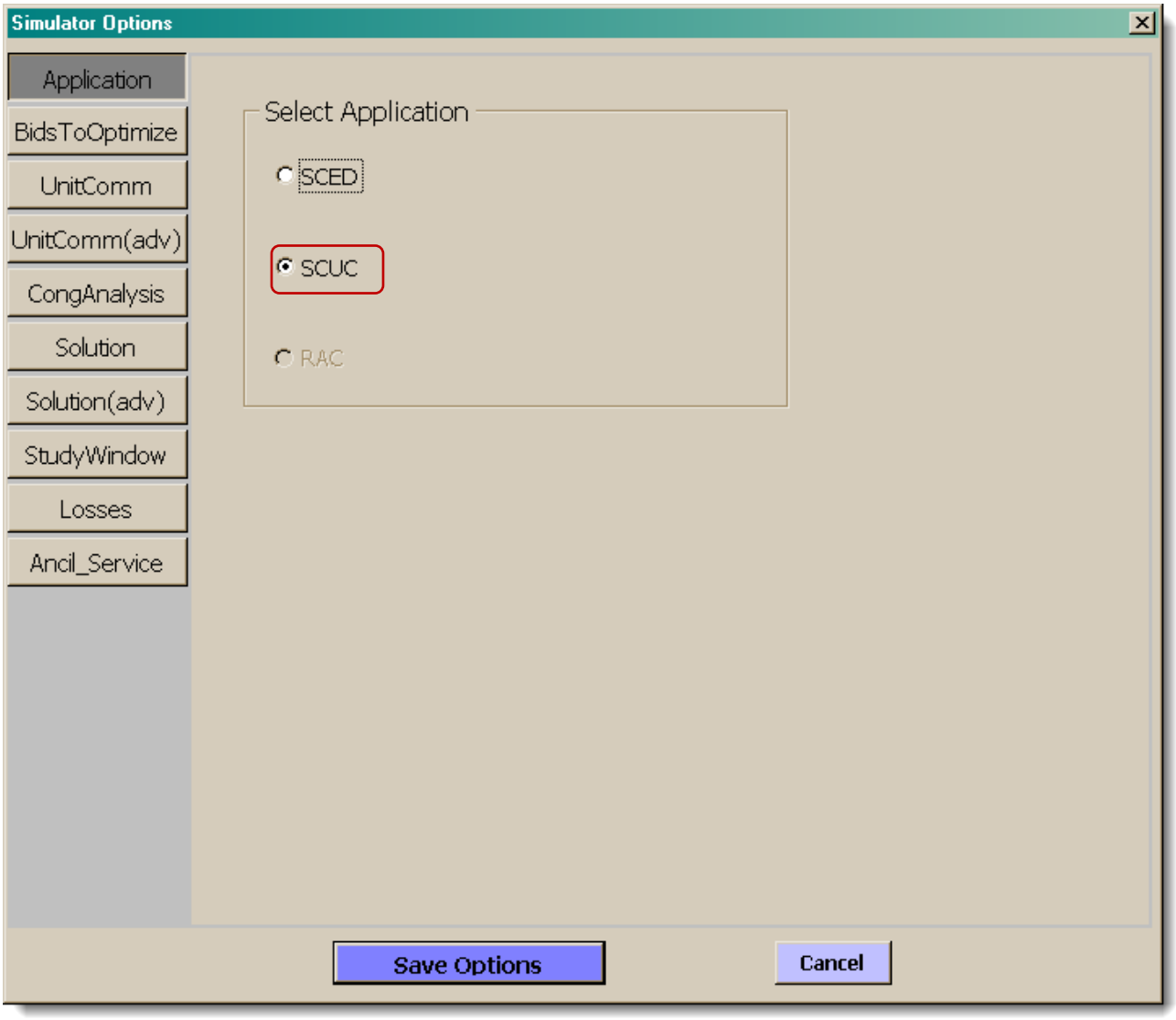
4. PROBE Simulator Options

   a. These options should be set for each PROBE run.

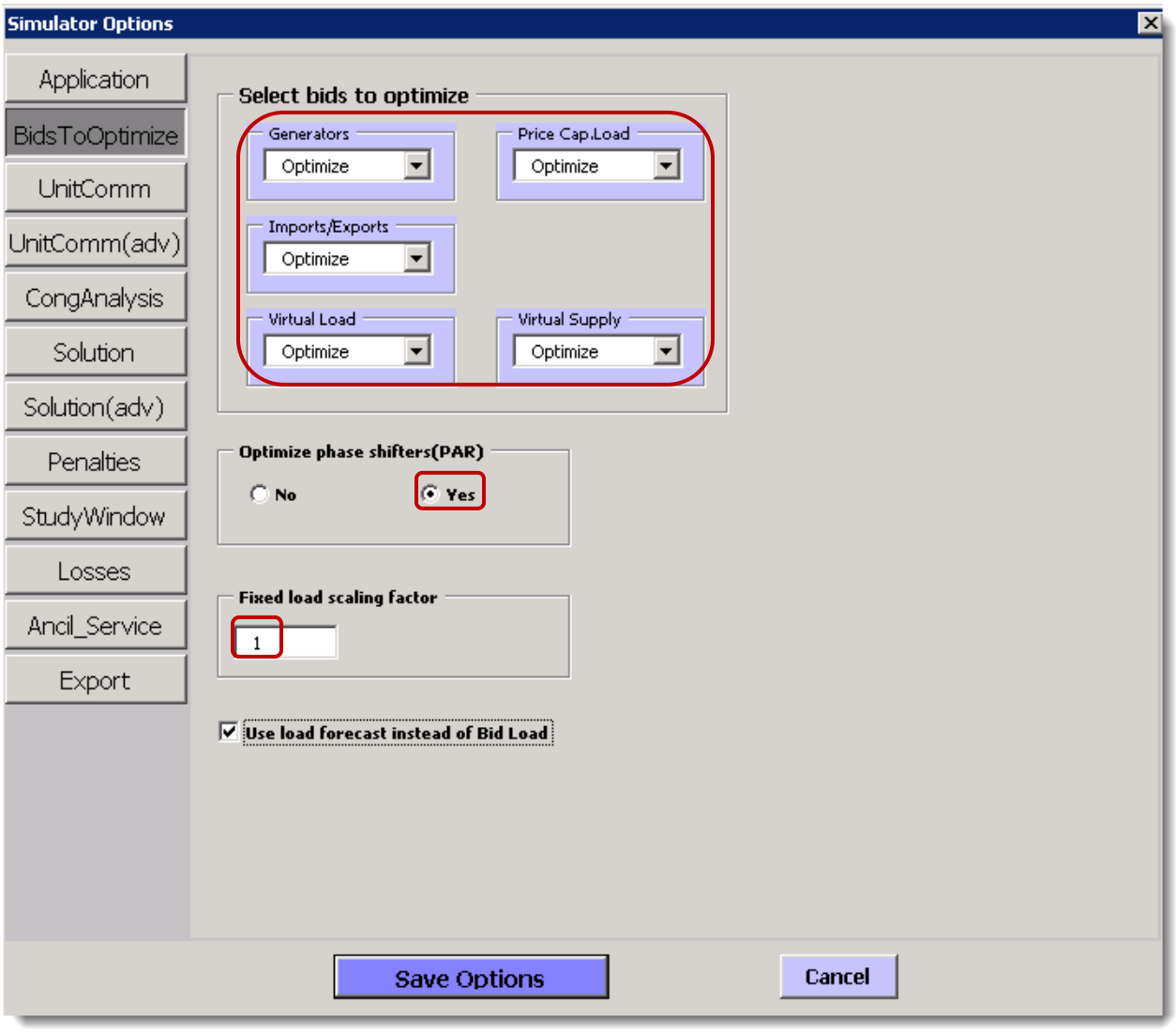


5. Application tab

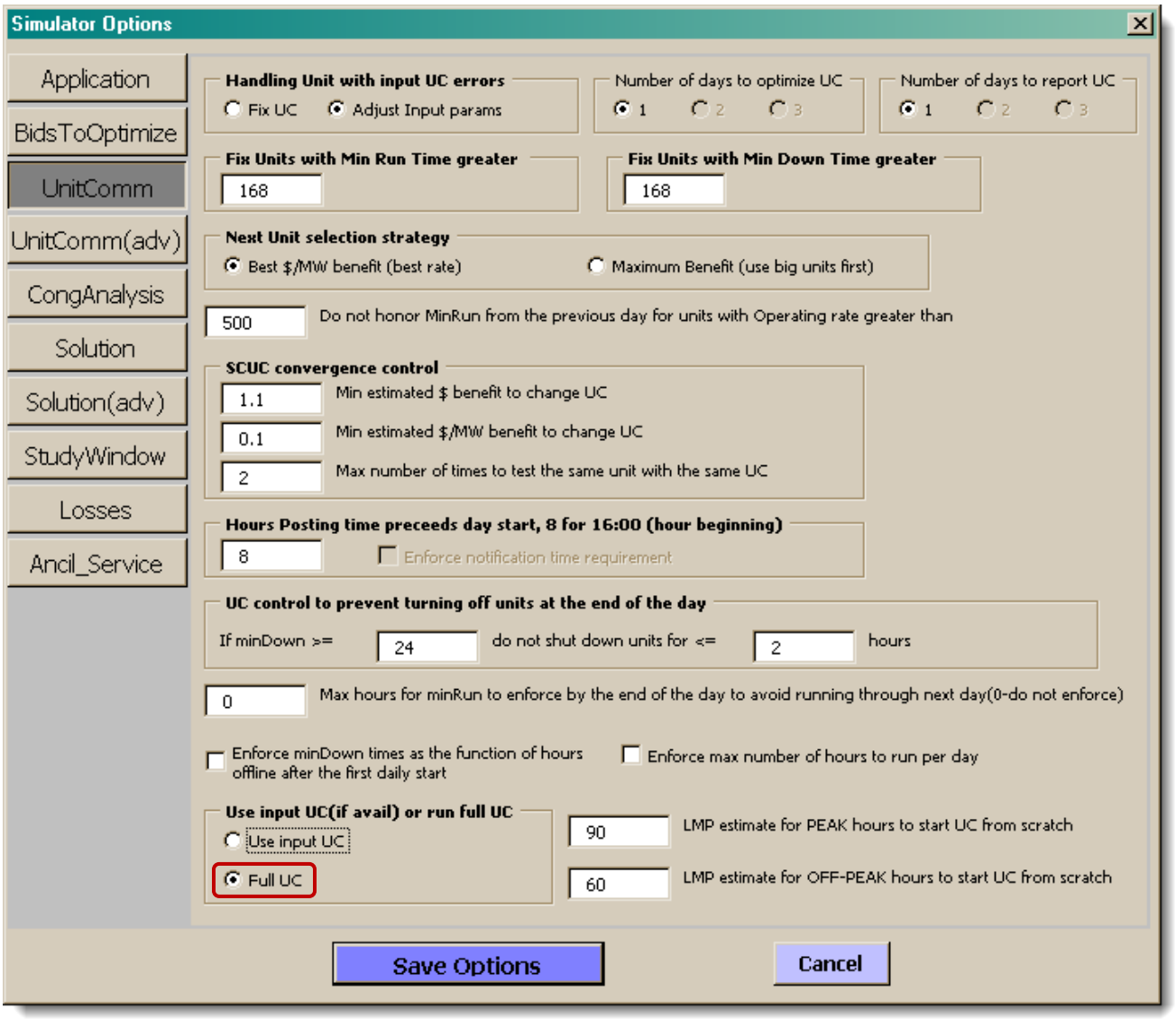
   a. SET “SCUC” for unit commitment from scratch



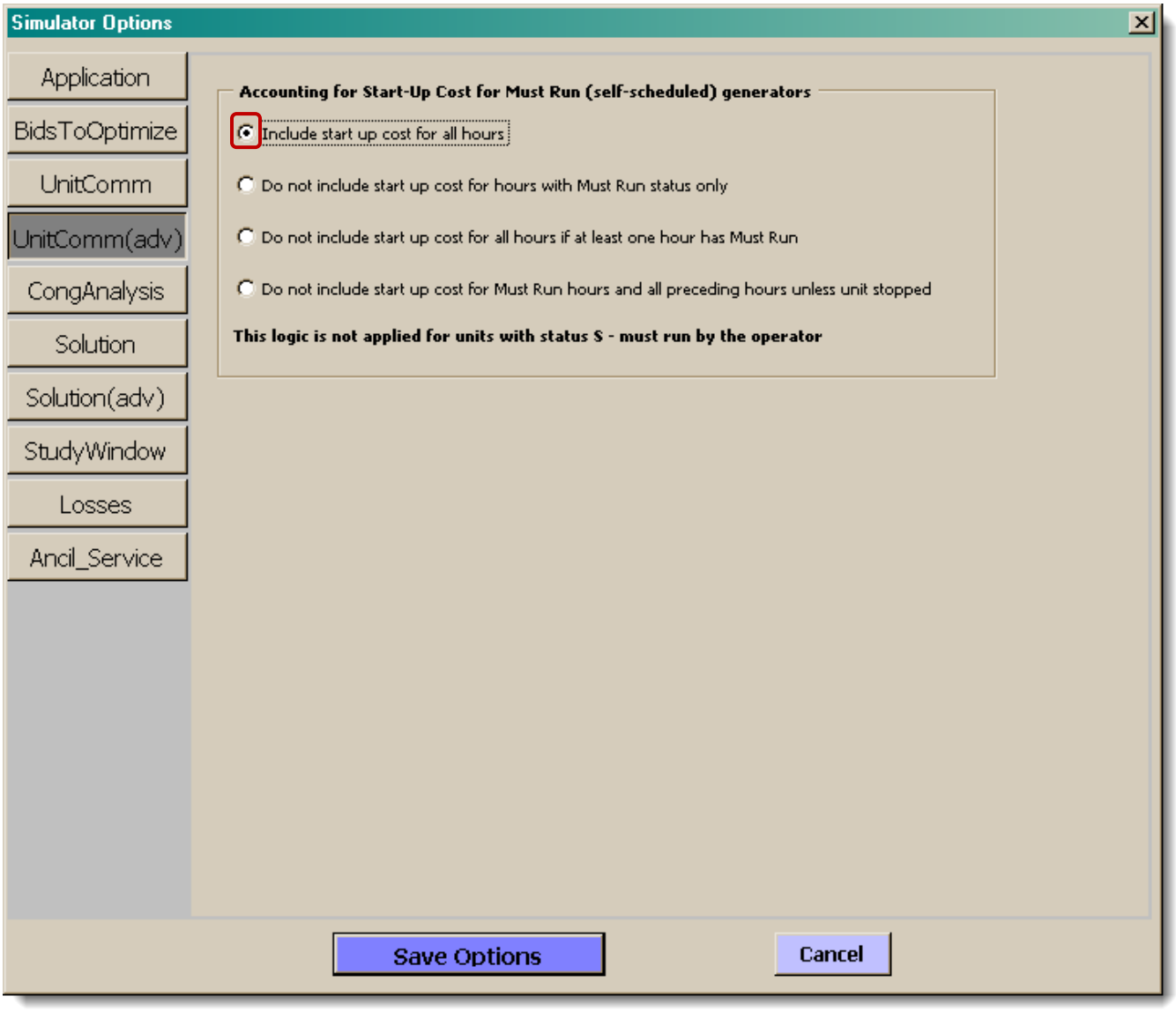
6. Bids ToOptimize tab
   a. SET “Select bids to optimize” to “Optimize”
   b. SET “Optimize phase shifters(PAR)” to “Yes”
   c. SET “Fixed load scaling factor” to “1” to account for losses as the load forecast includes them, but it is desired that PROBE calculate marginal losses separately.
   d. SELECT “Use load forecast instead of Bid Load”



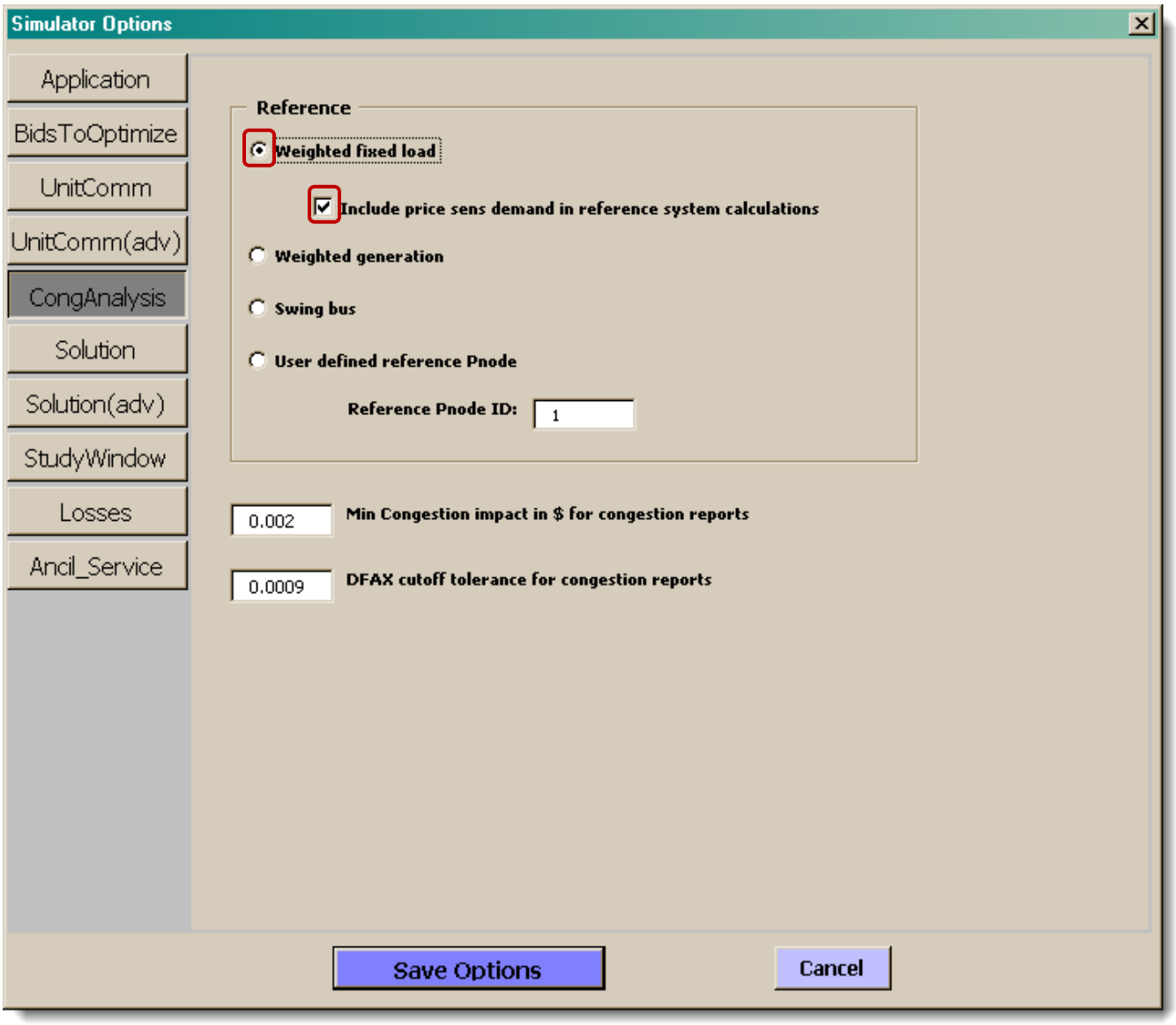
7. UnitComm tab
   a. SELECT "Full UC" to perform unit commitment from scratch.
   b. All other settings as shown. Adjustments may be made as analysis shows need.



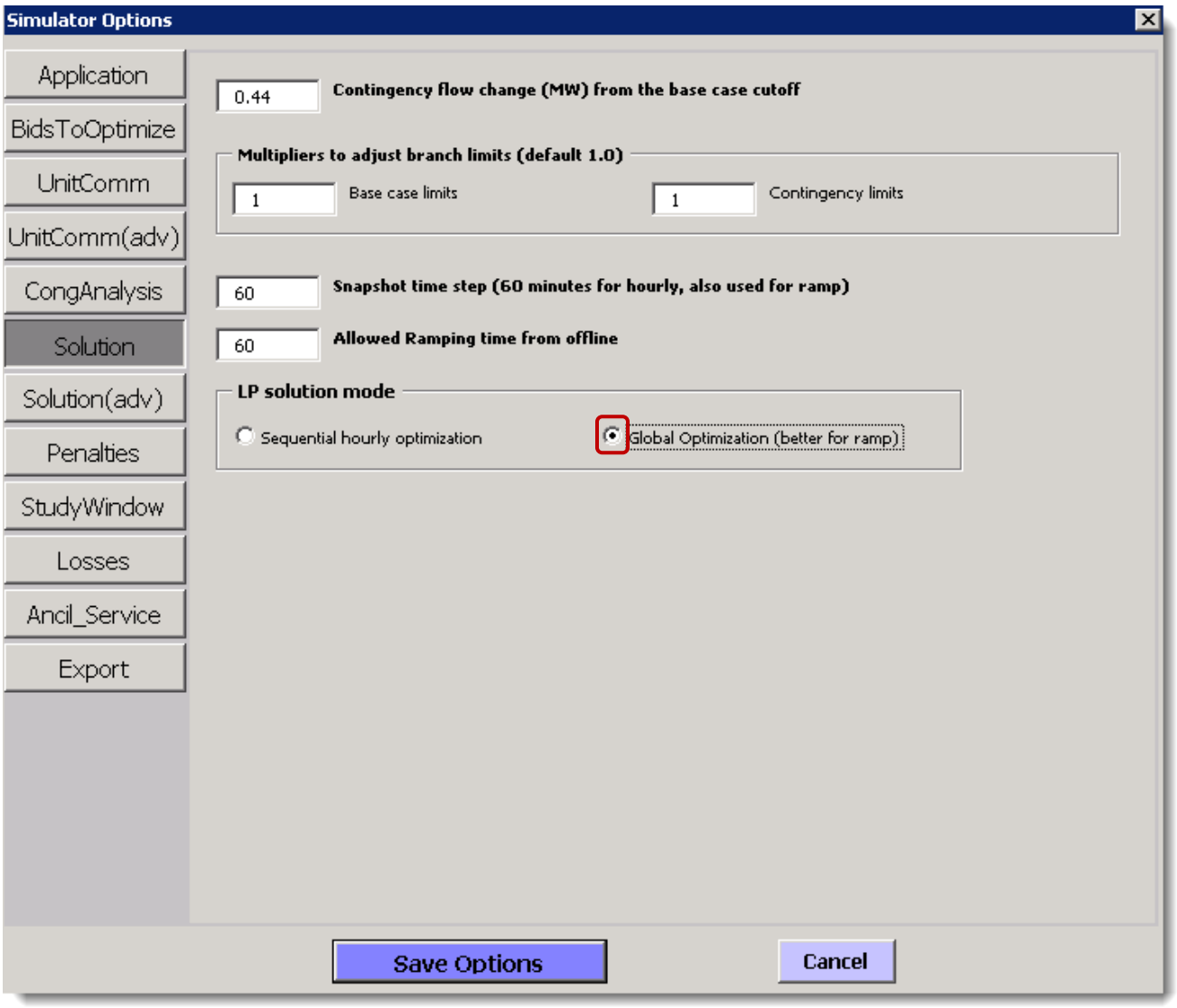
8. UnitComm(adv) tab
   a. SELECT “Include start up cost for all hours”



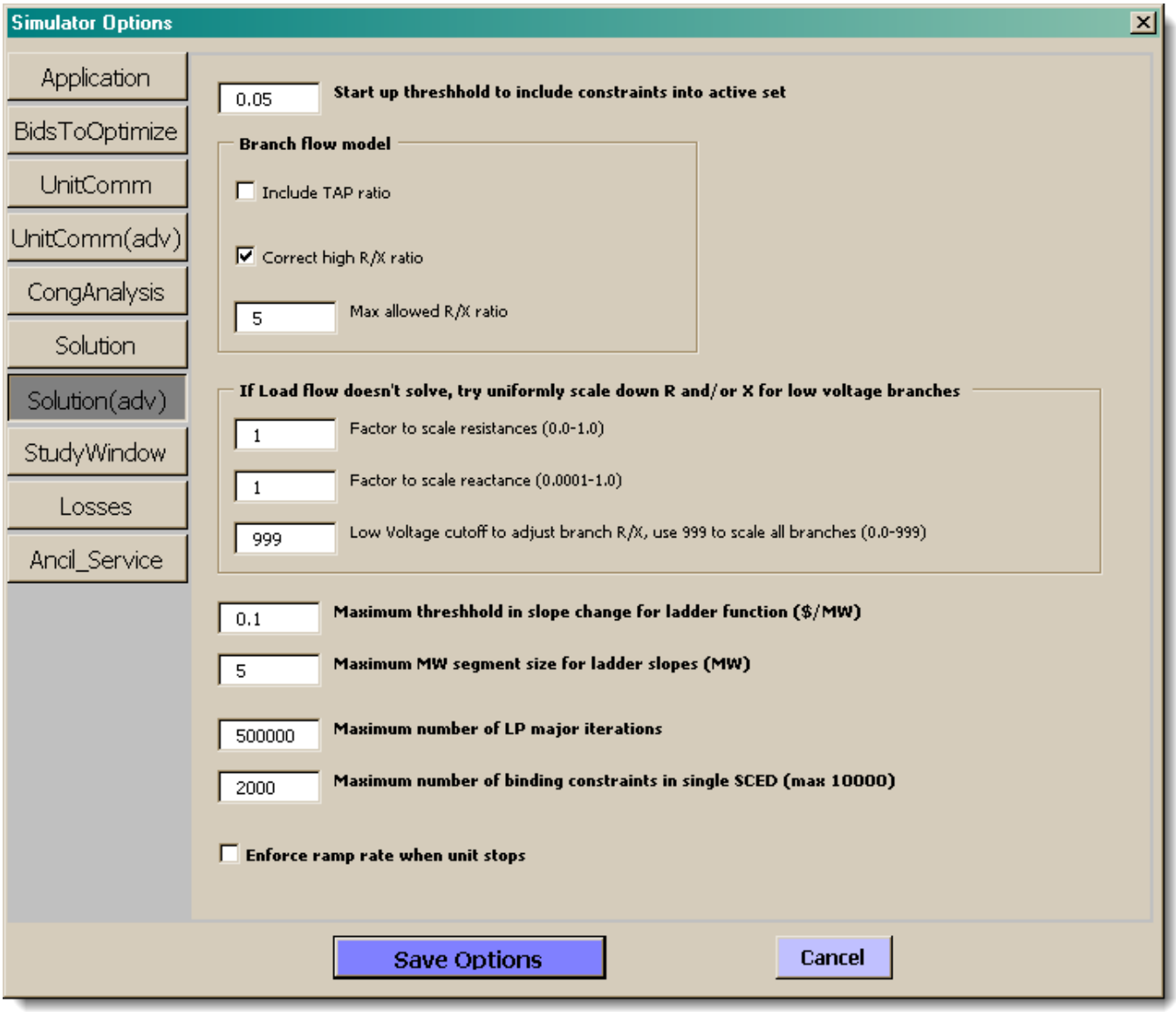
9. CongAnalysis tab
   a. SELECT “Weighted fixed load” and SELECT “Include price sens demand in reference system calculations”
   b. Other selections as shown



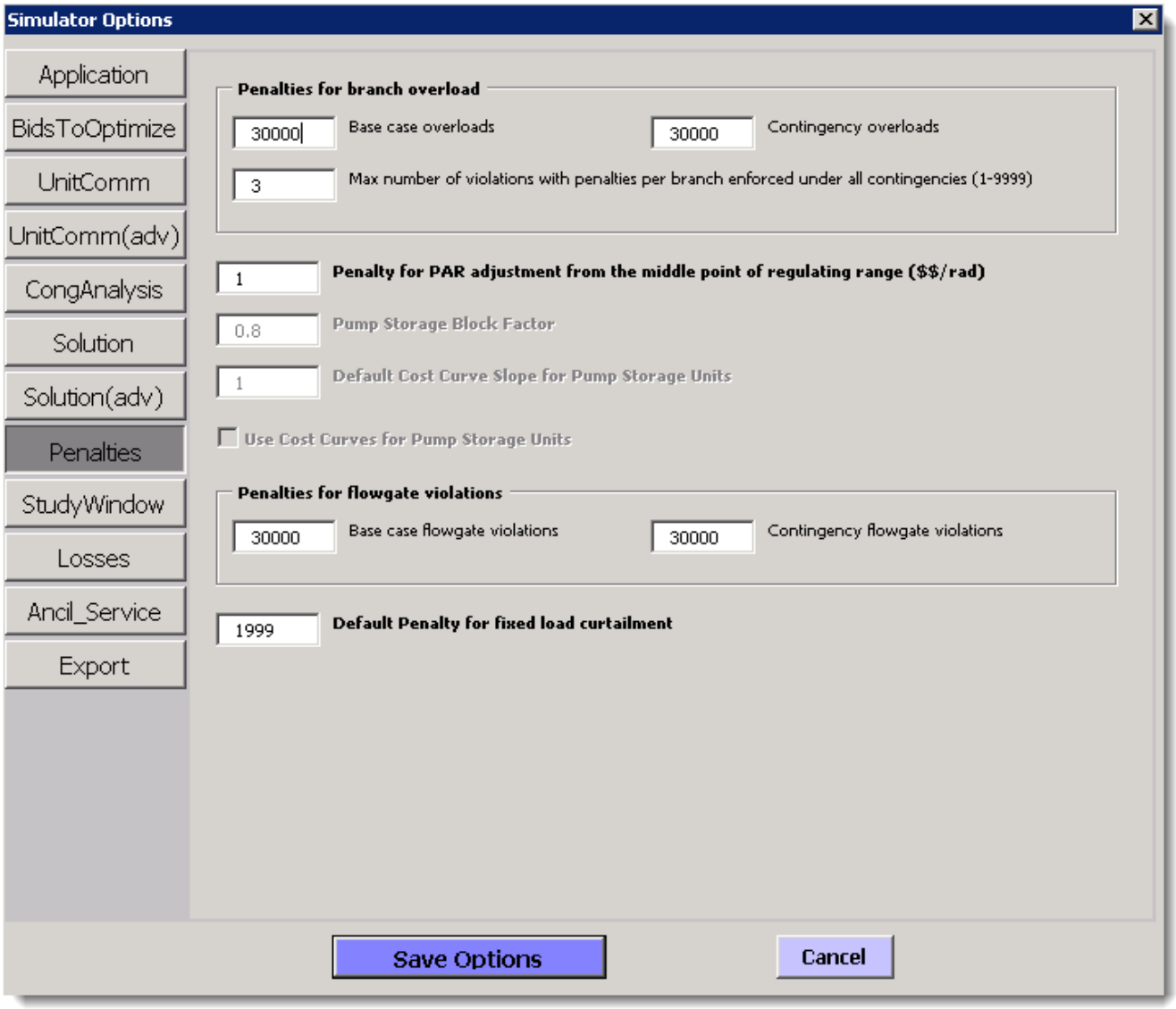
10. Solution tab
    a. SELECT “Global Optimization (better for ramp)”
    b. Other selections as shown



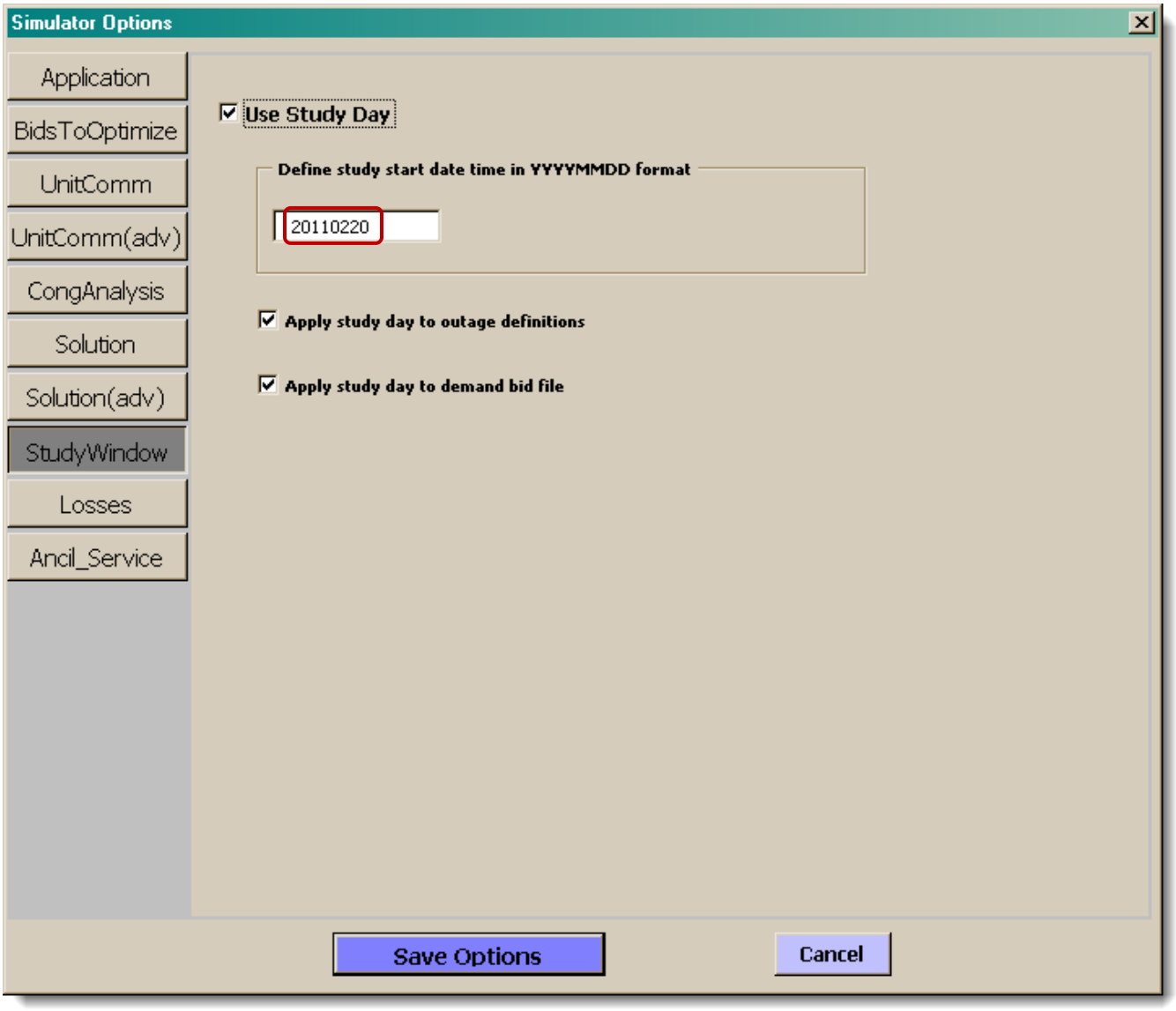
11. Solution(adv) tab
    a. Other selections as shown



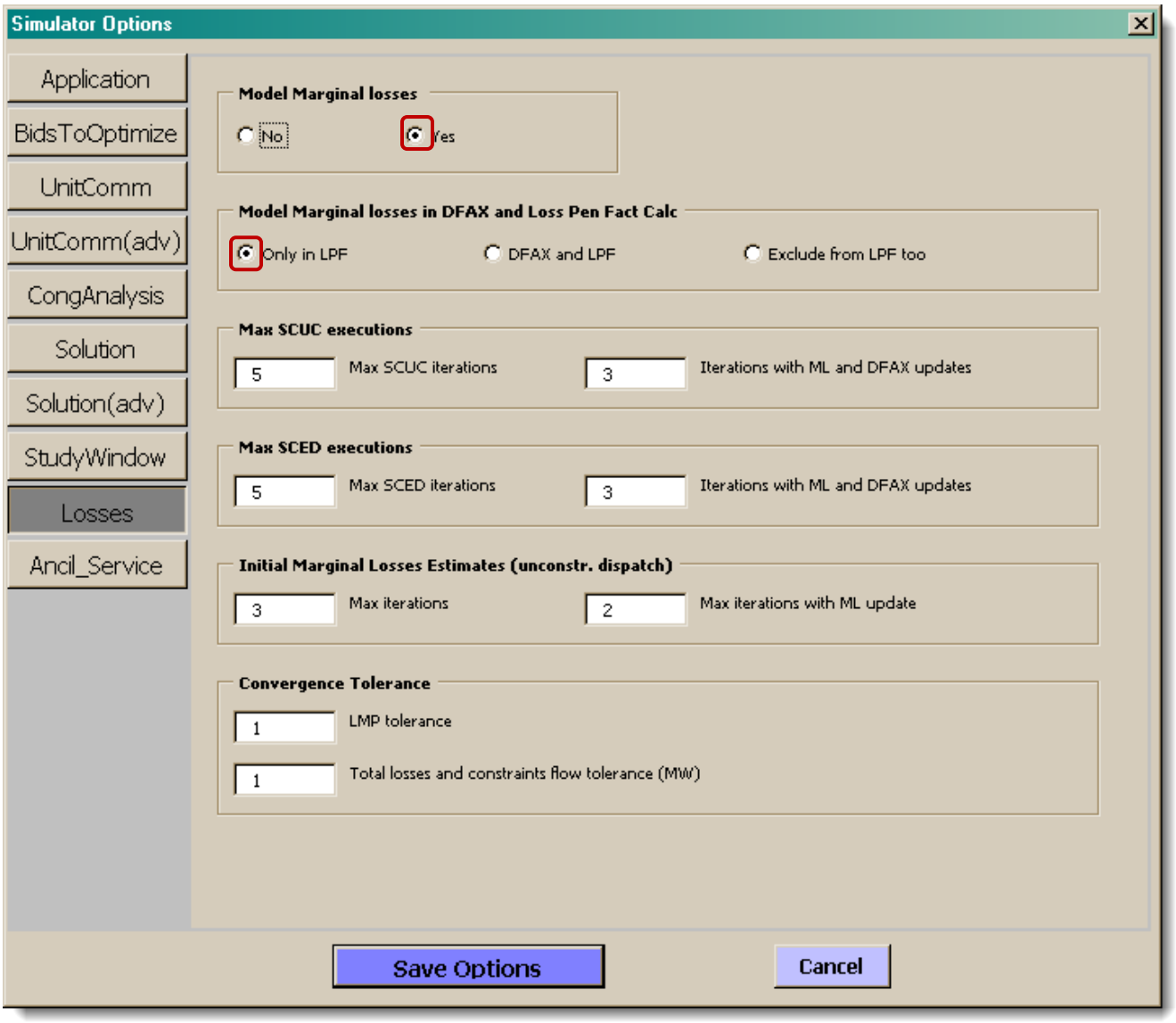
12. Penalties tab
    a. USE default values, as shown



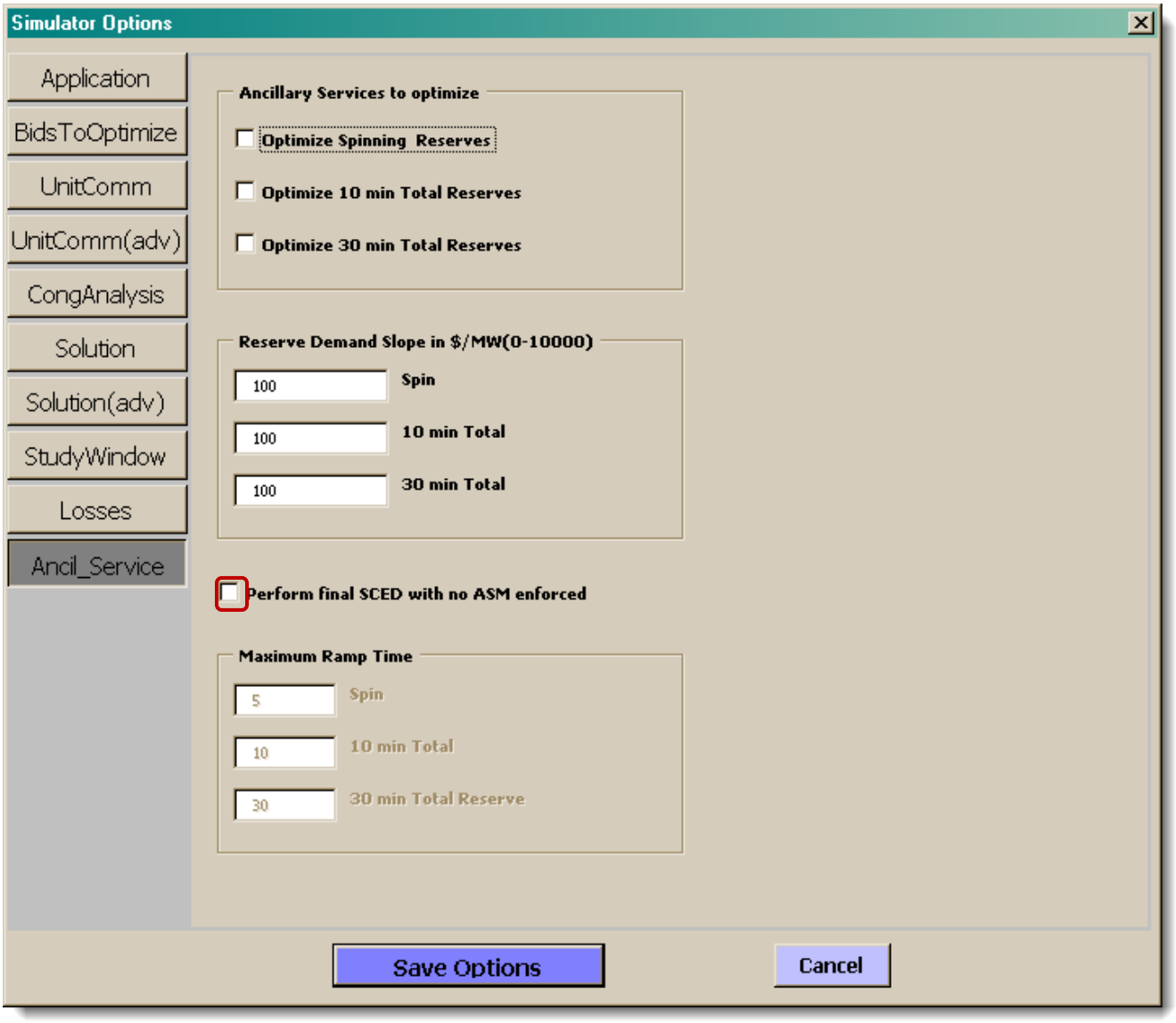
13. StudyWindow tab
    a. CHECK all selections and set “Define study start date….” to future study date or first future study date if performing multi-day runs.



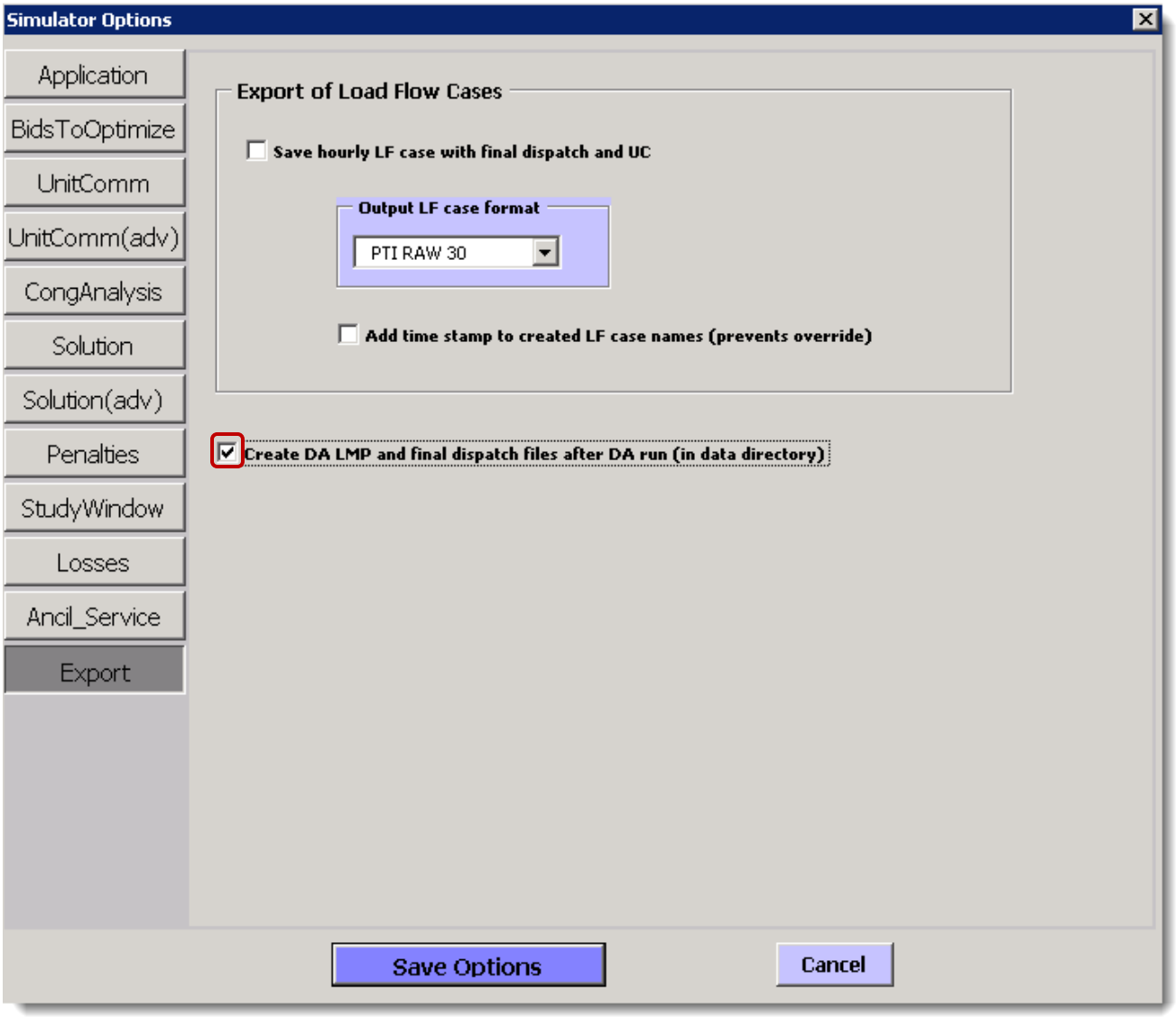
14. Losses tab
    a. SET “Model Marginal losses” to “Yes”
    b. CHECK “Only in LPF”
    c. Other settings as shown



15. Ancil_Service tab
    a. If it is desired to model unit commitment for reserves, CHECK all selections for Day-Ahead simulation. UNCHECK "Perform final SCED with no ASM enforced" for Real-Time simulation. UNCHECK all if not respecting reserve requirements in unit commitment.



16. Export tab
    a. If it is desired to export hourly load flow models, SELECT the desired format and check boxes.
    b. CHECK “Create DA LMP…(in data directory)” box



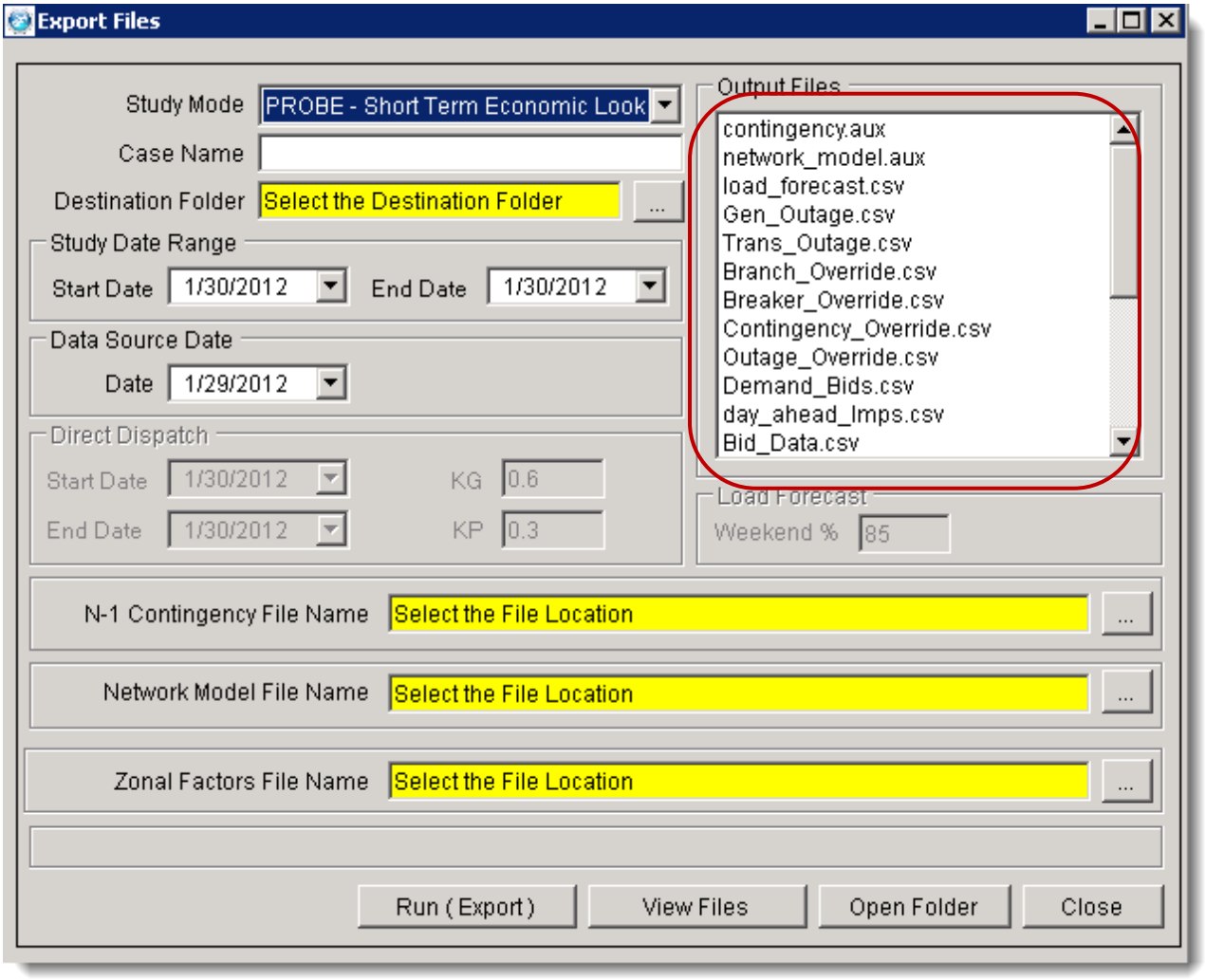
Attachment C - Casebuilder Set-up and Operation

The following screens and steps describe the setup and operation of the Casebuilder application.

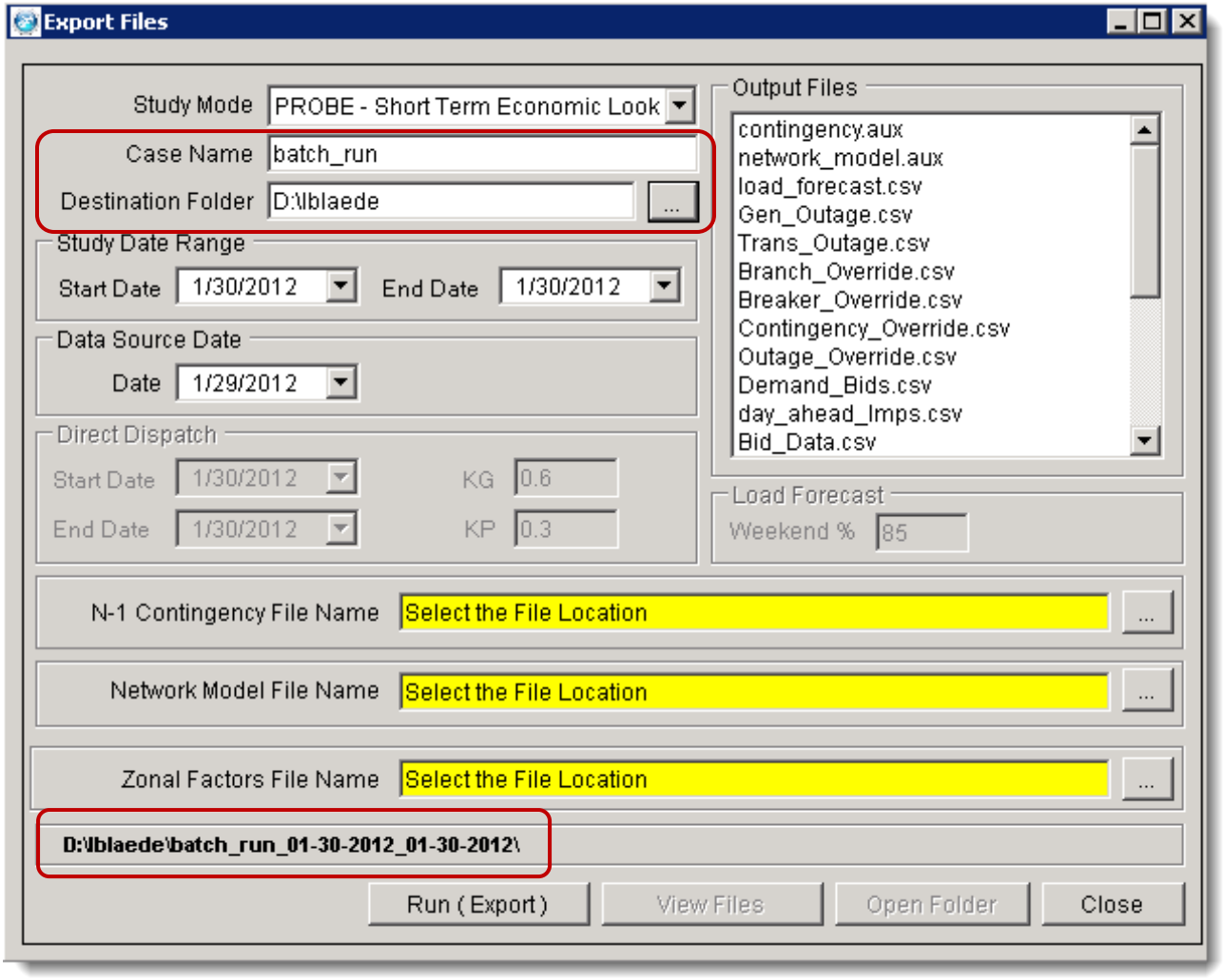
NOTE

The Casebuilder application provides input files for both TARA and PROBE applications and for various study modes. The input files produced are customized for the study mode selected.

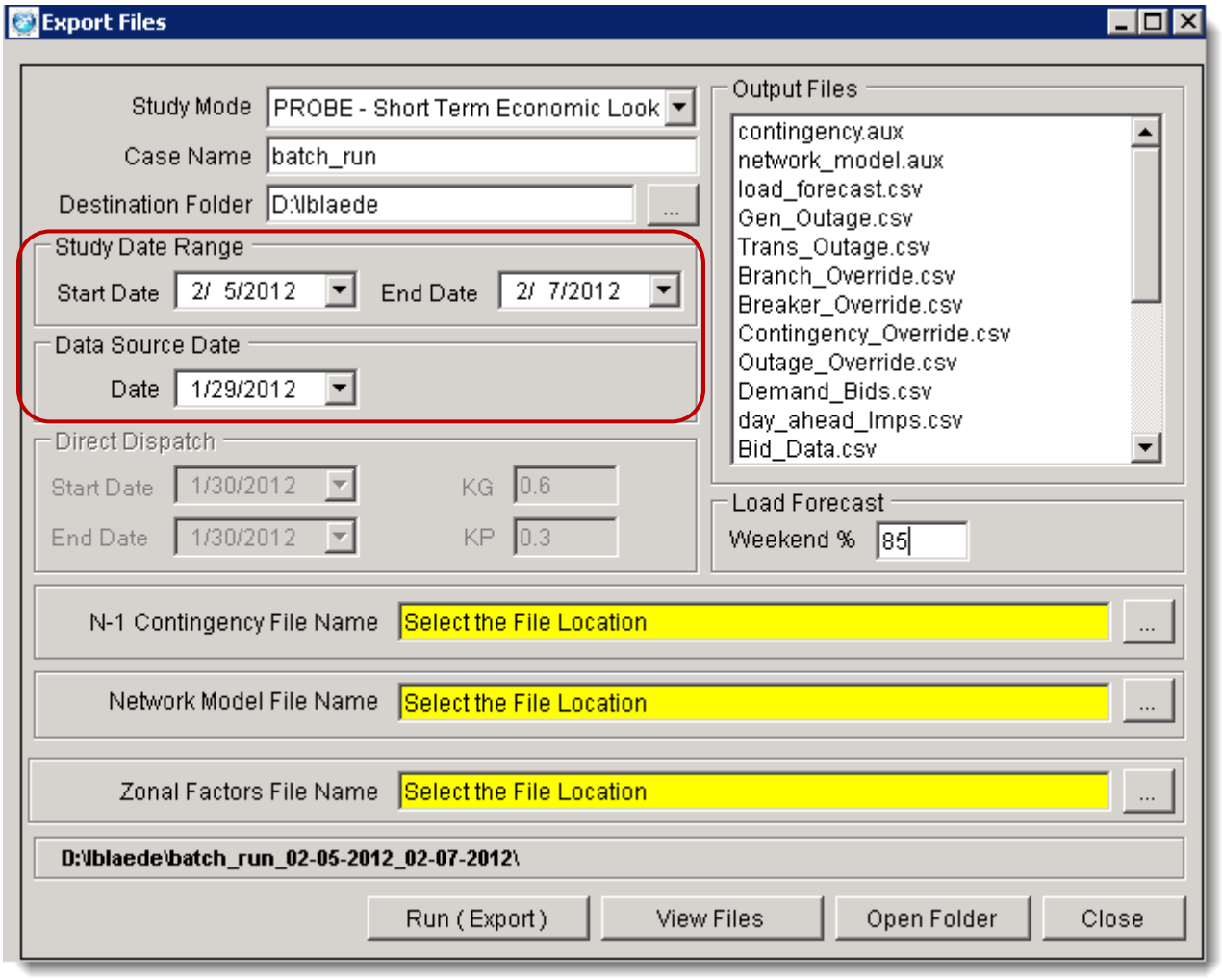
1. SELECT "PROBE – Short Term Economic Look Ahead" Study Mode. The resulting output files are displayed in the box on right.



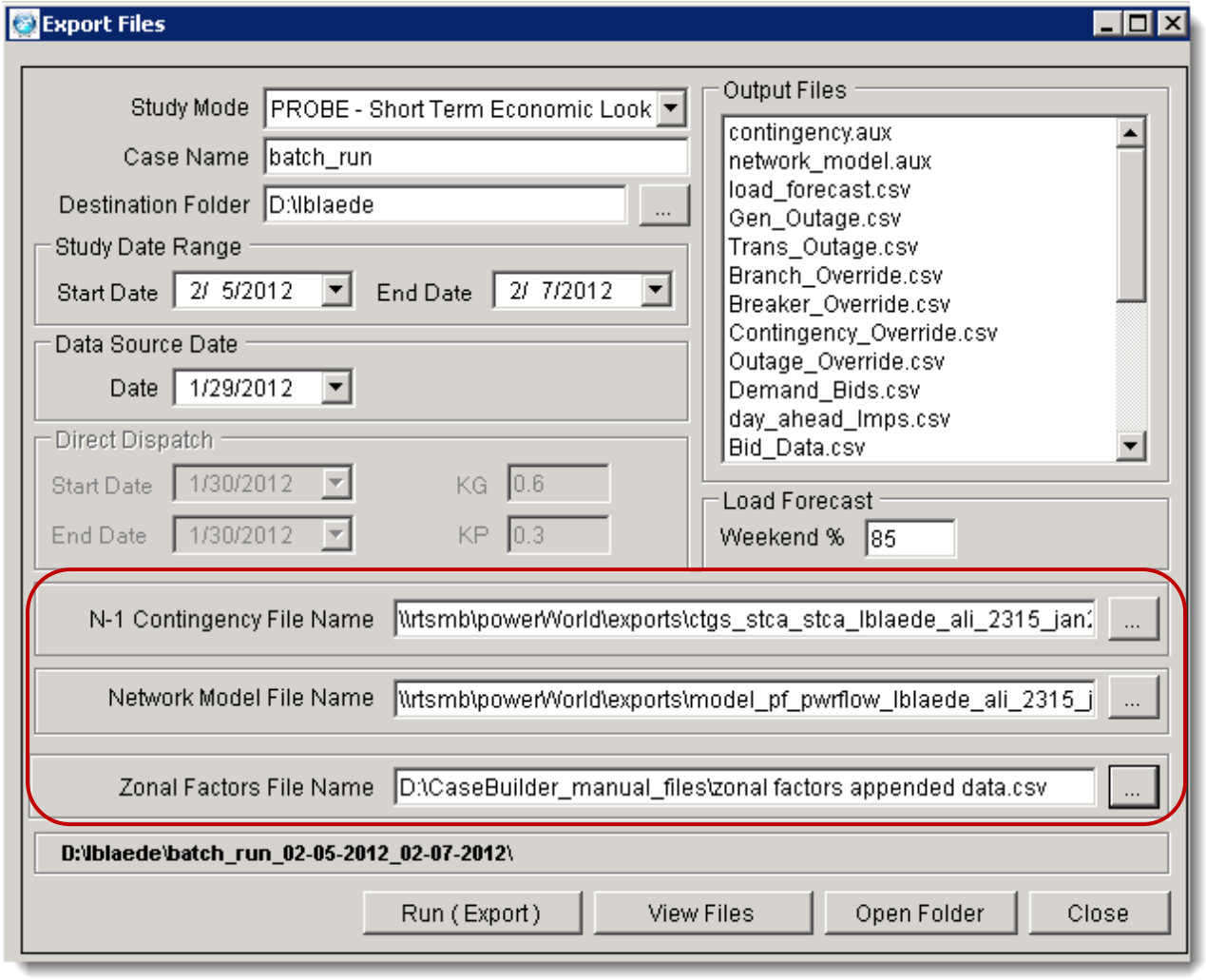
2. DEFINE Case Name and Destination Folder. The selected Study dates will be automatically appended to the resulting folder. If more than one study date is selected, there will be a folder for each study day.



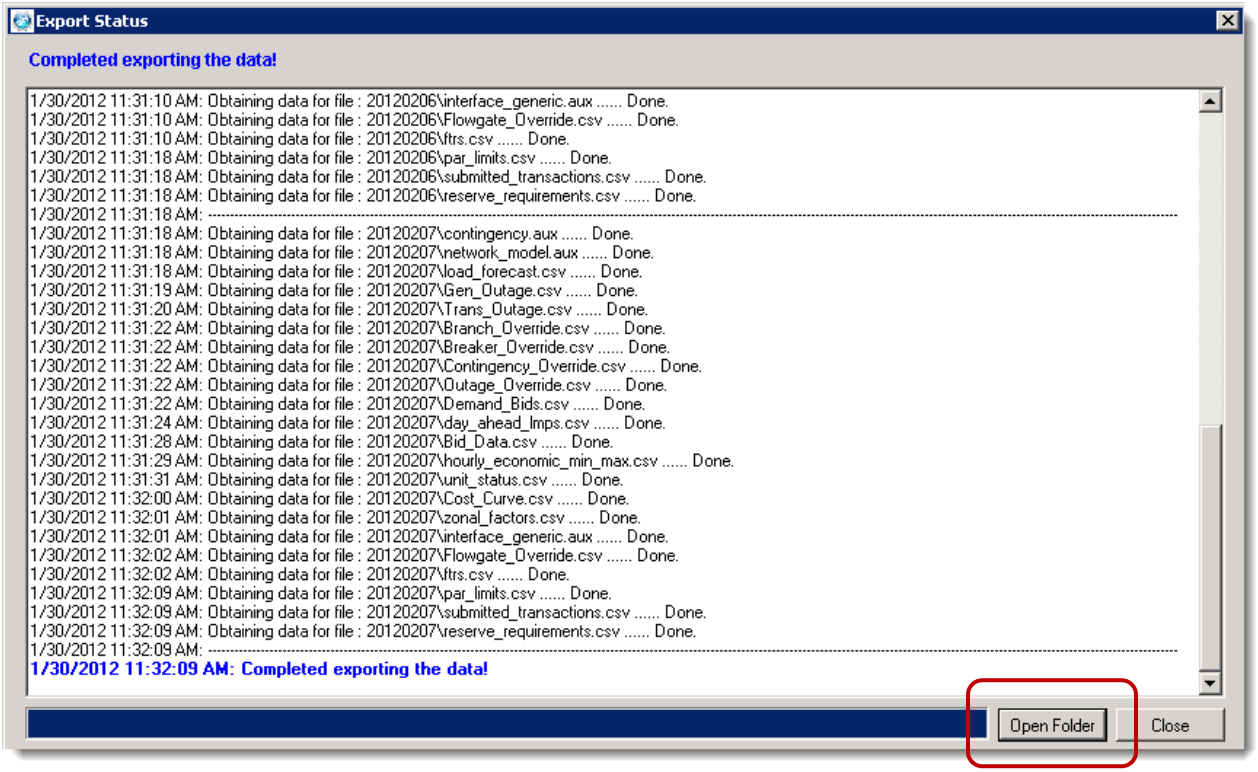
3. DEFINE Study Date Range and Data Source Date (Market Day – used for bids/offers/transactions). The Direct Dispatch selectors are not applicable to any of the PROBE study modes and so are "grayed out".

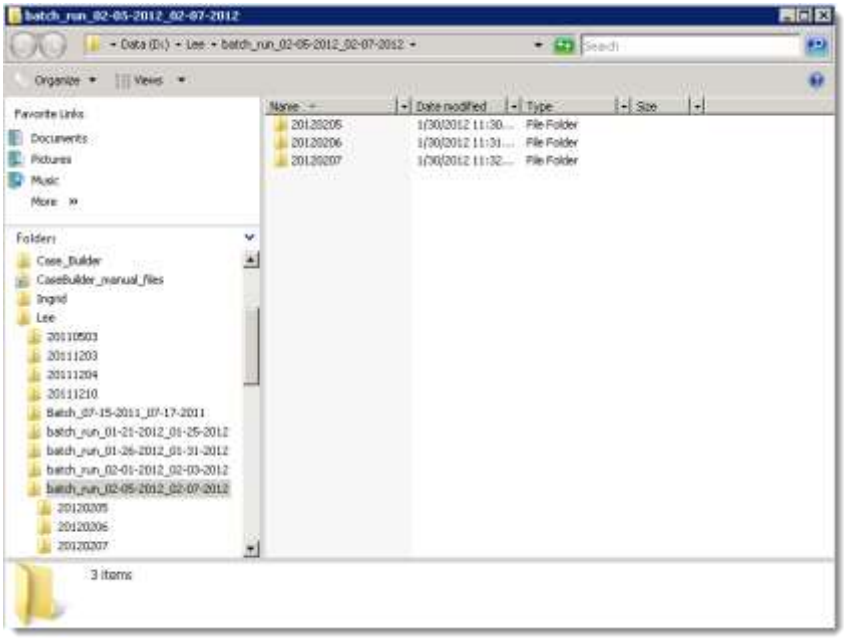


4. SELECT N-1 Contingency File, Network Model File and Zonal Factors File. Casebuilder will open the \\rtsmb\PowerWorld\Export folder where these files are saved when created from EMS. The zonal factors file should be chosen to match the month of the Study dates and are located in the casebuilder_manual_files folder.

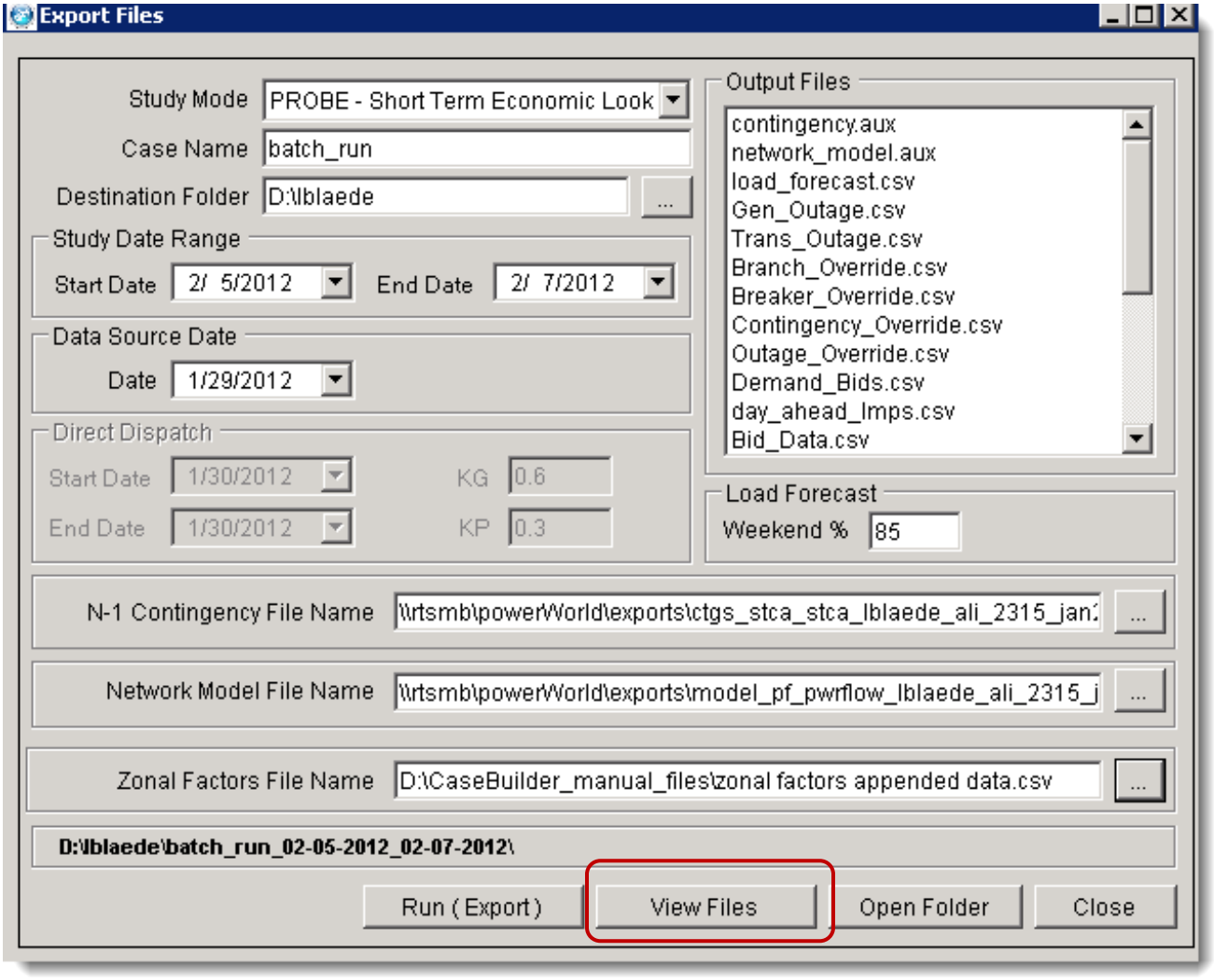


5. CLICK “Run (Export).” A complete set of input files will be created for each day and a folder will be created for each study day selected. Clicking “Open Folder” will open the folder

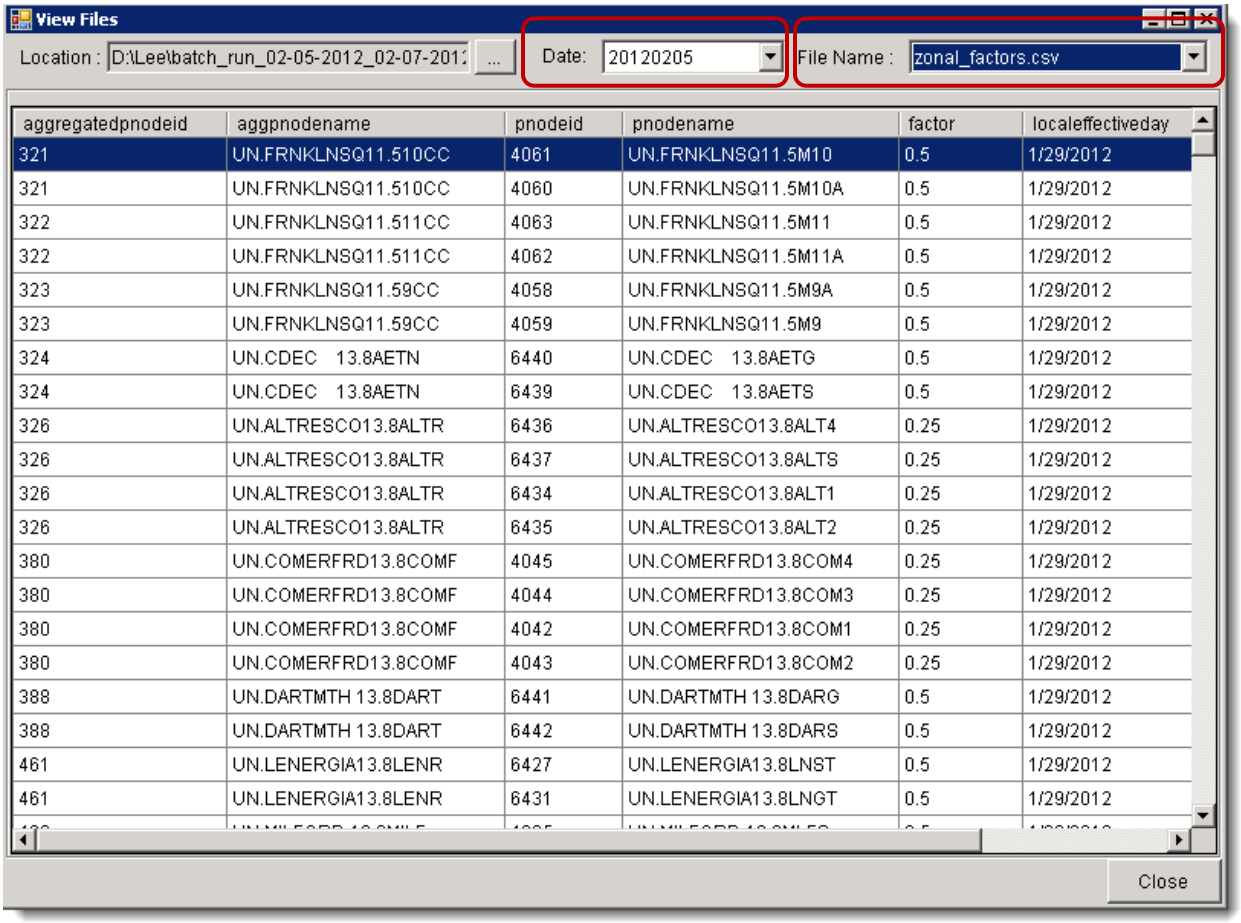




6. If desired, CLICK “View Files”.



7. SET Date (for multi-day batch runs) and the file name to view each file.

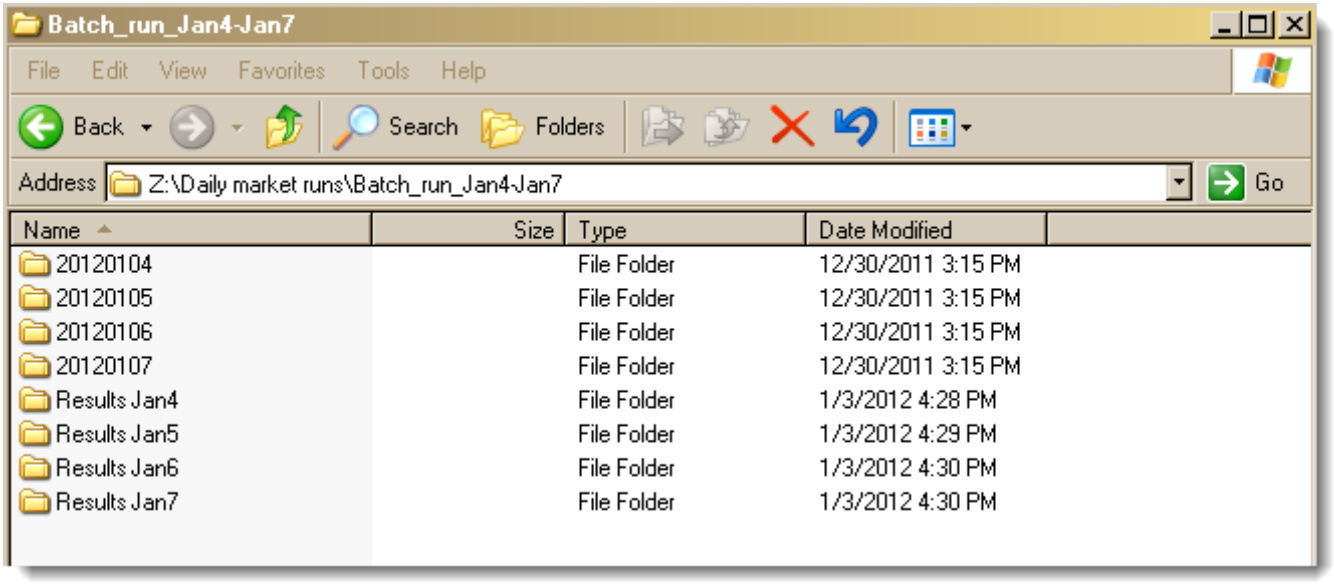


aggregatedpnodeid	aggpnodename	pnodeid	pnodename	factor	localeffectiveday
321	UN.FRNKLNSQ11.510CC	4061	UN.FRNKLNSQ11.5M10	0.5	1/29/2012
321	UN.FRNKLNSQ11.510CC	4060	UN.FRNKLNSQ11.5M10A	0.5	1/29/2012
322	UN.FRNKLNSQ11.511CC	4063	UN.FRNKLNSQ11.5M11	0.5	1/29/2012
322	UN.FRNKLNSQ11.511CC	4062	UN.FRNKLNSQ11.5M11A	0.5	1/29/2012
323	UN.FRNKLNSQ11.59CC	4058	UN.FRNKLNSQ11.5M9A	0.5	1/29/2012
323	UN.FRNKLNSQ11.59CC	4059	UN.FRNKLNSQ11.5M9	0.5	1/29/2012
324	UN.CDEC 13.8AETN	6440	UN.CDEC 13.8AETG	0.5	1/29/2012
324	UN.CDEC 13.8AETN	6439	UN.CDEC 13.8AETS	0.5	1/29/2012
326	UN.ALTRESCO13.8ALTR	6436	UN.ALTRESCO13.8ALT4	0.25	1/29/2012
326	UN.ALTRESCO13.8ALTR	6437	UN.ALTRESCO13.8ALTS	0.25	1/29/2012
326	UN.ALTRESCO13.8ALTR	6434	UN.ALTRESCO13.8ALT1	0.25	1/29/2012
326	UN.ALTRESCO13.8ALTR	6435	UN.ALTRESCO13.8ALT2	0.25	1/29/2012
380	UN.COMERFRD13.8COMF	4045	UN.COMERFRD13.8COM4	0.25	1/29/2012
380	UN.COMERFRD13.8COMF	4044	UN.COMERFRD13.8COM3	0.25	1/29/2012
380	UN.COMERFRD13.8COMF	4042	UN.COMERFRD13.8COM1	0.25	1/29/2012
380	UN.COMERFRD13.8COMF	4043	UN.COMERFRD13.8COM2	0.25	1/29/2012
388	UN.DARTMTH 13.8DART	6441	UN.DARTMTH 13.8DARG	0.5	1/29/2012
388	UN.DARTMTH 13.8DART	6442	UN.DARTMTH 13.8DARS	0.5	1/29/2012
461	UN.LENERGIA13.8LENR	6427	UN.LENERGIA13.8LNST	0.5	1/29/2012
461	UN.LENERGIA13.8LENR	6431	UN.LENERGIA13.8LNGT	0.5	1/29/2012

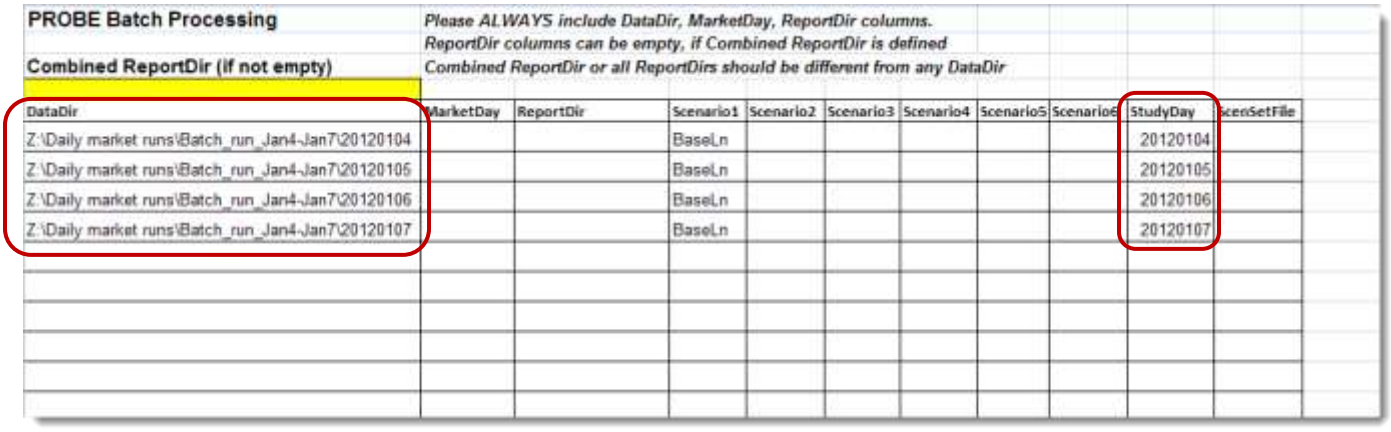
Attachment D - PROBE Batch Mode Set-up and Operation

The following screens and steps describe Multi-Day, Batch Mode operation for PROBE Look Ahead Studies.

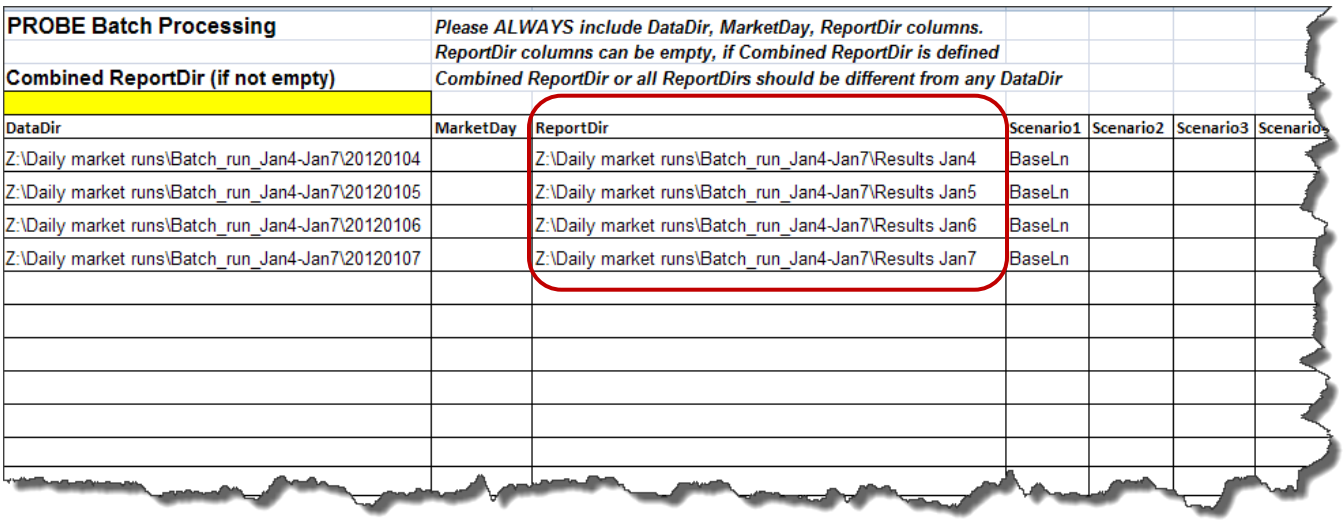
1. NAVIGATE TO the "BatchProcess" tab in the PROBE excel spreadsheet and enter the file paths for the input files, created by casebuilder, for each study day. As an example, USE the following batch_run folder:



SET the folder paths: 20120104, 20120105….20120107 as inputs in the "DataDir" column of the BatchProcess spreadsheet and SET these dates in the "StudyDay" column:

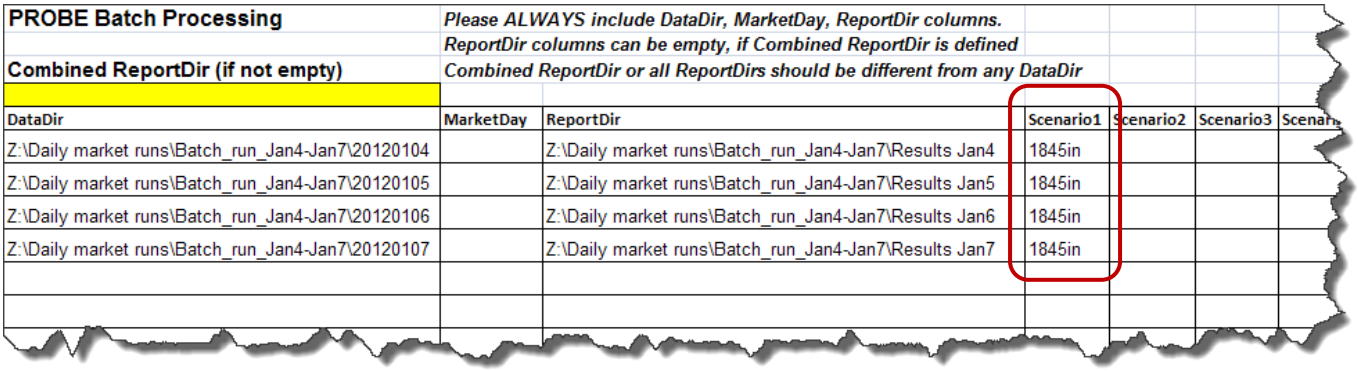


2. SET the folder paths where the reports are to be written in the "ReportDir" column. The "Combined ReportDir (if not empty)" cell is not normally used but can be if it is desired that the reports of each day's run are to be formatted into 1 report (e.g., each day annotated to the bottom of the previous, etc.). The "MarketDay" column is not normally used:



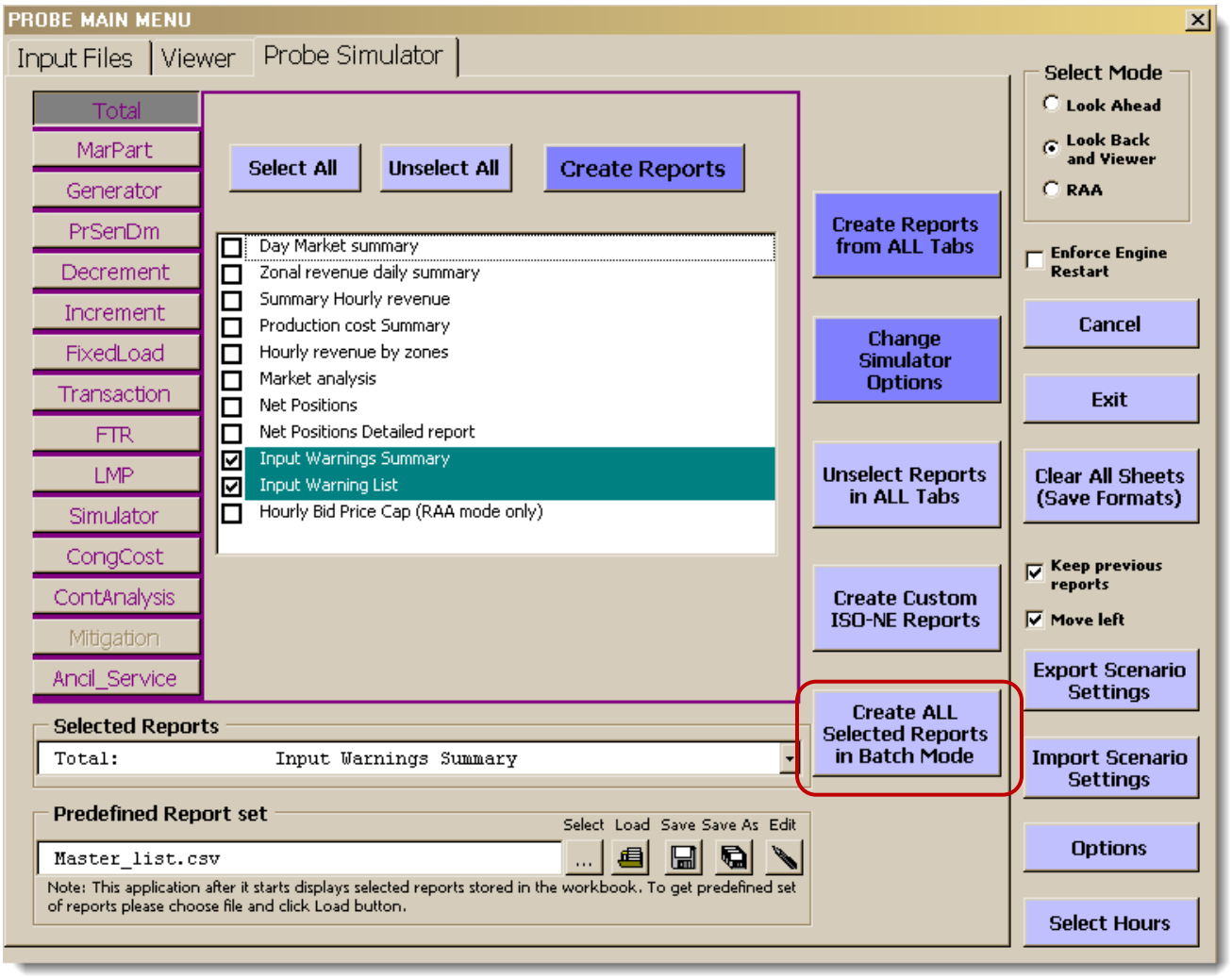
PROBE Batch Processing	*Please ALWAYS include DataDir, MarketDay, ReportDir columns.*					
	ReportDir columns can be empty, if Combined ReportDir is defined					
Combined ReportDir (if not empty)	*Combined ReportDir or all ReportDirs should be different from any DataDir*					
DataDir	MarketDay	ReportDir	Scenario1	Scenario2	Scenario3	Scenario
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120104		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan4	BaseLn			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120105		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan5	BaseLn			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120106		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan6	BaseLn			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120107		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan7	BaseLn			

3. IDENTIFY the Scenario1, Scenario2….Scenario6 names as desired. Normal Scenario1 name will be BaseLn. If a line is back in-service for a run as a variation of the first BaseLn run…SET that as the Scenario1 name as that will serve as the ISONE report name (e.g., 1845in, etc.).

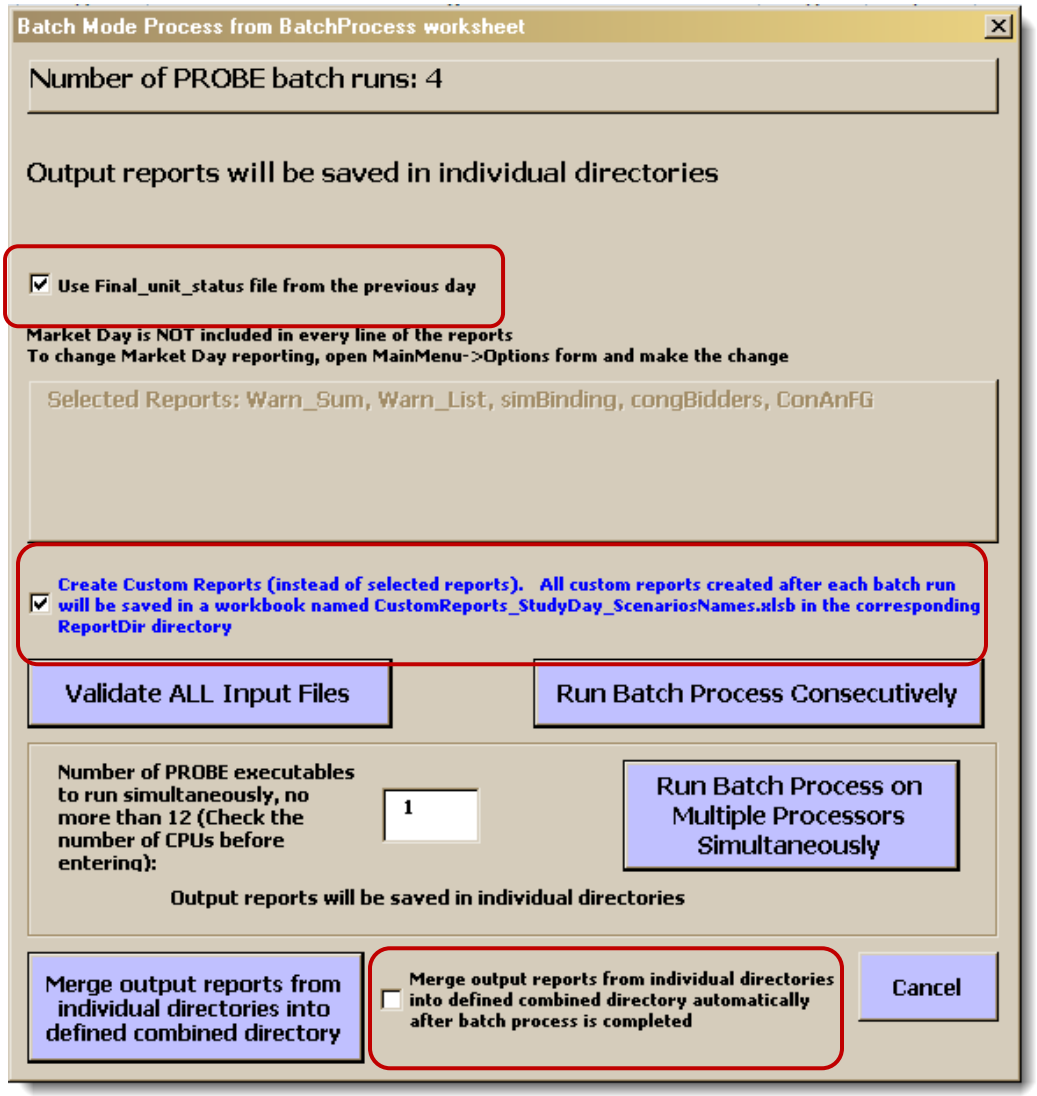


PROBE Batch Processing	*Please ALWAYS include DataDir, MarketDay, ReportDir columns.*					
	ReportDir columns can be empty, if Combined ReportDir is defined					
Combined ReportDir (if not empty)	*Combined ReportDir or all ReportDirs should be different from any DataDir*					
DataDir	MarketDay	ReportDir	Scenario1	Scenario2	Scenario3	Scenari
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120104		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan4	1845in			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120105		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan5	1845in			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120106		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan6	1845in			
Z:\Daily market runs\Batch_run_Jan4-Jan7\20120107		Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan7	1845in			

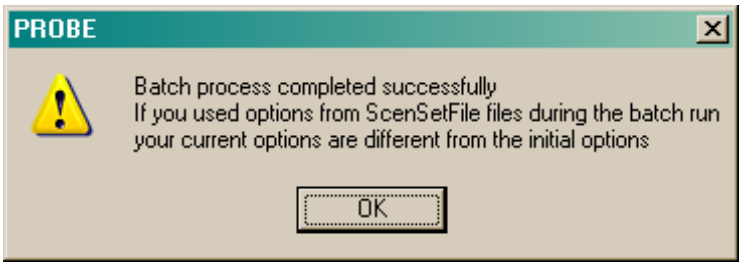
4. CLICK “Create All Selected Reports in Batch Mode:”



5. CLICK “Validate All Input Files” this will verify that all the files in the input folders are included and that the filepaths on the BatchProcess spreadsheet are correct.
   a. CHECK “Use Final_unit_status…day” box, this will enable PROBE to pass the unit run histories from one day to the next
   b. CHECK “Create Custom Reports…” box, this will create the ISONE custom reports in the results path….if the box is unchecked, all the reports selected in the PROBE Simulator tab will be created for each day.
   c. The “Merge output reports from individual directories….” box is normally unchecked as this does not work with the ISONE custom reports.



6. CLICK “Run Batch Process Consecutively” to run PROBE on one CPU processor core OR specify the number CPU processor cores (up to 12) and click “Run Batch Process on Multiple Processors Simultaneously”. Selecting multiple processor cores speeds up the PROBE solution process significantly. When PROBE has successfully solved each day the message the following success message will be displayed:



Also, “Completed” will appear in Green to the right of ScenSetFile column. And the daily reports will be available in each results folder specified.

/AYS include DataDir, MarketDay, ReportDir columns.
olumns can be empty, if Combined ReportDir is defined
ReportDir or all ReportDirs should be different from any DataDir

ReportDir	Scenario1	Scenario2	Scenario3	Scenario4	Scenario5	Scenario6	StudyDay	ScenSetFile	
Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan4	1845in						20120104		Completed
Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan5	1845in						20120105		Completed
Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan6	1845in						20120106		Completed
Z:\Daily market runs\Batch_run_Jan4-Jan7\Results Jan7	1845in						20120107		Completed