



ICE Risk Model (IRM) for ICE Clear

User Guide

Document Version 1.9

(Applicable to ICE Risk Model Versions 1.4.4.1 Onward)

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Change History

Document Version	Changes
1.7	<p>Updates to reflect changes introduced in ICE Risk Model Software version 1.3.0.6:</p> <p><u>WFPRCAP</u> - This version the option to cap the Weighted Futures Price Risk (WFPR) for a given ICE Risk Model Combined Contract within an inter-contract spread to be the minimum value of the scanning ranges applicable to any contract within that ICE Risk Model Combined Contract. This is controlled via a menu option that can be enabled/disabled by the user (See 5.6.7). The WFPR capped value is now reflected also in the Intercontract Spread report which now reports both the uncapped and capped WFPR values (ICS Report)</p> <p><u>Output of Positions resulting from Position Allocation</u> – A new menu option allows user to request that the positions created as a result of the Position Allocation process be written out to an output file; this is intended to assist in understanding the allocation process and to support users developing their own software.</p> <p><u>Value Losses Data File</u> – A new VL.CSV data file can be generated (VL Report). This is a data file providing a breakdown of value losses for each contract position; this is intended as an aide to analysing scanning losses. This contains the same information as the SVL report in a data format.</p> <p><u>Enhanced support for NYSE Liffe margining</u></p> <p><u>Method 02 Inter-Contract Spread</u> – This version implements fixes to the computation of Method 02 Inter-Contract spread credits. Method 02 spreads are utilised for certain Liffe products and this now means that ICE Risk Model fully supports calculation of Liffe contract margin.</p> <p><u>Results Data File</u> – The Results Data file (Results.csv) generated by ICE Risk Model now includes the Exchange Id in order to better support margins calculated for Liffe portfolios with 3 exchanges – “L”, “O” and “X”.</p> <p>NOTE that ICE Risk Model allows multiple Array files to be loaded at the same time allowing margin to be calculated across portfolios spanning multiple exchanges at the same time.</p>
1.8	Apply changes to embedded URLs in order to link to updated ICE web site.
1.9	<p>Updated the document to reflect the ICE’s rebranding of our risk management offerings to ICE Risk Model (IRM). The current implementation is not changing; this is merely a rebranding of ICE’s risk management offerings.</p> <p>Removed references to SP5 which has been previously deprecated.</p>

1 Introduction

ICE Risk Model is a scenario-based, parameterized risk model used to evaluate the risk exposure to the clearinghouse in the event of a defaulting portfolio.

All market participants and users, as well as others with an interest in understanding how ICE Clear margins its products, are welcome to download and use the ICE Risk Model software.

Users are required to accept the terms of the license as part of the installation process. Users are not charged for use or download of the software, but there are limitations to using the software in commercial applications.

ICE Risk Model utilises the Microsoft .NET Framework, version 3.5. Users must install this software prior to installing ICE Risk Model.

TECHNICAL REQUIREMENTS:

Windows Server 2003; Windows Server 2008; Windows Vista; Windows XP, Windows 7 (32bit and 64bit)

Microsoft .NET Framework version 3.5

400 MHz Pentium processor or equivalent (minimum); 1GHz Pentium processor or equivalent (recommended)

96 MB Memory (minimum); 256 MB Memory (recommended)

Up to 500 MB of available hard disk space may be required (including .NET)

800 x 600, 256 colours Display (minimum); 1024 x 768 high colour, 32-bit Display (recommended)

If you have any questions relating to the ICE Risk Model, contact:

ICUS ICE Clear U.S. Operations team at iceclearus@theice.com or +1 212 748 4001

ICEU ICE Clear Europe Operations team at iceuops@theice.com or +44(0)20 7065 7600

ICCA ICE Clear Canada Operations team at ICEClearCanadaOperations@theice.com

ICSG ICE Clear Singapore Operations team at ICEClearSingaporeOperations@theice.com

ICNL ICE Clear Netherlands Operations team at add ICEClearNetherlandsOperations@theice.com + 31 20 3055164

1.1 ICE Risk Model for OTC FX

Note that the majority of this document applies equally to the calculation of margin for cleared energy contracts and cleared OTC FX contracts. Where different approaches are applicable, these are highlighted.

2 Installation Process

ICE Risk Model can be downloaded from the Risk management section of the ICE website:

<https://www.theice.com/clear-europe/risk-management>

3 ICE Risk Model Parameter File(s)

In order to use ICE Risk Model to calculate initial margins, the user is required to input two files into ICE Risk Model tool, the first of which is the risk parameter file (also referred to as the IRM Array file). The ICE Risk Model parameter files are available under the risk management section of the respective jurisdiction. For example, ICE Clear Europe ICE Risk Model parameter files are available under:

ICE Energy & Liffe Products: <https://www.theice.com/clear-europe/risk-management>

Files can be downloaded from the web site via any web browser. Additionally, this web page is stored as a favourite within ICE Risk Model Tool and can be accessed from within the tool by selecting “Favourites” → “Download Risk Parameters from ICE” and the web page will appear within the tool window.

ICE Risk Model parameter files are available for each business day for download.

For Energy & LIFFE, files are available in a fixed record format (SP6) and in CSV format (CSV). The CSV format file is smaller in size and it is recommended that this format be used.

When calculating margin requirements posted by ICE Clear on the morning of the current business day the ICE Risk Model file from the previous business day should be used. Files from historic dates are also available.

NOTE: Save the parameter file to an easily accessible place on your PC. For use by ICE Risk Model, it is recommended that you save the file to “*My Documents\ICE Risk Model\data*” as this is the default location that the program will look for the parameter file(s).

NOTE: When calculating margin for NYSE Liffe portfolios you may need more than one ICE Risk Model Array file. For example, if your portfolio contains both FTSE Futures and FTSE Options you will need both the “LIF” and “OPT” array files.

Further information about the different formats of ICE Risk Model Parameter files (IRM Array files) and the various alternatives for obtaining them (including ICE MFT) can be found in the following documents:

ICE Risk Model Array File Formats

<https://community.theice.com/docs/DOC-1100>

ECS, Reporting and MFT Technical User Guide

https://community.theice.com/community/ice_clear/user-guides

Both documents are published on the ICE Community site.

4 Position File

The second file ICE Risk Model requires as an input, is the position file. This file needs to be produced by the user and uploaded into ICE Risk Model in either a CSV file or a fixed-format text file. CSV files are preferred as they may be easily edited using programs such as Microsoft Excel.

The following information, by column, is required in the position file:

- A. **Position/Trade Flag** - this is always P.
- B. **Account Name/Identifier** - The name of the account (portfolio identifier), this can take any value, such as the user's company name. The file may contain positions for multiple Account Names; a separate margin figure is calculated for each account.
- C. **Exchange Code** – “I” for ICE Energy; “L” for Liffe Financials; “O” for Liffe Equity Options, “X” for Liffe Commodities; “F” for FX.

- D. **Exchange Contract Code** - this is the physical commodity code of the contract.
- A full list of the ICE Energy physical commodity codes is available from the following address: <https://www.theice.com/products/All-Product-Codes>.
- There is a separate set of commodity codes for OTC FX. These are available from the OTC FX product guide.
- E. **Contract Type** - this field can take one of the following values: "F" for futures, "C" for call options, "P" for put options, "M" for monthly contracts and "D" for daily contracts, and for OTC FX "N" for NDFs.
- F. **Expiry Date YYYYMMDD** - this is the delivery date required. A year and month is sufficient for futures, for example 20090900 for September 2009 future. Daily contracts require the DD field to be completed as appropriate. For OTC FX this is the final maturity date of the NDF contract.
- G. **Strike Price** - For futures/NDFs, enter "0" in this field, or leave it blank. For options the strike price in ticks is required. For example, for a \$75.50 Brent option a value of "7350" should be entered, for Gas Oil options "65000" represents a strike price of \$650 and for ECF options "1200" represents a strike price of EUR 12.00.
- Please note that net liquidation value of options is not included in the calculation of initial margins.
- H. **Net Position**- the net number of lots the account is long or short within an individual contract at expiry date level, a negative sign is required for short positions. Positions for options should be netted at strike price level. ICE Clear calculates all margin requirements based on net positions and NOT gross positions.
- For OTC FX this is the terms notional amount on an NDF trade. Positive implies you are buying the terms currency, negative implies you are selling the terms currency. You can enter positions as trades or as net amount by value date for each currency pair (commodity code).
- I. **Regime and Customer Type – OPTIONAL**. The combination of Regime and Customer Type (if specified) is used to determine the amount of additional margin that is added to the computed initial margin depending upon the type of customer. If no Regime/Customer type is specified for a position, no additional margin is added.

Regime

DCO or **RCH** (FCMs should specify DCO)

Customer Type

H – Hedger. Use Rate applicable to Hedgers

S – Speculator. Use rate applicable to Speculators

M – Member. Use rate applicable to Members

Example

Below is an example of a position file created in Excel:

Book1									
	A	B	C	D	E	F	G	H	I
1	P	ICE	I	B	F	20090900	0	1	
2	P	ICE	I	C	C	20090900	1200	1	
3									
4									
5									

The position file shown represents a 1 lot long position for September 2009 Brent futures and a 1 lot long call position in September 2009 ECX EUA options at a strike price of EUR 12.00.

If you use Excel to create the positions, you MUST save the data as a CSV file:

Click "File" → "Save As...", then drop down the "Save As Type" box and select "CSV (Comma delimited)". Click "Save".

If you create the position file using some other means (e.g. write the positions into a file from your own software), you must write the values as comma-separated values. The position file shown in the example above would look like the following, if you opened the file in Notepad (for example):

```
P,ICE,I,B,F,20090900,0,1
P,ICE,I,C,C,20090900,1200,1
```

4.1 Example Position File for OTC FX

Below is a sample OTC FX positions file created in Excel:

	A	B	C	D	E	F	G	H
1	P	Cust1	F	UK	N	20121121		14,827,285
2	P	Cust1	F	UD	N	20130509		-9,832,751
3	P	Cust1	F	UK	N	20121212		-17,144,847
4	P	Cust1	F	UI	N	20130328		9,593,518
5	P	Cust1	F	UD	N	20121206		-8,818,773
6								

As can be seen, column B contains two different customer/portfolio names; column D contains the codes for the currency pairs

```
UK    - USDKRW
UD    - USDIDR
UL    - USDCLP
UD    - USDIDR
```

Column F contains the maturity date (a.k.a. the value date) and lastly column H contains the net terms currency amount. For example, in row 1 the positive terms amount indicates the position is long terms currency. You can use any sign convention for the terms amount that you like; all that matters is that you use a consistent convention within a position file.

5 Using ICE Risk Model

5.1 Download ICE Risk Model Parameter File

The first step, if you have not already done so, is to download the ICE Risk Model Parameter file. This can be carried out from within ICE Risk Model by selecting “Favourites” → “Download ICE Clear Europe Risk Arrays” and the download web page will appear within the ICE Risk Model browser window. Note: There are multiple menu items to select Array files for each Jurisdiction.

Select the ICE Risk Model parameter file you require and save it locally on your PC; it is recommended that you save it to “My Documents\ICE Risk Model\data”.

See section 3 for further information about ICE Risk Model Parameter files.

5.2 Load Risk Parameters (ICE Risk Model Arrays)

The next step, is to load the ICE Risk Model parameter file(s) (IRM Array files) into the application.

To load the parameter file into the application, either:

Select “File” (on the application menu) → “Load Risk Parameters” or

Click , then “Load Risk Parameters”.

Navigate to the ICE Risk Model parameter file (IRM Array file) and select it.

ICE Risk Model will now load the ICE Risk Model Arrays

Repeat this step for additional ICE Risk Model Arrays as required

NOTE that you can load multiple ICE Risk Model Array files. For example when calculating margin for a NYSE Liffe portfolio you might need to load the “LIF”, “FOX” and “OPT” array files in order to compute margin across a portfolio that comprises financials, FTSE Futures, FTSE Options, Equity Options and Commodity positions.

5.3 Load Position Files

In a similar manner, upload the position file:

Select “File” (on the application menu) → “Load Positions” or

Click , then “Load Positions”.

Navigate to your position file and select it.

ICE Risk Model will now load your positions

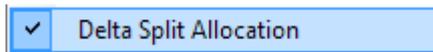
Repeat this step to load further position files

5.4 Calculate Margin

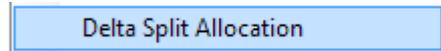
Once you have loaded ICE Risk Model Array(s) and position(s) into ICE Risk Model, it has all the required information needed to calculate the initial margin requirement.

At this point you MUST select the proper setting for the WFPR Cap option. The WFPR Cap option is accessed through the Tools menu: *Tools* → *Apply WFPR Cap*.

For margining of ICE Energy contracts, this option should be enabled; it should be ticked (see below)



For margining of NYSE Liffe contracts, this option should be disabled; it should not be ticked (see below)



Now run the margin calculation by either:

Clicking "Margin" (on the application menu) → "Calculate" or

Clicking the  icon.

If your position file contains positions in contracts for which no ICE Risk Model array is found, then, these positions will be excluded from the margin calculation and warnings will be written to the log file (See section 5.6.2).

5.5 Viewing Reports

Once ICE Risk Model has calculated the margin requirement, the user can select which reports to generate. You can select your chosen reports, by ticking those you require, and generate only those reports by selecting “Margin”→ “Report Generation” → “Generate Selected Reports” (or clicking ).

Alternatively, selecting “Margin”→ “Report Generation” → “Generate All” will cause ICE Risk Model to generate all reports.

The user is now able to view the reports generated by selecting “View”→ “Reports” → and selecting the report you wish to view, or by clicking .

Report options include:

- Summary By Margin Group
- Summary by Combined Contract
- Summary by Scanning Risk
- Summary Value Losses
- Series Value Losses
- Combined Contract Tier Details
- Strategy Spread Charge Details
- Intermont Spread Charge Details
- Prompt Date Charge Details
- Intercontract Spread Credit Details
- Expiry Group Delta Details

Each report will show a breakdown of how a particular charge or credit is calculated. *See Appendix 1 for details on each report.*

For OTC FX, the following reports will be blank, as the ICE Risk Model set up for these products does not include Strategy Spreads, Prompt Date charges etc.

- Strategy Spread Charge Details
- Prompt Date Charge Details
- Expiry Group Delta Details

5.6 Other Options and Functions

Various options are accessed under the **Tools** menu.

5.6.1 Nearest Strike Option

Under normal circumstances, any position for which no ICE Risk Model array is found will be ignored during the margin calculation process and will generate a warning in the log file.

However, this behaviour can be modified in the case of options contracts. If your position file contains options positions which have options positions with strike prices for which no ICE Risk Model array is found within the ICE Risk Model parameter file, then, ICE Risk Model provides the facility, called “Use nearest Strike”, which causes those positions to be processed using the array for that strike price closest to that of the position. This option is only recommended for intra-day what-if type analysis as it will only give an approximation that may not be comparable to the real margin called by the Clearing House at end of day.

Entries will be written to the Log file to record the substitute arrays that were applied. It is the user's responsibility to judge whether this yields an appropriate approximation.

Note that this is not applicable for OTC FX.

5.6.2 Viewing Log File

Any errors or warnings issued during any part of the process are output to a log file. This log file may be viewed by selecting "View" → "Log File" on the application menu.

5.6.3 Changing results File Name

You can change the default name of the results file generated by ICE Risk Model by selecting "Tools" → "Results File" and typing a new name in the file name box (default name Results).

5.6.4 Changing Warning Threshold

By default, the processing of margins will stop after 200 warnings have been generated.

You can change this threshold by selecting "Tools" → "Warning Threshold" and entering a different value in the box (default value 200).

5.6.5 Delta Split Allocation

Position allocation is the process whereby the portfolios provided in the position file (See 4) are transformed according to the Position Allocation records within the ICE Risk Model Array file. By default, ICE Risk Model carries out this process. This can be disabled (not recommended) by disabling this option.

5.6.6 Output Allocated Positions

To assist in better understanding the Position Allocation process (referred to above), the positions that are created as a result of the transformation process can optionally be written to an output data file. By default, this file is written to the ICE Risk Model data directory and is named *ppf.csv* in "My Documents\ICE Risk Model\data".

5.6.7 Apply WFPR Cap

ICE Risk Model can constrain the amount of the WFPR used to calculate ICE Risk Model Inter-Contract Credits (Method 10). Whether this capping is applied can be enabled/disabled through this option.

In order to reflect Clearing House margin, this should be ENABLED for ICE Energy contracts and DISABLED for NYSE Liffe contracts.

6 Using ICE Risk Model in Batch Mode

An alternative way to calculate margins is by using the command line version of ICE Risk Model, a program called "Marbat" which can be found in the same program directory as ICE Risk Model; by default, this is "C:\Program Files\ICE Clear\ICE Risk Model".

Running this program with no command line arguments causes it to output its 'usage'; a list of all command line parameters and options.

The Marbat command line syntax is as follows:

```
Marbat -rf arrayfile [arrayfile2 arrayfile3 ...] -pf positionfile [positionfile2 positionfile3 ...]
[-of outputfilename] [-od] [-ol] [-lf logfile] [-wt threshold] [-ws] [-ns] [-wfprcap] [-v]
```

Where items contained in [...] are optional.

Marbat command line options:

-rf	load the given risk parameter file(s)
-pf	load the given position file(s)
-of	name of output file (optional) - default is 'results.{csv xml}'
-od	output detailed results (optional) - default is to not output
-lf	name of log file (optional) - default is 'mblog.xml'

- ol** output log file (optional) - default is to not output
- wt** set the warning threshold (optional) - default is 200
- ws** warning stop (optional) - default is to carry on
- ns** use array for Nearest Strike if no array for the actual option strike is available.
- wfprcap** apply capping to WFPR in computation of Method 10 spreads
- v** display version string

Note that it is assumed that anyone using `marbat.exe` is familiar with the Windows Command line environment. In the following examples you must substitute “`C:\Program Files\.....\marbat.exe`” with the proper/fully qualified path where the `marbat` executable is located; add this path to the “path” environment variable; or set default directory to the location etc. You can create a copy of the `marbat` executable in an alternative location; simply copy `marbat.exe` and `IceRiskModel.dll` to your chosen location.

Basic usage example:

```
C:\Program Files\.....\marbat.exe ^
-pf My_Positions.csv ^
-rf IPE0909F.csv ^
-wfprcap
```

The margin results would be written to a file called `Results.csv` in the default directory. This example applies WFPR capping as required for Energy margining.

A more complex example:

```
C:\Program Files\.....\marbat.exe ^
-pf My_Positions.csv ^
-rf LIF0909F.csv OPT0909F ^
-of myResults -od
```

In this example two array files are specified (LIF0909F and OPT0909F) and the results are written to `myResults.csv`. In addition, the `-od` flag means that the detailed XML output is created and this is written to `myResults.xml`. Finally, note that the `-wfprcap` flag is not specified as this should not be specified for Liffe.

When installed using standard installation settings, `marbat.exe` will be found in:

- For 32 Bit Windows platforms: “`C:\Program Files\ICE Clear\ICE Risk Model`”; or
- For 64 Bit Windows Platforms “`C:\Program Files (x86)\ICE Clear\ICE Risk Model`”

Notes:

- The name of the output results files may be changed. For example, to rename the output file the `-of` option is used as shown below:

```
C:\Program Files\.....\marbat.exe -pf data\Position_file.csv -rf
data\Parameter_file.DAT -of Renamed_results.csv
```

- A more detailed (xml) file of results will be produced if the `-od` option is used, for example:

```
C:\Program Files\.....\marbat.exe -pf data\Position_file.csv -rf
data\Parameter_file.DAT -od
```

This will produce a file called ‘`results.xml`’ in addition to the default ‘`results.csv`’.

- A log file can be created using the `-ol` command; for example:

```
C:\Program Files....\marbat.exe -pf data\Position_file.csv -rf
data\Parameter_file.DAT -ol
```

This will produce a file called 'mblog.xml'.

- Warnings may be issued such as when the margin calculator is unable to locate the risk data for a position in a given positions file. The default behaviour will carry on, until 200 warnings have been generated. However, by using the `-wt` option it is possible change the setting and force the margin calculator to stop once it detects a warning – this is achieved by the `-ws` command.
- If the positions are in more than one file, use the `-pl` option, giving the name of a file that itself contains a list of files. For example:

```
C:\Program Files\.....\marbat.exe -pl positions.dat -rf data\IF080423.DAT
```

If the 'positions.dat' file contained the following:

```
abc.csv
def.csv
```

The margin calculator would load 'abc.csv' followed by 'def.csv'.

The same can be achieved with risk parameter files: the equivalent option is `-rl`.

- Finally, it is possible to establish the version of the command line program being used with the `-v` option:

```
C:\Program Files\.....\marbat.exe -v
```

7 ICE Risk Model Margin Report Details

Summary by Margin Group

This following provides an overall summary of the charges by ICE. For example, for the positions entered in the position file (see section 4 above) the clearing member would have an initial margin of 1,273 EUR plus 4,300 USD.

ICE CLEAR		Summary Margin Report By Margin Group							10 Aug 2009
ACCOUNT: ICE									
Margin Group	Currency	Scanning Risk	Strategy Spread Charge	Intermonth Spread Charge	Prompt Date Charge	Intercontract Credit	Short Option Charge	Initial Margin	
IPE	EUR	1273	0	0	0	0	0	1273	
IPE	USD	4300	0	0	0	0	0	4300	
Account Totals:									
	EUR							1273	
	USD							4300	

Summary by Combined Contract

This gives the summary of all the charges by contract.

ICE CLEAR		Summary Margin Report By Combined Contract								10 Aug 2009
ACCOUNT: ICE										
Margin Group: IPE "Intl. Petroleum Exchange"										
Exchange: I "ICE Futures Europe"										
Combined Contract	Ccy	Scanning Risk	Strategy Spread Charge	Intermonth Spread Charge	Prompt Date Charge	Inter-contract Credit	Short Options	Charge Rate	Short Option Charge	Initial Margin
BRN	USD	4300	0	0	0	0	0	1	0	4300
ECF	EUR	1273	0	0	0	0	0	1	0	1273
	EUR									1273
	USD									4300

Summary by Scanning Risk

The following gives the final results for each contract, split into the 16 scenarios. It also identifies the Largest Loss Scenario and the resultant Scanning Risk.

		Summary Scanning Risk									10 Aug 2009
											
ACCOUNT: ICE											
Margin Group: IPE "Intl. Petroleum Exchange"											
Exchange: I "ICE Futures Europe"											
Combined Contract: BRN "BRENT CRUDE OIL" (USD)											
Contract	Currency	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme	
B	USD	3010	4300	2870	1430	0	-1430	-2870	-4300	-3010	
			4300	2870	1430	0	-1430	-2870	-4300		
BRN	USD	3010	4300	2870	1430	0	-1430	-2870	-4300	-3010	
			4300	2870	1430	0	-1430	-2870	-4300		
Largest Loss Scenario: 13 (F-3/3 Vol Up)											
Scanning Risk: 4300											
Combined Contract: ECF "ECX CFI" (EUR)											
Contract	Currency	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme	
C	EUR	693	1151	794	396	-35	-493	-972	-1468	-1051	
			1273	908	497	51	-424	-918	-1426		
ECF	EUR	693	1151	794	396	-35	-493	-972	-1468	-1051	
			1273	908	497	51	-424	-918	-1426		
Largest Loss Scenario: 14 (F-3/3 Vol Down)											
Scanning Risk: 1273											

Summary Value Losses

The following is a breakdown of the Scanning Risk calculation for all futures and options per contract, giving the results for all 16 scenarios. The results of the delivery month are the summed for each contract. The options values are summarised from the Option Value Losses report.

ICE CLEAR		Summary Value Losses											10 Aug 2009
ACCOUNT: ICE													
Margin Group: IPE "Intl. Petroleum Exchange"													
Exchange: I "ICE Futures Europe"													
Combined Contract: BRN "BRENT CRUDE OIL" (USD)													
Contract: B "BRENT CRUDE OIL" (USD)													
Expiry	G/T	Net Position	Delta	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme	
20090900	F	1	1.0000	3010	4300	2870	1430	0	-1430	-2870	-4300	-3010	
					4300	2870	1430	0	-1430	-2870	-4300		
Totals For B													
				3010	4300	2870	1430	0	-1430	-2870	-4300	-3010	
					4300	2870	1430	0	-1430	-2870	-4300		

Combined Contract: ECF "ECX CFI" (EUR)													
Contract: C "ECX CFI Option" (EUR)													
Expiry	G/T	Net Position	Delta	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme	
20090900	O	1	0.7480	693	1151	794	396	-35	-493	-972	-1468	-1051	
					1273	908	497	51	-424	-918	-1426		
Totals For C													
				693	1151	794	396	-35	-493	-972	-1468	-1051	
					1273	908	497	51	-424	-918	-1426		

Series Value Losses

The example below is similar to the Summary Value Losses report, but breaks down the losses by each expiry date.

ICE CLEAR		Series Value Losses											10 Aug 2009	
ACCOUNT: ICE														
Margin Group: IPE "Intl. Petroleum Exchange"														
Exchange: I "ICE Futures Europe"														
Combined Contract: BRN "BRENT CRUDE OIL" (USD)														
Contract: B "BRENT CRUDE OIL" (USD)														
Expiry	C T	Net Strike Position	Delta	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme		
20090900	F	1	1.0000	3010	4300	2870	1430	0	-1430	-2870	-4300	-3010		
					4300	2870	1430	0	-1430	-2870	-4300			
Totals for B														
				3010	4300	2870	1430	0	-1430	-2870	-4300	-3010		
					4300	2870	1430	0	-1430	-2870	-4300			

Combined Contract: ECF "ECX CFI" (EUR)													
Contract: C "ECX CFI Option" (EUR)													
Expiry	C T	Net Strike Position	Delta	F-Extreme	F-3/3 Vol Up/Dn	F-2/3 Vol Up/Dn	F-1/3 Vol Up/Dn	F+0 Vol Up/Dn	F+1/3 Vol Up/Dn	F+2/3 Vol Up/Dn	F+3/3 Vol Up/Dn	F+Extreme	
20090900	C	1200 1	0.7480	693	1151	794	396	-35	-493	-972	-1468	-1051	
					1273	908	497	51	-424	-918	-1426		
Totals for C													
				693	1151	794	396	-35	-493	-972	-1468	-1051	
					1273	908	497	51	-424	-918	-1426		

Combined Contract Tier Details

The example below shows the Net Delta in each Inter-commodity Tier for each contract.

ICE CLEAR		Combined Contract Tier Details		10 Aug 2009	
ACCOUNT: ICE					
Margin Group: IPE "Intl. Petroleum Exchange"					
Exchange: I "ICE Futures Europe"					
Combined Contract: BRN "BRENT CRUDE OIL" (USD)					
IC Tier					
Number	Start Date	End Date	Net Delta		
1	00000000	20090900	1.0000		
2	20091000	20091000	0.0000		
3	20091100	20100800	0.0000		
4	20100900	99999999	0.0000		
Tier					
Number	Start Date	End Date	Total Long Delta	Total Short Delta	
1	00000000	20090900	1.0000	0.0000	
2	20091000	20091000	0.0000	0.0000	
3	20091100	20091200	0.0000	0.0000	
4	20100100	20100200	0.0000	0.0000	
5	20100300	20100500	0.0000	0.0000	
6	20100600	20100800	0.0000	0.0000	
7	20100900	20110200	0.0000	0.0000	
8	20110300	20110800	0.0000	0.0000	
9	20110900	99999999	0.0000	0.0000	

Tier Number	Expiry Date	Long Delta	Short Delta	
1	20090900	1.0000	0.0000	
Combined Contract ECF "ECX CFT" (EUR)				
IC Tier				
Number	Start Date	End Date	Net Delta	
1	00000000	99999999	0.7480	
Tier				
Number	Start Date	End Date	Total Long Delta	Total Short Delta
1	00000000	99999999	0.7480	0.0000
Tier				
Number	Expiry Date	Long Delta	Short Delta	
1	20091200	0.7480	0.0000	

Intermonth Spread Charge Details

The document below is a breakdown of the Intermont Charges for the positions held. For example, the charge for an intermonth spread with 1 lot long position for December 09 Brent Futures and 1 lot short position for January 10 Brent Futures.

ICE CLEAR		Intermonth Spread Charge Details				10 Aug 2009			
ACCOUNT: ICE									
Margin Group: IPE "Intl. Petroleum Exchange"									
Exchange: I "ICE Futures Europe"									
Combined Contract: BRN "BRENT CRUDE OIL" (USD)									
Spread Priority	Number Of Legs	Tier	Tier	Tier	Tier	Delta Consumed	Charge Rate	Intermonth Charge	
7	2	3 1 A	4 1 B			0.9200	325	299	
								299	

Intercontract Spread Credit Details

This report gives the breakdown of any Intercontract Spread Credits you may receive for your portfolio. In this case, a portfolio with 1 lot long October 09 Brent futures and 1 lot short October 09 WTI futures.

ICE CLEAR		Intercontract Spread Credit Details										13 Aug 2009	
ACCOUNT: ICE													
Margin Group: IPE "Intl. Petroleum Exchange"													
Exch.	Comb. Contract	Tier	Scanning Risk	Paired Line	Time Risk	Volatility Risk	Futures Price Risk	W.F.P.R. Net Delta	W. Futures Price Risk				
I	WBS	2	4320	4320	0	0	4320	-0.9600	4500				
I	BRN	2	4130	4130	0	0	4130	0.9600	4302				
Priority / Method	Exch.	Comb. Contract	Tier	Ratio / Side	Number Of Spreads	Remaining Delta	Offset Rate	Offset Charge	Portfolio Risk	Credit Rate	% Saving	Spread Credit	
190 10 I	WBS	2	1	A	0.9600	0.0000	0	0.0000	0	93.00	0.00	4018	
190 10 I	BRN	2	1	B	0.9600	0.0000	0	0.0000	0	93.00	0.00	3841	

8 Net Liquidating Value

Note: This section does not apply to OTC FX.

Net liquidating Value (NLV) is calculated by ICE Clear for all premium paid up-front options. It is also referred to as 'equity style options'. For these types of option contracts, variation margin is not paid or received on a daily basis, unlike futures style options. The premium is paid from the buyer to the seller of the option when the option is first traded. NLV is calculated as follows:

$$NLV = \text{Market price of option} \times \text{contract size} \times \text{number of lots}$$

The concept of NLV allows the clearing house to give members who are long this type of option a credit that can be used to offset their total initial margin requirement from positions in other contracts. This is referred to as an NLV credit. In the event of a member default, the clearing house would inherit these long option positions and it would then, in effect, hold an asset that it could sell (liquidate) and receive the prevailing market value.

Sellers of premium paid up-front options must fund any NLV debit, as in this situation the clearing house would be required to close the short position in the event of a default by buying the options back at the prevailing market price.

Please note that NLV credits and debits are not calculated within the ICE Risk Model margin calculations, but are credited and debited to member's margin accounts via the ECS banking system. Therefore NLV values do not appear in any of the reports shown above.

Clearing members can view NLV credits and debits via the ECS web reporting tool by selecting the 'MBSR – Standing Requirements' report. All reports are available at the following address: