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Security List Extension

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Table of Contents

Document History.....	5
1 Introduction	6
1.1 Summary of Changes	6
2 Business Workflow.....	7
3 Issues and Discussion Points	7
4 Proposed Message Flow	7
5 FIX Message Tables	7
6 FIX Component Blocks	8
6.1 Security List Group	Error! Bookmark not defined.
6.2 Price Movement Group	9
6.3 Price Movement Point Group.....	11
Appendix A - Data Dictionary.....	13
Appendix B - Glossary Entries	14
Appendix C - Abbreviations.....	14
Appendix D - Usage Examples.....	15

Table of Figures

Document History

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0.2	8/14/2012	Michael Hemmerling (OCC)	Updated per Lisa T comments
0.3	8/20/2012	Michael Hemmerling (OCC)	Submitted for proposal to GExMC
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0.5	9/5/2012	Michael Hemmerling (OCC)	Updated examples for ClearingAccountType to reflect correct datatype of integer Updated abbreviation for PriceMovementValue in the examples
<u>ASBUILT</u>	<u>9/10/2012</u>	<u>R. Shriver</u>	<u>ASBUILT created</u>
	<u>9/26/2012</u>	<u>L. Taikitsadaporn</u>	<u>Additional text clean up edits.</u>

1 Introduction

In 1997, the Securities and Exchange Commission (SEC) amended Rule 15c3-1, the net capital rule, allowing broker-dealers to compute haircuts using a risk based methodology, as opposed to a strategy based computation. This risk-based haircut computation, derived from OCC's Theoretical Intermarket MarginSystem (TIMS) methodology, employs an options pricing model to generate an array of theoretical profit and loss scenarios for each options series across a range of underlying price moves and implied volatility assumptions. The Risk Based Haircut (RBH) methodology may be used to calculate theoretically based capital charges as set forth within the SEC net capital rule.

In 2006 the SEC approved a rule change which ended a pilot program in which limited customer accounts had the ability to compute margin amounts for a limited group of products using a risk-based portfolio approach in lieu of the current strategy-based margin requirements ("Reg. T"), and made Customer Portfolio Margining (CPM) available to any broker or dealer registered pursuant to Section 15 of the Exchange Act, and any person or entity approved for uncovered options. The goal of portfolio margining is to set levels of margin that more precisely reflect the net risk of all the positions in a customer's account. The customer benefits from portfolio margining because margin requirements calculated on net risk are generally lower than alternative position or strategy based methodologies for determining margin requirements. Lower margin requirements give the customer more leverage in an account.

For both the RBH and CPM programs, as the sole vendor approved by the SEC to disseminate theoretical profit/loss files, OCC computes and makes available theoretical profit and loss values for each option series and for related and underlying instruments on a daily basis.

Projected prices are calculated based upon the closing underlying asset price for each day plus and minus price moves at equidistant data points over a range of market movement. Firms' open positions and the theoretical values are combined to compute the appropriate capital charge or margin requirement. Prices for all instruments are projected, and the resulting profits and losses of the portfolio are summed to estimate the aggregate gain or loss at each of the underlying price points.

OCC currently sends a fixed length file of RBH data to subscribing firms and has a deliverable to convert the RBH file to FIXML. It was determined that the SecurityList message (35=y) is most logical choice to represent the RBH data. In order to provide the theoretical profit and loss (P&L) data at certain data points, OCC requires new components be added to the SecurityListGrp component within the Security List (35=y) message.

1.1 Summary of Changes

SEC Net Capital Rule (15c3-1) provides a Risk Based Haircut methodology for computing capital charges. Under the risk based method, options price theory is utilized to project portfolio liquidating values under various potential market scenarios. Portfolios may consist of positions in options, stocks, futures and options on futures based on the same underlying instrument or on different highly correlated underlying instruments.

Projected prices are calculated based upon the closing price plus and minus price moves at a range of market moves depending upon the type of security and the type of account. For example, equities are +/- 15% for all types of accounts while broad-based indices are +/- 10% for proprietary accounts and +6/-8% for non-proprietary accounts.

Each range is broken in to ten equidistant price movement points. For example, the price movement points for equities are:

Price Movement Point	-5	-4	-3	-2	-1	1	2	3	4	5
Price Movement	-15%	-12%	-9%	-6%	-3%	+3%	+6%	+9%	+12%	+15%

OCC projects prices for all instruments and the resulting profit or loss at each price movement point. For example:

-5	-4	-3	-2	-1	1	2	3	4	5
SPY Call with Strike Price of 112 expiring June 2012									
-1260	-1026	-781	-526	-265	266	536	807	1078	1350
SPY Put with Strike Price of 112 expiring June 2012									
102	62	35	17	4	-7	-10	-12	-13	-14

Clearing Members use the profit and loss data to calculate an aggregate gain or loss of the portfolio by summing at each underlying price move.

2 Business Workflow

(no changes)

3 Issues and Discussion Points

4 Proposed Message Flow

In order to transition its users to a FIXML version of RBH data, OCC plans to send unsolicited Security List (35=y) messages to subscribing clearing members on a nightly basis.

5 FIX Message Tables

(no changes)

6 FIX Component Blocks

6.1 SecListGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	SecListGrp
Component Abbreviated Name (for FIXML)	SecL
Component Type	_X_ Block Repeating ___ Block
Category	SecuritiesReferenceData
Component Synopsis	(no changes)
Component Elaboration	(no changes)
To be finalized by FPL Technical Office	
Repository Component ID	2055

<SecL>						
Tag	Field Name	Req'd	ICR	Action	Mappings and Usage Comments	FIX Spec Comments
Component block <Instrument>					Insert here the set of "Instrument" (symbology) fields defined in "Common Components of Application Messages" of the requested Security	
Component block <InstrumentExtension>					Insert here the set of "Instrument Extension" fields defined in "Common Components of Application Messages"	
Component block <SecurityClassificationGrp>					Used to specify forms of product classifications	
Component block <FinancingDetails>					Insert here the set of "FinancingDetails" fields defined in "Common Components of Application Messages"	
Component block <SecurityTradingRules>					Used to provide listing rules	
Component block <StrikeRules>					Used to provide listing rules	
Component block <UndInstrmtGrp>						
15	Currency					
Component block <Stipulations>					Insert here the set of "Stipulations" fields defined in "Common Components of Application Messages"	

Component block <InstrmtLegSecListGrp>					Insert here the set of "SpreadOrBenchmarkCurveData" fields defined in "Common Components of Application Messages"
Component block <SpreadOrBenchmarkCurveData>					Insert here the set of "SpreadOrBenchmarkCurveData" fields defined in "Common Components of Application Messages"
Component block <YieldData>					Insert here the set of "YieldData" fields defined in "Common Components of Application Messages"
Component block <PriceMovementGrp>				Add	Used to provide profit and loss data at various price movement points
1504	RelSymTransactTime				
1606	NumOfSimpleInstruments				Number of simple instruments.
58	Text				Comment, instructions, or other identifying information.
354	EncodedTextLen				Must be set if EncodedText field is specified and must immediately precede it.
355	EncodedText				Encoded (non-ASCII characters) representation of the Text field in the encoded format specified via the MessageEncoding field.
</SecL>					

6.2 PriceMovementGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	PriceMovementGrp
Component Abbreviated Name (for FIXML)	PxMvmnt
Component Type	_X_ Block Repeating ___ Block
Category	SecuritiesReferenceData
Component Synopsis	The PriceMovementGrp component is a repeatable block intended to contain theoretical profit and loss data at various price movement points account type(s) for which the price movement may apply to.
Component Elaboration	
To be finalized by FPL Technical Office	
Repository Component ID	2223

<PxMvmnt>						
Tag	Field Name	Req'd	ICR	Action	Mappings and Usage Comments	FIX Spec Comments

<i>Component block</i> <PriceMovementGrp>				New	Price Movement repeating group for proprietary and non-proprietary accounts.	
	1919 TBD	NoPriceMovements			New	
à	PxMvmnt Pt	PriceMovementValueGrp	N		New	New Price Movement Point Group will repeat for each underlying price move
à		ClearingAccountTypeGrp	N		New	Required if NoPriceMovements(1919) > 0.
</PxMvmnt>						

6.3 PriceMovementValueGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	PriceMovementValueGrp
Component Abbreviated Name (for FIXML)	PxMvmntValu
Component Type	_X_ Block Repeating ___ Block
Category	SecuritiesReferenceData
Component Synopsis	This PriceMovementValueGrp component is a repeatable block that will be utilized to represent a value relative to a specific price movement point.
Component Elaboration	
To be finalized by FPL Technical Office	
Repository Component ID	2224

<PxMvmntValu>						
Tag	Field Name	Req'd	ICR	Action	Mappings and Usage Comments	FIX Spec Comments
Component block <PriceMovementValueGrp>				New	Price Movement Point repeating group provides a value at a specific price movement points.	
1920 TBD	NoPriceMovementValues			New		
à 1921 TBD	PriceMovementValue	Y/N		New	Value at the price movement point	Required if NoPriceMovementValues(1919) > 0.
à 1922 TBD	PriceMovementPoint	N		New	Price movement point up or down	
à 1923 TBD	PriceMovementType	N		New	Format of the PriceMoveValue (percent or amount are initial options)	
</PxMvmntValu >						

6.4 ClearingAccountTypeGrp component

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	ClearingAccountTypeGrp
Component Abbreviated Name (for FIXML)	ClrAcctTyp
Component Type	_X_ Block Repeating ___ Block
Category	SecuritiesReferenceData
Component Synopsis	The ClearingAccountTypeGrp component is used specify the type of clearing account types.
Component Elaboration	When used within the PriceMovementGrp, the ClearingAccountTypeGrp specifies the type of account the price movement data is applicable for.
To be finalized by FPL Technical Office	
Repository Component ID	2225

<i><ClrAcctTyp></i>						
<i>Tag</i>	<i>Field Name</i>	<i>Req'd</i>	<i>ICR</i>	<i>Action</i>	<i>Mappings and Usage Comments</i>	<i>FIX Spec Comments</i>
Component block						
<i><ClearingAccountTypeGrp></i>						
1918 TBD	NoClearingAccountTypes			New		
à	1816					Required if NoClearingAccountTypes(1918) > 0.
<i></ClrAcctTyp></i>						

Appendix A - Data Dictionary

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
1918 TBD	NoClearingAccountTypes	New	NumInGrp	Number of clearing account type entries.		
1919 TBD	NoPriceMovements	New	NumInGrp	Number of price movement entries.		
1920 TBD	NoPriceMovementValues	New	NumInGrp	Number of price movement value entries.		
1921 TBD	PriceMovementValue	New	Float	Value at specific price movement point.	Valu	
1922 TBD	PriceMovementPoint	New	Int	Price movement point up (positive integer) or down (negative integer) relative to the underlying price of the instrument.	Point Pnt	
1923 TBD	PriceMovementType	New	Int	Describes the format of the PriceMovementValue(1921 tbd). 0 – Amount 1 – Percentage	Typ	
1816	ClearingAccountType	Add				ClearingAccountTypeGrp

It is understood that the Field names and FIXML Abbreviations for the new tags are TBD. The names and abbreviations provided are those desired and suggested by OCC.

Appendix B - Glossary Entries

Term	Definition	Field where used

Appendix C - Abbreviations

Term	Proposed Abbreviation	Proposed Messages, Components, Fields where used
Movement	Mvmnt	
Move	Move	

Appendix D - Usage Examples

The following example in FIXML syntax represents the Profit & Loss amounts for an S&P 500 product group. Product Group level messages show the percentage moves that OCC applies to a given set of related products, such as +/- 10% for broad based indices. Additionally, Offset Percentage is the percentage of the gains that can be used to offset losses amongst related products (e.g., an S&P500 option series versus an S&P500 futures contract). The first instance of the price movement group is a proprietary group and the second is a non-proprietary group. OCC will use the ClrAcctTyp component to communicate the proprietary/non-proprietary designation

```
<SecList ListType="106" RptID="65432184700" BizDt="20120420">
  <SecL Ccy="USD">
    <Instrmt Desc="S&P 500 Index"/>
    <Stip Typ="OFFSETPCT" Val="0.9"/>
    <PxMvmnt>
      <PxMvmntValu Valu ="0.1" Pntoint="5" Typ="1"/>
      <PxMvmntValu Valu ="0.08" Pntoint="4" Typ="1"/>
      <PxMvmntValu Valu ="0.06" Pntoint="3" Typ="1"/>
      <PxMvmntValu Valu ="0.04" Pntoint="2" Typ="1"/>
      <PxMvmntValu Valu ="0.02" Pntoint="1" Typ="1"/>
      <PxMvmntValu Valu ="-0.02" Pntoint="-1" Typ="1"/>
      <PxMvmntValu Valu ="-0.04" Pntoint="-2" Typ="1"/>
      <PxMvmntValu Valu ="-0.06" Pntoint="-3" Typ="1"/>
      <PxMvmntValu Valu ="-0.08" Pntoint="-4" Typ="1"/>
      <PxMvmntValu Valu ="-0.1" Pntoint="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu ="0.06" Pntoint="5" Typ="1"/>
      <PxMvmntValu Valu ="0.048" Pntoint="4" Typ="1"/>
      <PxMvmntValu Valu ="0.036" Pntoint="3" Typ="1"/>
      <PxMvmntValu Valu ="0.024" Pntoint="2" Typ="1"/>
      <PxMvmntValu Valu ="0.012" Pntoint="1" Typ="1"/>
      <PxMvmntValu Valu ="-0.016" Pntoint="-1" Typ="1"/>
      <PxMvmntValu Valu ="-0.032" Pntoint="-2" Typ="1"/>
      <PxMvmntValu Valu ="-0.048" Pntoint="-3" Typ="1"/>
      <PxMvmntValu Valu ="-0.064" Pntoint="-4" Typ="1"/>
      <PxMvmntValu Valu ="-0.08" Pntoint="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

ListType 106 is OCC's record type for product group

Product group offset

Five points up ↑
Five points down ↓

Identifies group as proprietary array

Five points up ↑
Five points down ↓

Identifies group as non-proprietary array

The following example in FIXML syntax represents the Profit & Loss amounts for an S&P 500 option series. The first instance of the price movement group is a proprietary group and the second is a non-proprietary group. OCC will use the ClrAcctTyp component to communicate the proprietary/non-proprietary designation.

```
<SecList ListType="110" RptID="65432184651" BizDt="20120420>      ListType 110 is OCC's record type for series
  <SecL Ccy="USD">
    <Instrmt SecTyp="OPT" Sym="SPX" Desc="CBOE S&P 500 Index Option"
      MMY="20120519" MatDt="2012-05-19" StrkPx="500.00" PutCall="1" StrkCcy="USD" Mult="100"
      ExerStyle="0" SettleOnOpenFlag="Y"/>
    <PxMvmnt>
      <PxMvmntValu Valu="13664.898" Pntoint="5" Typ="0"/>
      <PxMvmntValu Valu="10936.219" Pntoint="4" Typ="0"/>
      <PxMvmntValu Valu="8207.539" Pntoint="3" Typ="0"/>
      <PxMvmntValu Valu="5478.86" Pntoint="2" Typ="0"/>
      <PxMvmntValu Valu="2750.18" Pntoint="1" Typ="0"/>
      <PxMvmntValu Valu="-2707.179" Pntoint="-1" Typ="0"/>
      <PxMvmntValu Valu="-5435.858" Pntoint="-2" Typ="0"/>
      <PxMvmntValu Valu="-8164.538" Pntoint="-3" Typ="0"/>
      <PxMvmntValu Valu="-10893.217" Pntoint="-4" Typ="0"/>
      <PxMvmntValu Valu="-13621.896" Pntoint="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>      Identifies group as proprietary array
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="8207.539" Pntoint="5" Typ="0"/>
      <PxMvmntValu Valu="6570.332" Pntoint="4" Typ="0"/>
      <PxMvmntValu Valu="4933.124" Pntoint="3" Typ="0"/>
      <PxMvmntValu Valu="3295.916" Pntoint="2" Typ="0"/>
      <PxMvmntValu Valu="1658.709" Pntoint="1" Typ="0"/>
      <PxMvmntValu Valu="-2161.443" Pntoint="-1" Typ="0"/>
      <PxMvmntValu Valu="-4344.386" Pntoint="-2" Typ="0"/>
      <PxMvmntValu Valu="-6527.33" Pntoint="-3" Typ="0"/>
      <PxMvmntValu Valu="-8710.283" Pntoint="-4" Typ="0"/>
      <PxMvmntValu Valu="-10893.217" Pntoint="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="1"/>      Identifies group as non-proprietary array
      <ClrAcctTyp ClrAcctTyp="3"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

Five points up ↑

Five points down ↓

Five points up ↑

Five points down ↓

The following example in FIXML syntax represents the Profit & Loss amounts for Russell 2000 ETF future contract. The first instance of the price movement group is a proprietary group and the second is a non-proprietary group. OCC will use the ClrAcctTyp component to communicate the proprietary/non-proprietary designation.

```
<SecList ListType="110" RptID="64532184652" BizDt="20120420">
  <SecL Ccy="USD">
    <Instrmt SecTyp="FUT" Sym="SP" Desc="CME S&P 500 Future" MMY="20120518" MatDt="2012-05-18" Mult="100"/>
    <PxMvmnt>
      <PxMvmntValu Valu="961.5" Pntoint="5" Typ="0"/>
      <PxMvmntValu Valu="769.2" Pntoint="4" Typ="0"/>
      <PxMvmntValu Valu="546.9" Pntoint="3" Typ="0"/>
      <PxMvmntValu Valu="384.6" Pntoint="2" Typ="0"/>
      <PxMvmntValu Valu="192.3" Pntoint="1" Typ="0"/>
      <PxMvmntValu Valu="-192.3" Pntoint="-1" Typ="0"/>
      <PxMvmntValu Valu="-384.6" Pntoint="-2" Typ="0"/>
      <PxMvmntValu Valu="-576.9" Pntoint="-3" Typ="0"/>
      <PxMvmntValu Valu="-769.2" Pntoint="-4" Typ="0"/>
      <PxMvmntValu Valu="-961.5" Pntoint="-5" Typ="0"/>

      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="641" Pntoint="5" Typ="0"/>
      <PxMvmntValu Valu="512.8" Pntoint="4" Typ="0"/>
      <PxMvmntValu Valu="384.6" Pntoint="3" Typ="0"/>
      <PxMvmntValu Valu="256.4" Pntoint="2" Typ="0"/>
      <PxMvmntValu Valu="128.2" Pntoint="1" Typ="0"/>
      <PxMvmntValu Valu="-128.2" Pntoint="-1" Typ="0"/>
      <PxMvmntValu Valu="-256.4" Pntoint="-2" Typ="0"/>
      <PxMvmntValu Valu="-384.6" Pntoint="-3" Typ="0"/>
      <PxMvmntValu Valu="-512.8" Pntoint="-4" Typ="0"/>
      <PxMvmntValu Valu="-641" Pntoint="-5" Typ="0"/>

      <ClrAcctTyp ClrAcctTyp="1"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

Five points up ↑
Five points down ↓

Identifies group as proprietary array

Five points up ↑
Five points down ↓

Identifies group as non-proprietary array