CBOE
CHICAGO BOARD OPTIONS EXCHANGE

400 S. La Salle St.
Chicago, IL 60605
(312) 786-7172

Regulatory Circular RG03-29

Date: April 17, 2003

To: Members and Member Firms

From: Trading Operations

RE: Market Linkage Implementation II

CBOE system changes for the second phase of intermarket linkage will be implemented on Tuesday, April 22nd, 2003, and the OLA Rollout Schedule will introduce full linkage functionality beginning April 25th. New linkage routing will be introduced, as described below.

Linkage questions can be directed to any Equity Floor Procedure Committee Linkage Sub-committee member or Tim Watkins at 312-786-7172. The EFPC Linkage Sub-committee includes: Dave Miller, Anthony Carone, Dan Carver, Damon Fawcett, Jim Gray, Kevin Hincks, Ken Mueller, and Joel Tenner. Once linkage routing begins, please contact the CBOE Help Desk at 312-786-7100 with individual order questions.

Membership presentations for Question & Answer sessions will be conducted as follows:

Wednesday April 16
7:15 am CBOE 4th Floor 4A

Wednesday April 23
7:15 am CBOE 4th Floor 4A
3:15 pm CBOE 4th Floor 4B

Wednesday April 30
3:15 pm CBOE 4th Floor Auditorium

The OLA Rollout Schedule introduces full linkage functionality on Friday, April 25th, 2003 to the following classes (see attached schedule for full list of dates):

OPTION	COMPANY	DPM	LOCATION
AAQ	Apple Computer	Slk/Hull	1-8
BAC	Bank of America	Equitec	2-4
EK	Eastman Kodak	VanDer Moolen	4-2
EP	El Paso Corp.	SIG	3-7
GM	General Motors	Geneva	4-3
HPQ	Hewlett Packard	SIG	3-5
NOK	Nokia	SIG	3-5
PEP	Pepsico	Slk/Hull	1-5
PG	Procter&Gamble	Equitec	2-4
QLC	QLogic	Wolverine	5-8
QXB	Ebay	T.D. Options	6-9
RCQ	Broadcom	Knight	9-1
SGQ	Sieble Systems	Knight	9-8
UVA	Nvidia	SMC	4-4

The linkage changes for April 22nd (for all multiple listed classes) include:

1) Any size Principal (P) and Principal-Acting-As-Agent (PA) orders may be received on PAR.
2) P and PA orders, larger than linkage autoex size and routed to PAR, are subject to a 15-second order handling requirement.
3) Current Phase 1 routing rules for larger size order rejection still apply at other exchanges until a class is rolled out according to the OLA schedule.
4) **Inbound P and PA orders will route to RAES and ABP for autoex treatment; any balance to PAR.**
   - RAES routed orders will trade the P or PA Autoex Size with any balance routing to PAR.
     i. PA Autoex Size (PA Firm Quote size) is the lesser of the sending and receiving exchange's autoex sizes at the time the order is sent. The CBOE autoex size is the lesser of the RAES size or the CBOE disseminated quote size, minimum of 10.
     ii. For P orders, 10 is the P Autoex Size (P Firm Quote size).
   - ABP routed PA orders will autoex against EBook for the full size of the book, and any balance will route to PAR for 15-second manual handling "trade or fade", minimum 10. P orders routed to ABP will only trade 10 against EBook with the balance routing to PAR.
   - Minimum Linkage requirements state that a linkage order must be guaranteed 10 contracts. If CBOE's disseminated quote size is less than 10, the RAES wheel will make up the difference. This functionality applies only to linkage orders.
   - RAES or ABP will execute an inbound linkage order even if the NBBO is locked or crossed.
   - P orders are restricted to one autoex trade per class per exchange during a 15 second period. After the first autoex trade, any P order received from that exchange for that class during the next 15 seconds would reject. After the 15-second period is over, CBOE will once again allow a 10-lot autoex trade from that exchange and class. <u>Note</u>: This restriction is by exchange; so if each exchange sends a P order, they would each receive a 10-lot autoex for a total of 40 autoex contracts per class, but only up to our disseminated size in the quote.
5) **P and PA orders that are larger than the linkage autoex size will route for manual handling to PAR and are subject to "trade or fade" requirements:**
   - P or PA orders on PAR must be addressed within 15 seconds. The order balance must be traded in full or the quote must fade. If traded, the order must be fully endorsed on PAR within the 15-second period.
   - If a linkage order on PAR is not traded within 15 seconds, an auto-cxl function will remove the order from PAR, and the AutoFade process will fade the quote.
   - If a manual quote is disseminated or RAES is not available for that series, RAES will not autoex any portion of the incoming linkage order. The full order volume will route to PAR with special color-coding. The Linkage Firm Quote size for P or PA still requires a trade within 15 seconds, up to the applicable P or PA Firm Quote size.
   - Until an option class is eligible for Phase 2 routing according to the OLA Rollout Schedule, the order balance may be canceled or allowed to timeout, provided the Linkage Firm Quote size for P or PA has previously traded.

All aspects of the OLA Linkage Plan will begin a class by class rollout on April 25th, 2003 and conclude June 2nd. The full concepts of the Plan include:

6) <u>Any size</u> Principal (P) and Principal-Acting-As-Agent (PA) orders are allowed.
7) **Members should avoid initiating trade throughs of away exchanges. If they do trade through a better market, members may be subject to liability by having to fill a Satisfaction order. Even if no S order is received, trade throughs will still be tabulated for regulatory review and possible disciplinary action.**
8) **Members who create quotes that lock or cross another market, should either unlock or uncross the quote, or they should send a P order through the linkage to move the away market.**
9) **A new order type, known as a Satisfaction (S) Order, will be introduced.**
10) S orders are generated by the DPM as a liability complaint if customer orders in the quote are traded through by an away exchange. The member on the violating exchange should fill the order if they traded through or provide a valid reason for rejecting the S order.
11) CBOE systems will provide a Satisfaction Alert on behalf of our customer orders in the book, and route this Alert to PAR for 3 minutes. The DPM can decide to create a Satisfaction order from the Alert.
12) Inbound S orders will route to PAR; the DPM must research and respond within 3 minutes. If no trade through occurred, a list of valid reject reasons will be provided to cancel the S order.

13) All P and PA orders are immediate or cancel (IOC) limit orders priced at the NBBO.
14) P orders may be sent by eligible market makers or DPMs.
15) PA orders are sent by the DPM on behalf of an unexecuted customer order that is marketable against the away NBBO.
16) Outbound P and PA orders routed to away exchanges will receive autoex handling, depending on size, or be routed for 15-second manual processing.
17) If the away market does not respond to a CBOE linkage order with a fill report or a cancel, the Linkage Plan imposes a 20 second wait before taking alternate action such as trading through the away quote. If after 20 seconds, the away exchange has not responded and has not faded its quote; the DPM or market maker is entitled to trade through that posted NBBO at the next best NBBO price.
18) Market Makers can access linkage, using P orders, through their clearing firm links to CBOE. For PA and S orders, DPMs will access linkage via CBOE systems.
19) Market maker eligibility requires the market maker to be logged into RAES and to have satisfied the Linkage 80/20 Test. The 80/20 rule states that a market maker must have traded 80% of his contract volume against customer orders, and less than 20% were routed away as Principal orders during the previous calendar quarter. PA orders are exempt from this calculation.
20) In support of the linkage "trade or fade" concept, an AutoFade mechanism will be maintained. Any time the CBOE quote size is reduced to zero due to a RAES or LOU trade, AutoFade will move the CBOE quote to one tick worse than the "Best of the Rest" NBBO price and disseminate with a default size. The AutoFade process will apply to all RAES or LOU trades, not just linkage trades. Presence of a book in the quote will block the AutoFade process. (please see attached description)

21) <u>Principal-Acting-As-Agent (PA) – Linkage Autoex Size</u>:
PA order creation may necessitate that the DPM determine the eligible autoex size at the away NBBO market. As autoex sizes may change, each exchange's web site is provided for autoex sizes by class:

<u>AMEX</u>: **http://www.amextrader.com/trader/amexcontent/autoex50up.stm**
<u>ISE</u>: **PA autoex size is displayed in the ISE disseminated quote size.**
<u>PHLX</u>: **http://www.phlx.com/products/phlxopt.htm**
<u>PCX</u>: **http://www.pacificex.com/options/options_directory.html** (for cust. and PA autoex size)
http://www.pacificex.com/options/bdautoex/opt_sel_issues.xls (for BD orders)
<u>CBOE</u>: **http://www.cboe.com/TradTool/Symbols/SymbolDirectory.asp**
- The CBOE autoex size for PA orders is a calculated value. It is determined by the lesser of the RAES series volume and our disseminated quote size, with a minimum of 10. This CBOE autoex value is then compared to the autoex size supplied with the incoming PA order to determine the Linkage Autoex Size of the PA order.
- The CBOE autoex size for P orders is 10 contracts.
- For Phase 2 linkage, incoming orders that exceed these autoex sizes will automatically trade the autoex size, and the balance will route to PAR for 15 second manual handling.

22) <u>Multiple PA Orders</u>:
- Routing PA orders to multiple NBBO markets:
The unexecuted customer size may be split among the NBBO markets. The DPM may send PA orders to multiple NBBO exchanges at the same time without any time restrictions.
- Routing multiple PA orders to one NBBO market:
If there is only one NBBO market, the customer order size may be sent as two PA orders to the same NBBO exchange. The Linkage Plan requires the first PA order to be sized for the Linkage Autoex Size, and the second PA order may be sent after 15 seconds for the balance of the customer size (or 100 contracts).

HYBRID Linkage Processing:

Inbound Principal-Acting-As-Agent (PA) will autoex against the Hybrid Book for the full size of the book (quote). If book size is exhausted, PA order balance will route to PAR. Minimum 10 autoex - If quote size is insufficient for a 10 lot fill, Hybrid Book will trade actual size. Any required amount due must be manually traded from PAR.

Inbound Principal (P) orders will autoex 10 contracts against Hybrid Book. P order balance will route to PAR for 15 seconds manual handling "trade or fade". If not fully filled after 15 seconds, the P order will route back to Hybrid Book to trade balance. If Book size depleted, P order balance will CXL.

OLA Linkage Rollout Schedule - Draft

Implementation of the second phase of intermarket linkage will begin on April 25th 2003. There will be incremental rollout dates in May, concluding on June 2nd. Full linkage functionality and Satisfaction order requirements will be introduced class by class based on the OLA Linkage Rollout Schedule below.

FRIDAY, APRIL 25, 2003

OPTION	COMPANY	DPM	LOCATION
AAQ	Apple Computer	Slk/Hull	1-8
BAC	Bank of America	Equitec	2-4
EK	Eastman Kodak	VanDer Moolen	4-2
EP	El Paso Corp.	SIG	3-7
GM	General Motors	Geneva	4-3
HPQ	Hewlett Packard	SIG	3-5
NOK	Nokia	SIG	3-5
PEP	Pepsico	Slk/Hull	1-5
PG	Procter&Gamble	Equitec	2-4
QLC	QLogic	Wolverine	5-8
QXB	Ebay	T.D. Options	6-9
RCQ	Broadcom	Knight	9-1
SGQ	Sieble Systems	Knight	9-8
UVA	Nvidia	SMC	4-4

WEDNESDAY, APRIL 30, 2003

OPTION	COMPANY	DPM	LOCATION
AMD	Advanced Micro	Knight	9-3
AXP	American Express	Timber Hill	4-6
CA	Computer Associates	Knight	9-3
CCU	Clear Channel	Slk/Hull	1-2
EMC	EMC Corp.	Botta	2-10
F	Ford Motor Co.	Prime Markets	4-9
GS	Goldman Sachs Grp.	SIG	3-5
JUX	Juniper Networks	SMC	4-4
KCQ	KLA Tencor Corp.	Slk/Hull	11-4
LLY	Lilly (Eli) & Co.	Knight	9-1
UAB	Echostar Comm.	Specialist	2-6
S	Sears Roebuck	Slk/Hull	1-7
TXN	Texas Instrument	SIG	3-4
VZ	Verizon Comm.	SIG	3-9

MONDAY, MAY 5, 2003

OPTION	COMPANY	DPM	LOCATION
ABT	Abbott Labs	Slk/Hull	1-4
AIG	American Intl.	T.D. Options	6-8
CQE	Cephalon	SIG	5-2
EDS	Electronic Data Sys.	Geneva	4-3
FNM	Fannie Mae	T.D.Options	6-10
FQC	Nextel Comm.	Knight	9-3
HD	Home Depot	SIG	3-5
MER	Merrill Lynch&Co.	Timberhill	4-6
MRK	Merck & Co.	Wolverine	5-8
SUQ	Sun Micro Sys.	Mercury	4-5

WEDNESDAY, MAY 7, 2003

OPTION	COMPANY	DPM	LOCATION
ANQ	Applied Materials	T.D.Options	6-5
CPN	Calpine Corp.	Equitec	2-4
EZQ	Electronic Arts	Knight	9-4
JNJ	Johnson&Johnson	Equitec	2-5
UED	Expedia	SIG	3-10
T	AT&T	T.D.Options	6-4
TMX	Telephonos de Mexico	T.D Options	6-9
UPS	United Parcel Service	Botta	2-9
ZQN	Amazon.Com	T.D.Options	6-8

MONDAY, MAY 12, 2003

BMY	Bristol Myers	Stonehedge	4-8
COF	Capital One	Platinum	10-3
DDS	Dillards Inc.	Wolverine	5-8
EIX	Edison International	Equitec	2-3
L	Liberty Media	Slk/Hull	1-4
RAD	Rite Aid Corp.	SIG	3-3
UBF	Brocade Comm. Sys.	T.D. Options	6-1
YHQ	Yahoo	SIG	3-5

TUESDAY, MAY 20, 2003

QQQ		Wolverine	5-9
INQ	Intel	SIG	3-3
MSQ	Microsoft	SIG	3-10
MO	Phillip Morris	Slk/Hull	1-4
TYC	Tyco International	Equitec	2-4
AOL	America Online	Slk/Hull	1-4
IBM	Internat.Bus.Mach	T.D.Options	6-5
CYQ	Cisco Systems	T.D.Options	6-10
GE	General Electric	Slk/Hull	1-5
C	Citigroup Inc.	SIG	3-8
HAL	Halliburton	SIG	3-9
DLQ	Dell Computer	T.D.Options	6-9
ORQ	Oracle	T.D.Options	6-10
JPM	J.P. Morgan	SIG	3-9
AMQ	Amgen	Specialist	2-6
QAQ	Qualcom	SIG	3-4
WMT	Walmart	Equitec	1-9
PFE	Pfizer	SIG	3-8
MU	Micron Tech	Mercury	4-5

Monday, June 2, 2003
ALL REMAINING CLASSES – FINAL IMPLEMENTATION

Questions regarding Linkage phase one rollout can be directed to Tim Watkins at 312-786-7172.

AutoFade

As linkage functionality is rolled out class by class, an autofade function to automatically move the CBOE quote will be implemented. Autofade will be imposed when a RAES or LOU trade reduces the quote size to zero. This applies to all RAES or LOU trades, not just linkage trades. This will replace the process of blocking RAES for the Block Time period. The following is an overview of functionality for automatically fading the quote. This functionality will apply until hybrid trading is implemented.

1. Normal Autofade scenario:
   - When quote size is decremented to zero, fade the quote price 1 tick worse than the Best-of-the-Rest (BOTR) NBBO, (or fade to the best book price and size if that is better than the BOTR).
   - Autofade size = the lesser of the TPF class default size or the previous AQ size
   - Autofade timer = Block Timer. Currently set to not exceed 30 seconds.
   - Autofade will print an alert notice to the DPM when the fade begins.
   - Any AutoQuote (WAQ or VQI) update during a fade time frame, either due to a manual send or an underlying tick, will clear the fade and reset price and size to the new AutoQuote values. Timers reset.
   - The Timer expires after 30 seconds if no new AutoQuote values are received. The fade price and size will be cleared, and a Best Quote calculation will be completed using the previous AutoQuote values for price & size.

2. Autofade will only allow a marketable order to automatically trade at the posted price and size. It will not allow that same marketable order to trade at multiple price points as each fade occurs (no drill down). The balance of the untraded order will route to PAR (or the Size Exhaust Destination).
3. Autofade will only be imposed after a RAES or LOU trade exhausts size.
4. A normal book trade or cancel that depletes full size in the quote will cause the normal Best Quote calculation to be used. This calculation will use the current AutoQuote (WAQ or VQI) price and size. If, however, autofade moves the quote to the book price, and the book is traded during the fade time period, the quote would fade to either the next best book price (if that price is still > or = than BOTR) or to 1 tick worse than BOTR for the duration of the timer. At the expiration of the timer, a new Best Quote calculation would restore the previous AutoQuote price and size.
5. Autofade will not be used for single-list classes. They will continue to function as they do today by disseminating a size of 1 and blocking RAES for the Block Time period.
6. Manual quotes currently do not decrement the size, so no autofade will occur for normal inbound orders. Linkage orders would route to PAR during phase 2 processing (or reject in phase 1) due to the series being non-autoex eligible.
7. Step up processing will be disabled during the autofade time period for that series-side.
8. The new quote will be flagged as an autofade quote change on MDR. A set of arrows will appear in the BKR broker column for a faded bid or CBK column for a faded offer.
9. The autofade process will not fade both sides of the quote. The fade will only occur on the quote side that is reduced to zero. **Please be advised that it may be possible for the quote to fade wider than the normal width. CBOE is attempting to secure an exemption from the market-maker quote width requirements for these instances but no such exemption is in place at this time.** Either an autoquote update or the expiration of the timer will cause the quote to revert back to normal width.
10. Autofade will be activated when a class is enabled for linkage.

Questions regarding AutoFade can be directed to Tim Watkins at 312-786-7172, Roger Mulcahy at 312-786-7280, or Brian Stucka at 312-786-7377.

The following is an example of an AutoFade Alert Notice that will be printed for the DPM:

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SIZE EXHAUSTED ON OFFER

HD SEP 20 CALL

MQ: *   1.00 - 1.35   *
SZ:     100 x 10

09:04:20 QUOTE FADED
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AutoFade calculation:

The price calculated by autofade will be 1 tick worse than the BOTR:

Normal RAES trade:	CBOE Bid is 1.20 *	BOTR Bid is 1.15	Autofade price will be 1.10
	CBOE Ask is 1.45 *	BOTR Ask is 1.50	Autofade price will be 1.55
Step-up RAES trade:	CBOE Bid is 1.20	BOTR Bid is 1.25 *	Autofade price will be 1.20
	CBOE Ask is 1.45	BOTR Ask is 1.40 *	Autofade price will be 1.45

(* = NBBO)

For a normal RAES trade, autofade would calculate a price one tick worse than the BOTR.

For a step-up RAES trade, autofade would calculate a price one tick worse than the BOTR.

- Please note that autofade from one-tick step-up would not change the CBOE quote, and if a value greater than one-tick were in place, autofade may actually tighten CBOE markets in certain situations.

Step-up set to 2 ticks:	CBOE Bid is 1.15	BOTR Bid is 1.25 *	Autofade price will be 1.20
	CBOE Ask is 1.50	BOTR Ask is 1.40 *	Autofade price will be 1.45

The size calculated by autofade will be the lesser of the Class default size and the previous AQ size.