Order Handling and Execution Protocols
for Broker Dealer Clients

KCG Americas LLC ("KCGA" or "Firm") makes a market in or trades nearly every U.S. equity security, with the exception of KCG Holdings, Inc. (NYSE symbol: KCG). KCGA makes these order handling and execution protocols available to its broker-dealer clients to aid in their understanding of how the Firm handles their orders. These protocols apply to orders routed to KCGA's wholesale market maker in NMS and non-NMS OTC equity securities ("OTC Securities").

If you have any questions regarding these execution protocols, contact Stephen Kay at 646.682.6355 or skay@kcg.com

KCGA's Market Making Offering

When clients route orders to KCGA, they are routing orders to a market maker. KCGA utilizes a hybrid model to execute client orders that employs both electronic and manual order handling. Most orders for NMS securities are handled on a fully automated basis. Based on a variety of factors, some NMS orders are handled manually or on a not held basis. Orders in OTC Securities are generally handled manually.

All orders that KCGA executes as a market maker are executed in a principal capacity, with the exception of orders in penalty box securities which are handled as agent. When KCGA internalizes a client order, the Firm provides an execution that is at or within the National Best or Offer ("NBBO") as disseminated by the Securities Information Processor ("SIP") at the time of order arrival. To the extent that orders are not internalized, KCGA may route principal orders to other market centers, including its own alternative trading system (KCG MatchIt), other market makers, other alternative trading systems ("ATSs") and national securities exchanges, to fill all or part of an order. Executions that are received as a result of these routed orders are applied to client orders at the same price in a riskless principal capacity or at an improved price. When the client order is filled at an improved price, the Firm's capacity is principal.

The Firm's internalization models utilize exchange book feeds to access data regarding depth of book, changes to that depth and current spread as compared with historical spreads. The Firm's order routers utilize a combination of exchange book feeds and SIP data to determine which exchanges to route orders.

Clients often provide KCGA with Effective / Quoted targets ("E/Q") in connection with handling their orders. KCGA will handle client orders in a manner which seeks to meet those client targets on an aggregate basis over the time horizon provided by the client. However, all orders are subject to market conditions and, accordingly, KCGA does not guarantee that any particular order will be filled, or in the case of a market order, that it will be filled at any particular price.

There are several factors that can affect how KCGA handles any particular order including but not limited

to:

- Whether market conditions in the stock are normal
- The stock's liquidity/volume and volatility (overall and/or momentary)
- The size of the order
- The Firm's and/or trading desk's current position and risk tolerance in the stock
- Any client-provided preferences (for example, size parameters for automated vs. manual handling)

The above factors can affect whether any execution occurs, the speed of order handling, whether the order is handled on a held or not held basis and/or the availability of price improvement as compared to the NBBO as disseminated by the SIP at the time of order arrival.

Non-Normal Market Conditions

KCGA's automated execution protocols assume normal market conditions. KCGA reserves the right, at its sole discretion, with or without notice, to determine if and when market conditions are normal. Non-normal market conditions include, but are not limited to:

- Locked or crossed market conditions
- Limit Up / Limit Down Trading Halts
- Markets, market data and/or market participants that are unusually volatile, unreliable and/or unresponsive for any one or more symbols or sectors
- Periods of order imbalances either at the Firm or at the stock's primary exchange
- Non-regulatory trading halts (beginning from the time of the last print on the stock's primary exchange before the exchange's declaration of the halt and ending when the stock's primary exchange ends the halt by resuming its normal quoting and printing operations)
- Periods of time when an exchange places a stock in "non-Firm quote" mode or similar quoting mode
- Periods of unusually wide spreads (in the inside market or by the stock's primary exchange)
- Periods of time surrounding significant news events (whether or not those news stories result in a regulatory halt of the stock)
- Secondary trading of IPOs
- Communications or systems outages
- Reg NMS Self Help Declarations
- Reg SHO restrictions

Reserved Rights

KCGA reserves the right, at its sole discretion, to modify, suspend, or cancel any of its order handling protocols, (except those that are designed to ensure compliance with the Firm's regulatory obligations), including, but not limited to, automated price improvement and automatic execution, without notice on a

stock by stock or on a client by client basis, when non-normal market conditions exist, when attempts are made to abuse or circumvent its automatic execution size limitations, or when KCGA otherwise deems it appropriate.

KCGA reserves the right at its sole discretion to offer various execution services to clients (e.g., Auto-Ex, Price Improvement, Pre/Post Market Trading, etc.) on a client specific basis.

KCGA reserves the right at its sole discretion to commence trading in any individual stock on any day pursuant to any one of its Alternative Opening Protocols. KCGA may choose to provide prior notification as to which stocks KCGA intends to open under a particular Opening Protocol. Any information contained in such a notification will be provided in good faith and will reflect KCGA's intentions at the time the notice is provided. However, KCGA shall continue to reserve its right, at its sole discretion, to commence trading in those stocks pursuant to any one of its Alternative Opening Protocols.

KCGA reserves the right to reject all or any orders on a client-by-client and/or symbol-by-symbol basis at any time and for any reason related to its risk controls, whether financial, regulatory or other, as determined by KCGA in its sole discretion.

KCGA's Order Handling Policies

Cancellation of Orders

A client may request that any unfilled order (or unfilled portion of an order) be canceled. The Firm retains discretion to grant or deny cancellation requests. Circumstances under which the Firm may deny a cancellation request include when the Firm has executed all or part of the order, has routed a principal order to another market center to fill the order or is otherwise in the process of executing the order.

Clearly Erroneous Executions

Bona fide errors can result from human error or system issues that affect the execution of an order. Such errors can occur at KCGA or can occur outside of KCGA at an exchange, an ATS or at other market centers utilized by KCGA in connection with the execution of the order. Such errors can also result from general market volatility, communications or system breakdowns or other conditions over which KCGA has no control. KCGA reserves the right at its sole discretion to cancel or price-adjust any trade that is deemed by KCGA to have been the result of an error, including the result of any of the above or an incorrect security symbol or name, size and/or prices that are unrelated to the market. In the event that KCGA exercises this right, the Firm will use reasonable efforts to inform its clients in a timely manner.

Corporate Actions

When a stock is subject to a corporate action, (e.g., distributions, dividends, splits, etc.), KCGA will adjust

or cancel open orders that reside on its open order book as required pursuant to applicable regulations.

When dividends are payable in cash or securities, KCGA will adjust the price of an open order, where the terms of the order allow for modification, by the greater of the value of the cash dividend or stock dividend. An order that is subject to a dividend will not be adjusted by KCGA if the value of the dividend is less than $.01 per share.

You may choose to enter orders with a "do-not-reduce" (DNR) instruction if you do not want the price of an order reduced for cash dividends; or with "do-not-increase" (DNI) instructions if you do not want the size of an order increased for stock dividends or stock distributions. A do not reduce order applies only to ordinary cash dividends; the order should be reduced or increased for oth2er distributions such as when a stock goes "ex" a stock dividend, special cash or ex rights.

It is KCGA's policy to cancel all open orders in stocks subject to reverse stock splits, forward stock splits or stock splits that involve a symbol change and other applicable circumstances on the effective date of the corporate action. Additionally, all orders with distributions that have indeterminable values are deemed cancelled. KCGA typically will cancel orders back to clients on an automated basis, however clients should be aware that the orders are deemed cancelled in these circumstances whether or not the cancellation notice is received electronically.

KCGA transmits a daily "Corporate Action" e-mail that identifies stock splits, dividends, symbol changes and symbol additions and deletions. KCGA's transmission of this information is purely for informational purposes. KCGA does not warrant the accuracy of the information or that it will make such information available on any particular day. Clients remain responsible for adjusting orders sent to KCGA after the effectiveness of a corporate action. You may request to be added to the distribution by contacting us via e-mail to Help@KCG.com.

Corporate Actions for Tick Pilot Securities on Ex-Date

Buy limit and sell stop orders will be adjusted on ex-date in the amount of the stock/cash dividend. Once the cash/stock dividend is applied the resulting non-nickel increment price will be rounded down to the nearest nickel increment. For Sell Stop Limit orders, both the stop price and the limit price will be rounded down to the nearest nickel increment. Buy stop orders and sell limit orders will not be affected.

Special Settlement

KCGA accepts requests for special settlement orders (e.g., cash, next-day, extended, shortened, etc.).

- Upon receipt of each special settlement order, but prior to the Firm's acceptance of each such order, KCGA will check for upcoming corporate actions in the stock.
- Research and manual handling of the order could delay the process and affect the execution price during times of market volatility.

- The executed price of special settlement orders may reflect the Firm's compensation, including an imputed mark-up or mark-down.
- KCGA reserves the right to refuse to accept any special settlement (i.e., Non- RegularWay) orders.

Net Trades

A "net" trade means a principal transaction in which a market maker, after having received an order to buy (sell) an equity security, purchases (sells) the equity security at one or multiple prices and then sells to (buys from) the client at a different price. KCGA clearly discloses to clients in writing the terms and conditions for handling orders on a net basis through the use of a negative consent letter. Additionally, in lieu of a written disclosure, a client may provide consent on an order by order basis to trade on a net basis. The price reported to the consolidated tape is inclusive of any remuneration received by KCGA. Institutional clients will receive a trade confirmation at the "net" transaction price which reflects the average of the individual executions undertaken to fill the order in addition to KCGA's compensation. Clients may request details of the individual executions.

Order Instructions

<u>Duration</u>

Unless otherwise specified, KCGA considers client orders to be Day Orders. Day Orders and unfilled portions of partially executed Day Orders will expire at the end of the regular trading day on the day that the order was received (generally, 4:00 p.m. Eastern Time).

<u>Order Conditions for Outside Trading Hours</u>

KCGA offers order types that are eligible for execution only in the pre-market (EMT), orders that are only eligible for execution in the after-hours (AHT) and orders that are eligible for execution all day (ADT= EMT+ regular trading day +AHT). Access to EMT, AHT and ADT sessions is subject to KCGA's approval, the successful completion of testing and the client's assumption of the risks, including those set forth below. For additional information please contact your KCG representative. Clients are responsible for ensuring that they and their clients understand and are able to bear the risks associated with trading outside of regular market hours and that these order types are suitable for the end client.

Clients that participate in KCGA trading sessions outside of the normal market hours from 9:30 am - 4:00 pm ET may utilize the following condition codes:

- Early Morning Trading (EMT) - allows orders to be facilitated only during the KCGA pre-market session, currently from 6:00:00 am through 9:29:59 am ET. EMI and EMF conditions provide for Immediate-or-Cancel and Fill-or-Kill treatment, respectively, in the pre-market session.
- All Day Trading (ADT) - allows orders to be facilitated during all available KCGA trading sessions, currently from 6:00:00 am through 8:00:00 pm ET. ADI and ADF conditions provide for Immediate-or-Cancel and Fill-or-Kill treatment, respectively, in all available sessions.
- After Hours Trading (AHT) - allows orders to be facilitated only during the KCGA postmarket session, currently from 4:00:01 pm through 8:00:00 pm ET. AHI and AHF conditions provide for Immediate-or-Cancel and Fill-or-Kill treatment, respectively, in the post-market session.

Purchase and sale of securities outside of regular market hours may entail special risks, including the following:

1. Risk of Lower Liquidity: Liquidity refers to the availability of shares in the marketplace. Generally, the more orders that are available in a market, the greater the liquidity. Greater liquidity usually makes it is easier for investors to buy or sell securities. There may be less liquidity during extended hours than during market hours. As a result, an order may only be partially executed or not at all.

2. **Risk of Higher Volatility**: Volatility refers to the amount that a security's price changes over time. Generally, the higher the volatility of a security, the greater are its price swings. There may be

greater volatility during extended hours than during market hours. As a result, an order may only be partially executed or not at all, and/or an order may receive a price during extended hours that it would not have received during market hours.

3. **Risk of Wider Spreads**: The spread refers to the difference in price between the inside bid and offer in a security. Lower liquidity and higher volatility tend to result in wider than normal spreads.

4. **Risk of Prices Unrelated to Normal Market Hours Prices**: The price of a security traded during extended hours may reflect neither its prior closing price nor its subsequent opening price. As a result, an order may receive a price during extended hours that is unrelated to a price it would have received during market hours.

5. **Risk of Unlinked Markets**: Prices of a security displayed on a particular extended hours trading system may not reflect the prices of the same security displayed in other concurrently operating extended hours trading systems. Accordingly, an order may receive a price in one extended hours trading system that it would not receive in another extended hours trading system.

6. **Risk of New Information**: Corporate news and financial information are generally disseminated aftermarket hours. Such announcements, especially when combined with lower liquidity and higher volatility, can have an exaggerated effect on the price of a security.

Order Types and Instructions

Market Orders: KCGA will accept market orders and attempt to execute at prices that are available in the market following receipt of the order until the order is completed or canceled. Although the Firm endeavors to execute market orders that it receives fully and promptly, certain market orders (for example, quantity in excess of share size parameters, illiquid securities, certain triggered stops, etc.) may be sent to a trader for manual handling.

Limit Orders: KCGA will accept limit orders and hold them for the applicable duration or time in force until the order is executed at its limit price or better or canceled. Although the Firm endeavors to execute marketable limit orders that it receives fully and promptly, certain marketable limit orders (for example, quantity in excess of share size parameters, illiquid securities, triggered stops, etc.) may be sent to a trader for manual handling.

Good-Til-Cancelled (GTC) and Good-Til-Date (GTD) Orders: A GTC/GTD order will remain open on KCGA's books until executed, cancelled by the client that placed the order or cancelled by KCGA, or in case of GTD until the order expires at its designated time-in- force date but no later than one calendar year, whichever comes first. Please note, however, that GTC/GTD orders are only eligible during regular market hours - not during after hour trading or pre-open trading sessions. GTC/GTD orders are eligible for execution and for market / limit order protection during regular market hours. KCGA maintains your GTC/GTD orders

on file for one calendar year. If your GTC order has not been cancelled or executed during this period, it will automatically expire on the one year anniversary. A daily file containing expired GTC/GTD orders can be provided to you, upon request to Help@KCG.com

AON (All-or-None) Orders: An AON order is a special order type that is offered by KCGA. AON orders are not accepted by and cannot be routed to exchanges. AON orders must be filled in a single execution at one price for the entire amount of the order. Accordingly, AON orders may require manual facilitation by a trader. Generally, AON orders can be cancelled unilaterally at any time before the full execution of the AON order in its entirety. This right of unilateral cancellation puts and keeps KCGA at risk up until the full execution of the AON order.

FOK (Fill-or-Kill) Orders: A FOK order must be filled in a single execution at one price for the entire amount of the order and unlike the AON order, the FOK order will be executed by KCGA upon receipt or canceled.

IOC (Immediate-or-Cancel) orders: KCGA may at its discretion execute all or part of any IOC order. If the order is executed in whole or in part, the executed quantity will be executed at the current market in case of a Market IOC order or at the order's limit price in the case of a Limit IOC order. If the order is not executed or partially executed, the unexecuted quantity will be canceled.

Not Held Orders: When entering a "not held" order, the client gives KCGA time and price discretion and KCGA will use its reasonable judgment with respect to the handling and execution of that order. KCGA may act in the capacity of principal and/or riskless principal when executing not held orders. A "not held" order is an order which by definition, is not owed a price protection (Manning).

Securities Listed on Non-US exchanges

Orders received from clients in non-U.S. securities may be routed to a foreign exchange or foreign broker, including to a KCG affiliate, for execution. These executions may be handled on a "net" basis, therefore the reported price may reflect transaction, handling and/or currency exchange fees associated with the execution. KCGA may also receive payment for order flow for your orders in non-U.S. securities.

Invalid Order Prices

For orders priced above $1.00, any priced order that KCGA receives with a price containing more than two decimal places (e.g., 10.123, 10.125, 10.0625, 10-1/8, etc.) will be rejected for invalid price. Orders in NMS securities with prices that are not evenly divisible by the current unit of trading, i.e., $.01, are automatically rejected. For orders priced below $1.00, any priced order that KCGA receives with a price containing more than four decimals places will be rejected.

Specific Order Handling and Execution Protocols

Order Routing: Market Orders and Aggressive Limit Orders

In an effort to facilitate the execution of market orders and aggressive limit orders*, KCGA utilizes its proprietary smart router technology to access liquidity on other market centers.

These market centers include KCG MatchIt, an ATS operated by KCGA, other ATSs, other market makers and national securities exchanges. The sequence of routing changes from time to time but generally is designed such that the router will seek price improvement opportunities, in some cases rebates, and route to lower cost destinations earlier the sequence and will route orders that cross the spread on higher cost destinations later in the sequence. The sequence may differ depending on clients' sensitivity to Reg NMS Rule 605 statistics. The Firm may have a direct or indirect ownership interest in market centers and trading centers to which it chooses to route orders and may also receive orders from market centers and trading centers to which it routes orders. To the extent the Firm receives rebates in connection with the routing of orders, those rebates contribute to the Firm's revenues.

If you have questions about order routing, please contact your KCG Representative.

* In general, "aggressive " refers to where the limit price would lock or cross the opposite side NBBO as determined upon order receipt. As an additional protection, the Firm's systems do not make a determination as to whether a limit order is aggressive during a locked/crossed market state; at such times, all limit orders are generally prioritized based on price-time until the market unlocks/uncrosses.

Limit and Market Order Protection under FINRA Rule 5320 (Manning)

KCGA conducts trading activities across independent trading units that utilize information barriers designed to prevent a trading unit from obtaining knowledge of client orders held by a separate trading unit, consistent with FINRA's "No-Knowledge" ("NOK") exception. Some of these market making trading units may engage in executing orders received from KCGA's broker-dealer and/or institutional clients. Accordingly, KCGA may trade for its own account in a NOK trading unit at a price that would satisfy a client order resting in another KCGA trading unit without providing an execution to that resting client order. The Firm has implemented internal controls, including information barriers, designed to prevent its NOK trading units from obtaining knowledge of the open client orders handled by other trading units.
Within its market making unit, KCGA handles market and aggressive limit orders in one trading unit. Orders that are handled manually and the Firm's limit order book are handled by a different trading unit.

As a general rule, during normal market conditions, principal executions are applied to eligible client orders via KCGA's Manning process - first to eligible limit orders in price-time priority, and then to eligible market

and aggressive limit orders - in first-in, first-out (FIFO) priority. Aggressive limit orders may receive protected price-time priority if they cease being aggressive prior to execution due to market movements. Certain market or aggressive limit orders may not receive an execution via the Manning process if the order has been routed to the market and is expected to receive an immediate execution that will be applied to that order.

Client orders with special handling conditions may not be eligible for Manning protection if the order is transient (IOC) or if an execution via Manning would conflict with the order instructions, for example, orders with an Opening condition (MOO/LOO/OPG) or Closing condition (MOC/LOC/CLO). In addition, certain principal orders of KCGA that are submitted to an exchange Opening auction (MOO/LOO) will be applied via Manning only to those eligible client orders, if any, that were received before the time that the KCGA order was no longer able to be modified or cancelled with the exchange.

In some circumstances, the institutional customer orders may also be eligible for executions via KCGA 's Manning process.

Limit Order Display- NMS Stocks

Upon receipt of a client limit order in NMS securities, depending on whether the market has opened or not, KCGA will generally route a limit order, as principal, to the Primary Exchange for participation in the opening cross or, following the opening cross, to a National Securities Exchange ("Exchange"), which may or may not be the Primary Exchange, for display. To the extent that the routed limit order is executed on an Exchange, KCGA will execute the corresponding client limit order at the same price up to the amount executed on the Exchange.

KCGA considers cost and rebates as factors in choosing where to send limit orders for display. The foregoing may not apply to any order that is exempt from display pursuant to SEC or FINRA rules. KCGA may, at its discretion, fully or partially display orders that, due to their size and value, are exempt from the provisions of the Limit Order Display Rule (e.g., at least 10,000 shares or at least $200,000).

Limit Order Display - OTC Markets Stocks

For non-NMS OTC Securities, KCGA displays Limit Orders in the following manner.

- Generally, Limit Order Display ("LOQD") commences at 9:30am ET and continues until 4:00 pm ET.
- LOQD will occur promptly upon receipt of an eligible order or when market movements make an order eligible for display.
- Eligible orders will be displayed for a share amount at least equal to the minimum quotation size (MQS) requirement (see chart below), with any remaining balance held in reserve. The full size of eligible orders will be displayed as required by FINRA Rule 6460.

- Orders with quantities or with leave quantities that are below the MQS will not be eligible for LOQD unless they can be aggregated with other open client orders at the same price to meet the MQS.
- Orders will receive full price display to a maximum of four (4) decimal places.
- Orders will be displayed in accordance with FINRA Rule 6433 Quote Tiers (see chart below).
- Orders with restrictions (e.g., AON, Stop Orders) or special handling instructions (e.g., not- held) are not eligible for LOQD.
- Unsolicited*, Grey Market, and non-piggyback qualified OTC securities are generally not eligible for LOQD.
- The limit order quote display process assumes normal market and system conditions.
- Order display may be affected by the level of quoting activity.

Minimum Quote Size (MQS)

Price	Min Quote Size (shares)
.0001 -0.0999	10,000
.10 - 0.1999	5,000
.20 - 0.5099	2,500
.51 - 0.9999	1,000
1.00 - 174.99	100
175 +	1

KCGA may fully or partially display orders that, due to their size, are exempt from the provisions of the Limit Order Display Rule (e.g., 10,000 shares and $100,000).

Minimum Pricing Increments (Quote Tiers) **

Quote Prices	Quote Tick
<$0.0001	0.000001 (rank or accept only, but not display)
>=$.0001 - 0.9999	0.0001
>=$1	0.01

* Orders in Unsolicited symbols may be displayed, subject to meeting minimum tier size requirements, if the sending broker-dealer has provided an annual attestation that all their orders are unsolicited (including orders from customers of their customers) or if unsolicited status is provided to KCGA on an order-by-order basis.

** The Firm is prohibited from displaying, ranking, or accepting an order that does not comply with the minimum pricing increments.

IPO Pre-Opening Protocols

KCGA generally accepts orders for new issues prior to the opening of secondary trading of an Initial Public Offering (IPO). In NMS securities, KCGA generally executes all of the orders it receives prior to the opening cross at a single price based on the stock's Primary Exchange opening price. KCGA holds pre-opening orders on its order book and represents the orders by transmitting principal orders to the Primary Exchange to acquire inventory to fill the orders on its book, typically on a riskless principal basis.

Pre-opening orders are subject to the following terms and conditions:

- All orders submitted to KCGA in IPO Securities prior to the opening cross on the Primary Exchange must be submitted with a limit price. KCGA does not accept market orders for the purchase of shares of a new issue in the secondary market prior to the commencement of trading of such shares in the secondary market. Similarly, KCGA will not accept any modifications to an order that would change an IPO pre-opening limit order into a market order.
- KCGA will attempt to reject market and similar impermissible order types submitted in IPO stocks prior to the opening cross. Whether rejected or not, KCGA will deem these orders as invalid and these orders will not be considered for execution.
- KCGA will use reasonable efforts to facilitate the execution of orders in IPO Securities received prior to the opening cross but does not guarantee that every order transmitted to it will be executed at the opening price.
- KCGA's ability to provide the opening price is in part dependent on the sufficient liquidity at the Primary Exchange to satisfy the interest KCGA has submitted to the Exchange. As a result, some orders may receive partial execution at the opening price and may receive partial executions at subsequent prices.
- Paired orders sent to KCGA (where you send the buy and sell in the same stock) may not both receive an execution at the opening price.
- Any pre-opening order transmitted to KCGA which does not receive an execution at the opening price will be handled as a regular Day Order pursuant to KCGA's post-opening order handling protocols.
- Orders received immediately prior to the opening of secondary trading may be too late to receive execution at the Primary Exchange opening price.
- AON and Stop Quote and Stop Loss orders are not eligible for the IPO Pre-Opening Execution

Protocols.

- ADT / EMT / AHT orders are also not eligible for the IPO Pre-Opening Execution Protocols.

Market-on-Close (MOC/Limit-on-close (LOC) Orders & Cancellations

KCGA handles client orders in NMS securities with MOC or LOC instructions by routing representative principal orders to the Primary Exchange. These principal orders are subject to the terms and conditions of the exchange, including the exchange's rules limiting the time that such orders may be entered (relevant "cut off" time), modified or canceled. Accordingly, KCGA accepts electronically-entered MOC/LOC orders from clients subject to the same terms and conditions as the Primary Exchange. For example, if the NYSE's "cutoff time" for electronically-entered requests to cancel MOC/LOC is 15 minutes prior to its scheduled close, KCGA will generally accept electronically entered requests to cancel MOC/LOC orders up to that same "cut off time."

KCGA will accept a MOC/LOC order in an NMS security with a quantity of one million (1,000,000) shares or greater and will endeavor to execute these orders on a best efforts basis. KCGA will also not accept a MOC/LOC order with an additional order handling instructions (including, but not limited to AON, IOC, and FOK, etc.). Generally, KCGA will transmit an "Invalid Order" administrative message to the order-sending firm upon receipt of an MOC/LOC order with any of the above instructions. However, whether or not KCGA transmits such a message, these orders are deemed invalid and not accepted.

Opening Only (OPG) Orders

Opening Only orders with an "OPG" qualifier will be accepted up until the relevant cut-off time, and will be eligible for execution based on the opening price/print on the stock's Primary Exchange on the best efforts basis. Please note that OTC Securities do not have an official opening cross.

- OPG orders received after the cut-off time will not receive executions. Generally, a "too- late-to-enter" (TLTE) administrative message will be returned to the order-sending firm. Whether or not the administrative message is returned, the order will be deemed invalid and not accepted.
- OPG order cancellation requests received up to the cut-off time will be honored.
- Generally confirmation of the cancellation will be sent (typically through an electronic "ur- out" administrative message).
- OPG cancellation requests received after the cut-off time will not be honored.
- Typically, a "too-late-to-cancel" (TLTC) administrative message will be returned to the order-sending firm. Whether or not the administrative message is sent, cancellation requests received after the cut-off time will not be honored.
- OPG orders, or the balance remaining of an OPG order, that were not executed at the opening, are deemed cancelled. Typically, the Firm will automatically cancel the order and confirm the cancelation back to the order-sending firm (typically through an electronic "Cancel by Market

Maker" administrative message).

- OPG orders, or the balance remaining of an OPG, that was not executed at the opening, will not be eligible for execution in the continuous market.
- For IPO's, follow on offerings, and other circumstances in which the security opens at times later than the beginning of normal trading hours, the Firm may choose not to accept orders with an OPG instruction. In the event the Firm accepts an order with an OPG instruction the Firm does not guarantee execution of such orders.

Order Handling Protocols at the Open: General Protocols

Stock Open:

- An "Open" refers to the process during which KCGA facilitates client orders for participation in a security's opening auction (or other opening process) with the intent for execution at the price of the Opening Print as determined at the stock's Primary Exchange.
- The Open begins as early as 9:30 am ET, the first Quote on the stock's Primary Exchange but no later than the Opening Print by its Primary Exchange. If the Open begins on the Opening Quote, then Market Orders and Limit Orders that are marketable at the Opening Quote are executed at prices pursuant to the bid and offer of that Quote. If the Open begins using the Opening Print, then Market Orders and Limit Orders that are marketable at the price of the Opening Print are executed at the price of the Opening Print.
- The duration of an Open is generally proportional to volume.
- Pre-Open Orders (i.e., orders that are market orders or limit orders, for fewer than 1,000,000 shares, and that are received before 9:28:00 am ET) are eligible for the Open ("Eligible Pre-Opening Orders").
- Orders received after 9:28:00 are not guaranteed the Opening Print.
- Stocks may begin trading on other market centers prior to the official opening print, particularly if the opening is delayed. Generally, KCGA will not execute these orders until the Opening Print and will provide the Opening Print on a best efforts basis. Clients may elect to have orders sent after 9:30am but prior to the official open executed prior to the Opening Print. Please contact your Sales Representative if you prefer to have eligible orders executed prior to the open at prices which may differ from the Primary Exchange's opening print.

Order Handling Protocols at the Open: NYSE and NYSE MKT

On most trading days and under normal conditions, the Open for a security generally occurs at or within a relatively short time after 9:30 am ET, however, delays outside of KCGA's control may result in an Open that occurs at any time during the trading day.

- Some orders that are fully executed under these opening protocols may receive multiple partial executions.

- Pre-Open Orders cannot be cancelled between 9:27:30 am ET and the completion of the Open.
- The Firm reserves the right to handle orders eligible for execution pursuant to an Open on a riskless principal basis by representing such orders in the Opening Cross of the stock's Primary Exchange. There is no guarantee that such orders will receive an execution.
- Orders for 1,000,000 shares or more and/or orders with special instructions, (including, but not limited to, Stop, All-or-None, Fill-or-Kill, Immediate-or- Cancel, etc.), are not considered as to be eligible for the Open and will be handled by the Firm on a best efforts basis pursuant to its execution protocols for such orders.
- Limit order protection (Manning) and quote display is provided to any eligible pre-open DAY, ADT, GTC or GTD order that remains unfilled after the official Open.

Order Handling Protocols at the Open: NASDAQ Stocks

Eligible Pre-Opening Orders in all NASDAQ securities are executed at a single price that is based on the NASDAQ Official Opening Price (NOOP). KCGA typically transmits principal orders to NASDAQ to participate in the NOOP and such participation generally results in some orders being executed as riskless principal. All pre-opening orders are subject to the following terms and conditions:

- Marketable orders received prior to and including 9:28:00 am ET are eligible for the NOOP.
- Orders entered prior to and including 9:28:00 am ET cannot be cancelled after 9:28:00 am ET.
- Unexecuted non-marketable orders open at 9:28:00 am ET can be cancelled only after 9:30:00 am ET.
- Orders received after 9:28:00 am ET and before 9:29:59 am ET will be handled internally by KCGA and executed on a best efforts basis.
- Pre-opening orders may receive multiple executions.
- Orders with share quantities greater than 999,999 or orders with special instructions (including, but not limited to, Stop, All-or-None, Fill-or-Kill, Immediate-or-Cancel, etc.) are not eligible for the NOOP and thus will be handled by the Firm using reasonable efforts.
- There is no guarantee of an execution as there may be insufficient liquidity at NASDAQ to satisfy interest. Additionally, because of order execution priority protocols on NASDAQ's book, it is possible that one side of a "paired order" (where you send the buy and sell in the same stock) represented in the Cross will not receive an execution.
- Any pre-opening order represented in the NASDAQ Cross which does not receive an execution for the reasons noted above will be handled as a typical order pursuant to post- 9:30:00 am ET order handling protocols.
- Limit order protection (Manning) and quote display is provided to any eligible pre-open DAY, ADT, GTC or GTD order that remains unfilled after 9:30:00 am ET until such time as the NASDAQ Official Opening Price (NOOP) is established and disseminated to the market.

Order Handling Protocols at the Open: Other Exchanges

Eligible Pre-Opening Orders in all Non-NASDAQ exchange listed securities are executed at a single price that is based on the Primary Exchange's opening auction. KCGA typically transmits principal orders to the Primary Exchange to participate in the opening auction process and such participation generally results in some orders being executed as riskless principal.

- Marketable orders received prior to 9:30:00 are eligible for the opening auction.
- Orders entered prior to and including 9:29:00 am ET can be cancelled on a best efforts basis.
- Orders received after 9:29:00 am ET and before 9:29:59 am ET will be handled internally by KCGA and executed on a best efforts basis.
- Pre-opening orders may receive multiple executions.
- Orders with share quantities greater than 999,999 will be handled by the Firm using reasonable efforts.
- There is no guarantee of an execution as there could be insufficient liquidity at the Primary Exchange to satisfy interest. Additionally, because of order execution priority protocols on the Primary Exchange's order book, it is possible that one side of a "paired order" (where you send the buy and sell in the same stock) represented in the Cross will not receive an execution.
- Any pre-opening order represented in the Primary Exchange's auction which does not receive an execution for the reasons noted above will be handled as a typical order pursuant to post market opening (ET) order handling protocols.
- Limit order protection (Manning) and quote display is provided to any eligible pre-open DAY, ADT, GTC or GTD order that remains unfilled after the opening auction until such time as the Primary Exchange's auction price is established and disseminated to the market.

Order Handling Protocols at the Open-Non NMS OTC Markets Stocks

Please note OTC Markets securities do not have an official opening cross and follow the Firm's simulated opening cross protocol for eligible non-NMS securities. Consequently, orders at the open in non-NMS OTC Markets securities will be handled by the Firm on a best efforts basis pursuant to its execution protocols for such orders.

- All eligible market and aggressive limit orders in OTC securities received prior to 9:25 am ET are executed based upon an imbalance driven crossing algorithm, on a security- by security basis. At approximately 9:30 am ET, KCGA will execute all eligible orders received from its clients at a single price, which is derived from the consolidated national best bid or offer.
- Orders received after 9:25 am (EST) will be handled on a best efforts basis and will not be guaranteed a single opening price.
- During the opening if an imbalance exists in KCGA's pre-open order book, KCGA will execute all eligible orders on the side of the market which is providing liquidity to the imbalance at the Single Price Opening. For example, if there are more buyers than sellers on KCGA's pre-open book, all

- eligible orders (buys and sells) in that security will be priced at the consolidated national best offer. When KCGA's pre-open order book in a security is completely balanced, KCGA will execute its book at the midpoint of an unlocked/uncrossed best bid or offer.
- All pre-opening orders are subject to the following terms and conditions: Orders entered prior to and including 9:28:00 am ET cannot be cancelled after 9:28:00 am ET.
- Orders in gray market securities, unsolicited securities, and securities with a one-sided market, securities with only one published quote on relevant side, or securities with a locked or crossed quotation are not eligible for the Single Price Opening and thus handled on a best efforts basis.
- Opening Only (OPG) orders are eligible for the Single Price Opening.
- OPG orders, or the balance remaining of an OPG, that were not executed at the opening, will not be eligible for execution in the continuous market.
- Additionally, OPG orders, or the balance remaining of an OPG order, that were not executed at the opening, will be automatically cancelled and confirmed electronically back to clients (typically through an electronic "Cancel by Market Maker" administrative message).
- Orders with share quantities greater than 1,000,000 are not eligible for the Single Price Opening and thus will be handled on a best efforts basis.
- Orders with limit prices greater than $2,000 per share are not eligible for the Single Price Opening and thus will be handled on a best efforts basis.
- KCGA, in its sole discretion, reserves the right to reduce, modify, suspend or cancel its automated execution protocols without prior notice on (any) security/order - those orders would then be subject to the post opening execution process and handled on a best efforts basis.

Stop Orders and KCGA's Quote-Stop Orders

KCGA offers two ways for customer stop orders to be executed:

1. "Stop Orders" and "Stop Limit Orders" as defined by FINRA: FINRA defines a stop order as an order to buy (or sell) that becomes a market order to buy (or sell) when a transaction occurs at or above (below) the stop price. A "stop limit order" is an order to buy (or sell) that becomes a limit order to buy (or sell) at the limit price when a transaction occurs at or above (below) the stop price.

2. KCGA's "Quote-Stop Orders" and "Quote-Stop Limit Orders:" KCGA offers a Quote Stop Order which it defines as an order to buy (or sell) that becomes a market order to buy (or sell) when a Quote occurs at or above (below) the stop price. A "Quote Stop Limit Order" is an order to buy (or sell) that becomes a limit order to buy (or sell) at the limit price when a Quote occurs at or above (below) the stop price.

Generally, KCG handles elected stop orders through a process that is automated for most orders and manual for others, including all OTC Securities. If a triggering event, either an electing quote or last sale, elects only a single stop type order then that stop order will be handled on an automated basis without intervention by a trader unless the order is expected to have material price impact. If the single elected stop order is expected

to have material price impact t it will be handled manually by a KCG trader. KCG endeavors to execute elected stop orders that are marketable fully and promptly. KCG generally will not know in advance whether your order will be handled on a fully automated basis or manually by a KCG trader. Fully automated orders will typically execute more quickly than orders handled manually by traders. The difference in the time between election and execution will be longer for manually handled orders and can take several seconds longer to execute as compared to fully automated orders.

Alternatives for Election:

KCGA will utilize Quotes as the default trigger for stop orders as described above, unless the client requests and KCGA agrees to accept "Stop Orders" and "Stop Limit Orders" in writing. In general, once a client requests a change, the new trigger method will apply to all subsequent orders received from that client.

Quote-Stop and Quote-Stop Limit Orders: Conditions for Acceptance

The Quote-Stop price of a Sell Quote-Stop Order or of a Sell Quote-Stop Limit Order must be equal to or below the National Best Bid when received (otherwise it will be rejected). The Quote- Stop price of a Buy Quote-Stop Order or of a Buy Quote-Stop Limit Order must be equal to or above the National Best Offer when received (otherwise it will be rejected). In addition, because Quote-Stop Orders may be triggered only during normal market hours, Quote-Stop Orders with an ADT/AHT/EMT (pre-market / post market) instruction will be rejected. Quote- Stop Orders with the IOC or FOK condition will also be rejected.

Trailing Quote-Stop Order Handling

KCGA will accept trailing Quote-Stop Orders in which a Quote-Stop parameter (designated by points or percentage) is used to create an activation price that moves along with fluctuations of the stock.

Election of Quote-Stop Orders

Sell Quote-Stop Orders and Sell Quote-Stop Limit Orders are elected when the National Best Bid meets or falls below the Quote-Stop price. Buy Quote-Stop Orders and Buy Quote-Stop Limit Orders are elected when the National Best Offer meets or exceeds the Quote-Stop price. All Sell/Buy Quote-Stop and Sell/Buy Quote-Stop Limit Orders are elected immediately upon receipt if the Quote-Stop price is equal to the National Best Bid/Offer.

Note: All Quote-Stop and Quote-Stop Limit orders received in the Pre-Open are accepted. The earliest such orders may be elected is at or after the open upon publication of the first unlocked, uncrossed National Best Bid/Offer.

Note: A National Best Bid/Offer that would otherwise elect a Quote-Stop stop price will not elect that stop price if that Bid/Offer is part of a Locked or Crossed Market.

Time of Receipt of Elected Quote-Stop Orders

After being elected, a Quote-Stop Order becomes a market order. For the purpose of determining time of receipt, as compared to other market orders, the time the Quote-Stop Order is elected is the receipt time of the resultant market order.

Time of Receipt of Elected Quote-Stop Limit Orders

After being elected, a Quote-Stop Limit Order becomes a limit order. For the purpose of determining time of receipt as compared to other limit orders, the time the Quote-Stop Limit Order is elected is the receipt time of the resultant limit order.

Stop and Stop Limit Orders (as defined by FINRA): Conditions for Acceptance

The Stop price of a Sell Stop Order or of a Sell Stop Limit Order must be equal to or below the National Best Bid when received (otherwise it will be rejected). The Stop price of a Buy Stop Order or of a Buy Stop Limit Order must be equal to or above the National Best Offer when received (otherwise it will be rejected). In addition, because Stop Orders may be triggered only during normal market hours, Stop Orders with an ADT/AHT/EMT (pre-market / post market) restriction will be rejected. Stop Orders with the IOC or FOK condition are also rejected.

Trailing Stop Order Handling:

KCGA will accept trailing Stop Orders in which a Stop parameter (designated by points or percentage) is used to create an activation price that moves along with fluctuations of the stock.

Election of Stop Orders:

Sell Stop Orders and Sell Stop Limit Orders are elected when the price of a published last-sale transaction that is not outside the current National Best Bid/Offer falls below the Stop price. Buy Stop Orders and Buy Stop Limit Orders are elected when the price of a published last-sale transaction that is not outside the current National Best Bid/Offer price exceeds the Stop price.

Notes: All Stop and Stop Limit orders received in the Pre-Open are accepted. The earliest such orders may be elected is at or after the open upon publication of the first last-sale transaction that is not outside the current National Best Bid/Offer and that is not an odd-lot (less than 100 shares).

A published last-sale transaction that would otherwise elect a Stop price will not elect that Stop price if that last-sale transaction is published during a Locked or Crossed Market.

Time of receipt of Elected Quote-Stop Orders

After being elected, a Stop Order becomes a market order. For the purpose of determining the time of execution, as compared to other market orders, the time the Stop Order is elected is the receipt time of the

resultant market order.

Time of Receipt of Elected Quote-Stop Limit Orders:

After being elected, a Stop Limit Order becomes a limit order. For the purpose of determining the time of receipt as compared to other limit orders, the time the Stop Limit Order is elected is the receipt time of the resultant limit order.

Positioning Activities in connection with Stop Orders:

KCG may engage in positioning activities to acquire a long or short position in order to provide liquidity to elected stop orders. Positioning activity may take place prior to the election of stop orders or subsequent to the election of stop orders. The Firm's transactions may contribute to an increase/decrease in the stock's price, which in turn could increase/decrease the likelihood a stop order being elected and may affect the final price received on a stop. KCGA will make reasonable efforts to balance the Firm's and our clients' interests when engaging in positioning activity with a view towards providing fair pricing in such instances.

Tick Size Pilot Securities

On October 3, 2016, the U.S. Securities & Exchange Commission's Tick Size Pilot Program commenced. The Tick Size Pilot is a two-year program that involves changes in quoting and trading requirements for a select group of stocks. KCGA supports securities trading in all Tick Pilot Test Group securities, subject to the restrictions imposed by the Tick Size Pilot itself:

KCGA will not accept orders priced in increments other than $0.05 in Tick Size Pilot Test Group stocks.

- Any improperly priced clients orders will be rejected at the interface level
- Improperly priced client orders will not be adjusted.

Please note that the reject message will be in the TAG58 and look like a standard FIX reject. It will indicate that it is a TICK PILOT REJECT. No other notification will be sent on order rejects. Some examples of orders in the Tick Pilot Test Group securities that will be rejected are:

- Limit orders explicitly priced in non-nickel increments
- Stop or stop limit orders with a trigger price in non-nickel increments
- Trailing stop orders in non-nickel increments

If you cancel replace an order from a nickel increment and replace with a non-nickel increment, the reject will apply to the replace. The original order will remain open. Please ensure that you review your reject messages and take action on the original order.

Securities and futures in the United States are offered by KCG Americas LLC ("KCGA"), a wholly owned broker-dealer subsidiary of KCG Holdings, Inc. KCGA is a member of FlNRA, NFA, SIPC, and most national securities exchanges and clearinghouses in the United States. See https://www.kcg.com/legal/global-disclosures for additional information and disclosures.