



GOLDMAN SACHS & Co. LLC ("GS&Co.") - ORDER HANDLING POLICIES AND PROCEDURES RELATING TO EQUITIES PRODUCTS IN THE U.S.

FINRA Rule 5320 - Financial Industry Regulatory Authority ("FINRA") Rule 5320 generally provides that a broker-dealer handling a customer order in an equity security is prohibited from trading that security for its own account at a price that would satisfy the customer order, unless the firm immediately executes the customer's order up to the size of its own order at the same price or better. While the rule applies broadly to all types of customers and order sizes, it provides exemptions that permit broker-dealers to trade for their own account provided certain conditions are met. This disclosure outlines GS&Co.'s practices relating to Rule 5320.

The principal trading and market making unit of GS&Co. engages in market making-related activities, including trading to manage risks resulting from customer facilitation and capital commitment activities. Consistent with the "no knowledge" exemption under Rule 5320, GS&Co. has implemented internal controls, including information barriers, to prevent desks within its principal trading and market making unit from obtaining knowledge of orders outside of that unit.

Accordingly, GS&Co. will trade for its own account while handling orders for institutional accounts unless the institutional client opts-in to Rule 5320 protection by notifying their GS&Co. sales representative. Orders from institutional accounts that have opted-in to the Rule 5320 protection (on a blanket or order-by-order basis) will be handled by GS&Co.'s execution coverage unit, which is separated from the principal trading and marketing making unit.

Best Execution - GS&Co. takes a number of factors into consideration in determining how to execute and where to send customers' orders, including, among other things, the size and type of order, the terms and conditions of the order, the trading characteristics of the security, the character of the market for the security, the accessibility of quotations, transaction costs, the opportunity for price or size improvement, the speed of execution, the availability of efficient and reliable order handling systems, the level of service provided by the market venue, and the customer's overall objectives with respect to the market. GS&Co. regularly reviews transactions for quality of execution.

Unconditional Binding Contract under Regulation SHO - In connection with guaranteed price commitments, to the extent a customer order contains instructions to sell one or more securities, GS&Co. will treat the order as an unconditional binding contract to sell for purposes of Rule 200 of Regulation SHO of the Securities Exchange Act of 1934.

Indications of Interest Disclosure - GS&Co. uses certain vendors to advertise Indications of Interest ("IOI"). GS&Co. will label IOI in natural category if it is: (1) the result of an existing agency order; or (2) the result of a position that was established as part of market making related hedging activity. GS&Co. will populate additional information for natural IOIs, as made available by vendors, such as "Natural - Order in Hand" and "Natural- Book Unwind" to provide further clarification of the interest. GS&Co. performs surveillance intended to ensure that each natural IOI is linked to an existing agency order or related to market making hedging activity.

Blind Risk Bid Disclosure - In order to facilitate program and basket trades, Goldman Sachs maintains a portfolio of securities. In determining our bid price, we evaluate the extent to which exposures in this portfolio must be increased or reduced in order to assume the risk of customer's trade. Consistent with market practice, once the bid sheet is transmitted to customer, GS&Co. likely will hedge this risk using proprietary analytical models, market data and information otherwise available to us. These hedging activities may impact market prices and accordingly increase the price of some or all of the securities that customer are buying, or decrease the price of some or all of the securities that customer are selling. Please be advised that we conduct these hedging activities in a manner designed to limit market impact. Please note that trading by Goldman Sachs or its customers unrelated to customer's transaction may coincidentally impact the market prices of the securities customer are buying or selling.

Market Orders (Stocks) - GS&Co. has implemented a risk management control that is designed to ensure that clients' market orders for U.S. listed stocks are not executed on exchange at prices that are worse than the market price at the time GS&Co. received the order (i.e., the NBBO or, if unavailable, the consolidated last sale price) by more than certain

percentage amounts. The percentages range from 3%, for stocks with a market price of \$50 or higher, to 10%, for stocks with a market price of \$1 or lower. GS&Co. will cancel any portion of market orders that would execute at a price worse than the applicable percentage, with the exception of Market On Open orders, Market On Close orders, and market orders received during a trading pause or halt.

Market Orders (Options) - GS&Co. has implemented risk management controls designed to ensure that clients' market orders for U.S. listed equity and equity index options, including complex orders, are not executed on exchange at prices significantly worse than the market price at the time GS&Co. received the order (i.e., the NBBO). Accordingly, with the exception of market orders received outside of normal market hours, and with the exception of market orders given to floor brokers for execution, GS&Co. will cancel any portion of a market order for a U.S. listed equity or equity index option that would execute at a price that would otherwise constitute an "obvious error" as defined by the options exchanges in their respective rules.

Conditional Guarantee Orders - A conditional guarantee order is a type of limit order that is guaranteed execution at an agreed upon price or better. Such orders are treated as "not held" and once quotations in the market place are equal to or better than the guaranteed price, the firm may execute all or a portion of the order as agent, riskless principal or principal. Depending on the terms of the order agreed upon, our customer will receive the execution price or an average price of all executions, which may be better than the guaranteed price, but no worse.

Clearly Erroneous Policy - A "clearly erroneous" transaction is an execution of an order that was entered in error (e.g., in terms of price, quantity or symbol) and at a price substantially away from, or inconsistent with, the prevailing market for that security at the time of execution. GS&Co. reserves the right, to be exercised at its discretion, to modify the terms of, or to cancel, transactions that it determines to be the result of clearly erroneous orders placed by a client or the result of inaccurate market data. Please refer to the [FINRA Rule 11890 Series](#) for additional information concerning clearly erroneous transactions and filings. In addition, if the SEC, an SRO, or other applicable regulatory body determines that an executed trade is clearly erroneous or must otherwise be cancelled, GS&Co. will be required to cancel the trade and will not be able to honor the executed price, any price guarantee or other terms associated with such trade.

Order Routing Disclosure - Rule 606 of Regulation NMS requires broker-dealers to publish quarterly reports on their routing of non-directed orders in listed stocks, NASDAQ stocks and listed options. These reports also include information about GS&Co.'s relationship with certain market centers to which it routes orders. GS&Co.'s Rule 606 reports can be found at <http://www.goldmansachs.com/compliance/Rule606/>. Detailed information about the routing and execution of customer's orders, including the market centers to which customer's orders were routed, whether such orders were directed or non-directed orders, and the time of the transactions, if any, that resulted from such orders, is available upon request.

Execution Venues - GS&Co. executes transactions on market centers that it may be a member of, and/or have an ownership interest. GS&Co. may be a market maker, or otherwise act as principal, on various equity and options exchanges to which we route customer's orders. As a result, GS&Co. may trade with customer's orders on these market centers.

Execution Counterparties - Transactions executed in U.S. or non-U.S. markets may be affected with or through GS&Co.'s affiliate. Such affiliate may have acted as principal or agent and as a result derived compensation from the transaction. Additional information is available upon written request.

GS&Co. Stop Order Disclosure - A "stop order" is 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. When the stop price is triggered, GS&Co. is required to execute fully and promptly at the current market price. Therefore, the price at which a stop order is ultimately executed may be very different from your specified stop price. Please be advised that GS&Co. only accepts stop (and stop limit) orders through its low touch offering.

Stop Orders During Volatile Market Conditions - While you may receive a prompt execution of a stop order that becomes a market order during volatile market conditions, the execution may be at a significantly different price from the stop price if the market is moving rapidly. Furthermore, the price of a stock can move significantly in a short period of time during volatile market conditions and trigger an execution of a stop order (and the stock may

later resume trading at its prior price level). If your stop order is triggered under these circumstances, you may transact at an undesirable price even though the price of the stock may stabilize during the same trading day. Additionally, the activation of sell stop orders may add downward price pressure on a security. If triggered during a precipitous price decline, a sell stop order is also more likely to result in an execution well below the stop price.

Usage of Stop Limit Order – By using a stop limit order instead of a regular stop order, you will receive additional certainty with respect to the price paid or received for the stock. However, you should also be aware that, because GS&Co. cannot sell for a price that is lower (or buy for a price that is higher) than the limit price selected, there is the possibility that the order will not be executed at all. Stop limit orders (as opposed to stop orders) should generally be used in cases where you prioritize achieving a desired target price more than getting an immediate execution, the price of which may be significantly impacted by volatility in the relevant security.

After-Hours Trading

1. Hours of Operation. You may place orders as and when permitted by GS&Co. for execution outside of regular trading hours (i.e., the hours of 9:30 a.m. to 4:00 p.m. Eastern Time) except for official exchange and market holidays and those days on which GS&Co. chooses not to accept orders outside of regular trading hours. GS&Co. may, at any time and without notice, change or modify its hours of operation (including the hours during which it accepts orders outside of regular trading hours). If GS&Co. chooses to make such changes or modifications, this disclosure will also apply to the changed or modified hours. GS&Co. may, at any time and without notice, amend the terms that apply to orders accepted outside of regular trading hours.

2. Risk Factors. Purchases and sales of securities outside of regular trading hours may entail special risks, including the following:

a. Risk of Lower Liquidity. Liquidity refers to the ability of market participants to buy and sell securities. Generally, the more orders that are available in a market, the greater the liquidity. Liquidity is important because with greater liquidity it is easier for customers to buy or sell securities, and as a result, customers are more likely to pay or receive a competitive price for securities purchased or sold. There may be lower liquidity in extended hours trading as compared to regular market hours. As a result, customer's order may only be partially executed, or not executed at all.

b. Risk of Higher Volatility. Volatility refers to the changes in price that securities undergo when trading. Generally, the higher the volatility of a security, the greater its price swings. There may be greater volatility in extended hours trading than in regular market hours. As a result, customer's order may only be partially executed, or not at all, or customer may receive an inferior price in extended hours trading than customer would during regular market hours.

c. Risk of Changing Prices. The prices of securities traded in extended hours trading may not reflect the prices either at the end of regular market hours or upon the opening of the next morning. As a result, customer may receive an inferior price in extended hours trading than customer would during regular market hours.

d. Risk of Unlinked Markets. Depending on the extended hours trading system or the time of day, the prices displayed on a particular extended hours system may not reflect the prices in other concurrently operating extended hours trading systems dealing in the same securities. Accordingly, customer may receive an inferior price in one extended hours trading system than customer would in another extended hours trading system.

e. Risk of News Announcements. Normally, issuers make news announcements that may affect the price of their securities after regular market hours. Similarly, important financial information is frequently announced outside of regular market hours. In extended hours trading, these announcements may occur during trading, and if combined with lower liquidity and higher volatility, may cause an exaggerated and unsustainable effect on the price of a security.

f. Risk of Wider Spreads. The spread refers to the difference in price between what customer can buy a security for and what customer can sell it for. Lower liquidity and higher volatility in extended hours trading may result in wider than normal spreads for a particular security.

g. Risk of Lack of Calculation or Dissemination of Underlying Index Value or Intraday Indicative Value ("IIV"). For certain derivative securities products, an updated underlying index value or IIV may not be calculated or publicly disseminated in extended trading hours. Since the underlying index value and IIV are not calculated or widely disseminated during the pre-market and post-market sessions, an investor who is unable to calculate implied values for certain derivative securities products in those sessions may be at a disadvantage to market professionals.

3. Eligible Securities. Most Nasdaq and certain other exchange-listed securities are eligible for trading outside of regular trading hours, although the individual markets may vary with respect to the availability of certain securities. It is possible, at any time, that trading in any number of these securities may not be available due to a lack of trading interest. GS&Co. reserves the right, at any time and without notice, to suspend trading in any or all securities outside of regular trading hours, with or without pending customer orders. If GS&Co. exercises that right, any outstanding orders that customer has entered will be cancelled, unless customer and GS&Co. have previously specifically agreed that

they will be carried over to the next day.

4. Order Types. GS&Co. will not accept market orders for trading outside of regular trading hours. You must enter all orders in round lots. GS&Co. is under no duty to accept odd or mixed lot orders.

5. Orders. Orders entered for execution outside of regular trading hours must be specifically designated as such and, unless customer and GS&Co. specifically agree to the contrary, orders will not carry over from regular trading sessions. Orders not executed by the close of the extended hours trading session, on the day that GS&Co. receives them, will be cancelled, unless customer and GS&Co. specifically agree to the contrary.

6. Handling of Orders. GS&Co. will attempt to have all orders received by it for execution outside of regular trading hours executed in a timely manner. However, because the bid and offer prices of orders reflected in quotations outside of regular trading hours are subject to change, there is no guarantee that customer's orders will be executed. In addition, delays or failures in communications or other computer system problems may cause delays in, or prevent, the execution of orders. As with orders entered during regular trading sessions, GS&Co. may route customer's order to an electronic communication network or other alternative trading system that, although operated independently of GS&Co., may be an entity in which GS&Co. or one of its affiliates is an equity investor or has other financial interests. In addition, GS&Co. or one or more of its affiliates may decide to display orders or to trade with limit orders displayed by GS&Co. on customer's behalf. These affiliates may or may not operate independently of GS&Co.

7. Cancellation or Change Requests. You may attempt to change or cancel orders placed outside of regular trading hours at any time so long as they have not been executed. Due to the risk of communication delays, it is possible that all or a portion of such orders may be executed before customer's change or cancellation request is processed. Unless customer and GS&Co. specifically agree to the contrary, customer cannot change all or the unexecuted portion of customer's order entered outside of regular trading hours to a regular trading session order, and all unexecuted orders placed outside of regular trading hours will be cancelled at the close of the trading session, on the day that GS&Co. receives such orders.

8. Trade Settlement. The trade date for orders entered outside of regular trading hours will be the date of order execution. Such trades will normally settle in accordance with the customary settlement time applicable to the market in which orders were executed.