SIGMA X HONG KONG – USER GUIDELINES

EFFECTIVE DATE – [5 OCTOBER 2018]

SIGMA X Hong Kong (“SIGMA X”) is an automated trading service on which orders for securities listed on the Stock Exchange of Hong Kong Limited (“SEHK”) may be matched. SIGMA X is operated by Goldman Sachs (Asia) Securities Limited (“GSASL”) under a Type 7 (providing automated trading services) license granted by the Securities and Futures Commission (the “SFC”).

These user guidelines (“Guidelines”) are prepared under paragraph 9 (ALP Guidelines) of Schedule 8 to the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission, which requires GSASL to prepare and publish on its website comprehensive and accurate guidelines concerning SIGMA X, which properly and fairly provide guidance to the users of SIGMA X concerning the operation of SIGMA X.

Existing clients of any member of the Goldman Sachs group of companies (such companies together, “GS”, “we” or “us”) who wish to have their orders routed to SIGMA X must meet the requirements set out in paragraph 2 (User restrictions) below. In these Guidelines, clients of GS which are permitted to route orders to SIGMA X are referred to as “users”.

1. Trading and operational matters

1.1 Price: Transactions may be matched in SIGMA X at or within the prevailing best bid and offer on the SEHK (see paragraph 4 below).

1.2 Mid-or-better: Users can be enabled to only match in SIGMA X at the mid-price or better. The mid-price is calculated using the prevailing best bid and offer on the SEHK. When this setting is enabled, crosses would not occur at prices worse than the mid-price (e.g. no higher than the mid-price when buying, and no lower than the mid-price when selling). Please contact your sales representative to enable this setting.

1.3 Trading hours: SIGMA X will match orders during the Continuous Trading Session excluding Extended Morning Session on the SEHK. SIGMA X will not match orders during the Pre-Opening Session. Orders placed shortly before the close of a trading session may be suspended, rejected, cancelled, or routed to the SEHK.

1.4 Trade reporting: Transactions conducted on SIGMA X will be reported to the SEHK in accordance with the rules and regulations of the SEHK.

1.5 Execution time: The execution time of a transaction matched on SIGMA X will be based on the execution timestamp when SIGMA X matches the orders.

1.6 Order size: The minimum cross size for matching on SIGMA X is the SEHK board lot for the relevant securities, and the maximum cross size is 3,000 board lots.

1.6.1 Minimum Executable Quantity: Users may configure their orders to only match opposite orders of or above a specific quantity in SIGMA X. When this setting is enabled for an order, SIGMA X will match the order only when a single opposite side order has a quantity equal to or larger than the minimum executable quantity.

1.7 Order types: SIGMA X supports limit orders and pegged orders (e.g., peg-bid, peg-ask, peg-mid) with a limit price.
1.8 **Order and matching restrictions:** Bids and offers placed by the same user, short sell orders, and orders for securities which are subject to a trading suspension or trading halt, will not be matched on SIGMA X. Orders which do not contain all information required by us (including but not limited to trader identity) will not be matched on SIGMA X, and may be suspended, rejected, cancelled, or routed to the SEHK. Additional matching restrictions may also be imposed from time to time as we deem appropriate.

1.9 **Suspension of SIGMA X and contingency arrangements:** We may suspend operation of SIGMA X, either generally or in relation to specific securities, at any time without prior notice. The operation of SIGMA X will be suspended if, among other things, (a) the SEHK is closed, (b) market data is unavailable, (c) we are unable to report matches to the SEHK on a timely basis for any reason, or (d) if the usage capacity of SIGMA X is exceeded.

If SIGMA X is not operational due to system or component failure or other reasons, unexecuted orders may be suspended, rejected, cancelled, or routed to the SEHK. Please contact your sales representative regarding alternative means of executing orders, including routing to the SEHK.

2. **User restrictions**

Before permitting a client to route its first order to SIGMA X, we are required to:
- take all reasonable steps to ascertain, and have in place measures which ensure, that the client is a "qualified investor"; and
- bring these Guidelines to the client’s attention.

For this purpose, "qualified investor" means:

(a) A "professional investor" within the meaning of paragraphs (a) to (i) (inclusive) of the definition of "professional investor" contained in section 1 of Part 1 of Schedule I of the Securities and Futures Ordinance; or

(b) A person within the meaning of section 3(a), (c), d(i), d(iii) or d(iv) of the Securities and Futures (Professional Investor) Rules.

3. **Matching methodology and order routing**

3.1 **Matching methodology:** Orders are matched on the basis of price-time priority, provided that:
- Client orders will have priority over firm orders when such orders are being transacted at the same price, irrespective of the time when orders are placed (see paragraph 8 below); and
- Users may elect not to match against firm orders or specific types of order flow. Please contact your sales representative to record your preferences.

3.2 **Order routing:** Orders from eligible users may be routed to SIGMA X via the standard execution channels as agreed with GS. Orders from eligible users which are routed to the firm’s smart order router or algorithms may be on-routed to SIGMA X.

3.3 **Opting out:** Users who are permitted to route orders to SIGMA X may, at any time, opt-out of SIGMA X for all orders.

4. **Transaction pricing**

Orders will only be matched in SIGMA X at or within the prevailing best bid and offer on the SEHK. For this purpose, we rely on the pricing information received from the SEHK or other market data vendors we consider reliable. The time at which the bid and offer information is
obtained may differ from the execution time (see paragraph 1.5 above). In exceptional circumstances, pricing information may be delayed due to reasons beyond our control, which may result in orders being matched in SIGMA X outside the prevailing best bid and offer on the SEHK.

If the Volatility Control Mechanism has been triggered for a covered stock on the SEHK, orders for that stock will only be matched in SIGMA X at or within the applicable price bands during the cooling-off period. Orders outside of the applicable price bands will remain in SIGMA X but will not be considered eligible for matching until the cooling-off period has ended.

5. Order amendment and cancellation

Users may amend or cancel unexecuted orders in the same manner as the initial order is placed.

Orders which are not executed by the close of the trading day will be removed from SIGMA X, and will not be automatically rolled over for next day trading.

Any amendment of the price of an order, and any increase in the quantity of an order, will result in loss of queue priority of the order in SIGMA X.

Orders may also be suspended, rejected, cancelled or re-routed as described in paragraphs 1.3, 1.8 and 1.9.

6. Internal controls to ensure the fair and orderly functioning of SIGMA X and to address potential conflicts of interest

6.1 System controls enforce the fair and orderly functioning of SIGMA X, including the priority, order routing and execution methodologies mentioned above. We also conduct real-time and end of day monitoring of the system to ensure matching behavior is consistent with design.

6.2 Conflicts of interest are mitigated by the following:

- Users may opt out of matching against firm orders in SIGMA X.
- Client orders are matched on the basis of price-time priority, and have priority over firm orders of the same price, regardless of the time of the firm order (see paragraphs 3.1 and 8).
- Real-time visibility of unexecuted orders is limited on a need-to-know basis (see paragraph 10).
- GS firm traders do not have access to real-time information relating to orders or transactions conducted on SIGMA X generally, other than transactions resulting from orders placed by the GS firm trading team.
- Users are given adequate information about SIGMA X (including in these Guidelines) before placing their first order in SIGMA X.

7. Potential risks associated with transactions conducted on SIGMA X

Trading through SIGMA X exposes users to risks associated with system or component failure. In the event of system or component failure, users may not be able to enter new orders, execute existing orders, or modify or cancel orders that were previously entered. System or component failure may also result in loss of orders or order priority.

Although orders will only be matched in SIGMA X at or within the prevailing best bid and offer on the SEHK, the execution price for orders matched in SIGMA X may not always be better than the price that could have been achieved on the SEHK or other execution venues.
If two opposing orders are matched in SIGMA X, but we do not receive SEHK acknowledgement of the match within a specified time, the match will be deemed not to have occurred.

8. Transaction of firm orders

In these Guidelines, “firm order” means an order for:
(a) the account of GS trading as principal (including client facilitation and synthetic hedge orders); (b) any account in which GS has an interest; or (c) the account of any employee or agent of GS.

Firm orders raised by Goldman Sachs trading desks may be routed to SIGMA X.

Client orders may be matched against firm orders, unless the user has previously requested in writing that their orders may not be matched against firm orders.

Client orders will have priority over firm orders when such orders are being transacted at the same price, irrespective of the time when orders are placed.

9. Aggregation of orders

Not applicable.

10. Access to trading information on SIGMA X

Access to information concerning orders routed to, and transactions conducted in, SIGMA X is limited to staff members whose access to such information is necessary to enable SIGMA X to operate satisfactorily and efficiently.

<table>
<thead>
<tr>
<th>Department</th>
<th>Title</th>
<th>Real-time visibility of all unexecuted orders in SIGMA X (pre-execution)</th>
<th>Real-time visibility of all transactions executed in SIGMA X (post-execution)</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology and Equity Strats</td>
<td>First line support and order management system developers (all levels)</td>
<td>Yes</td>
<td>Yes</td>
<td>Necessary for system maintenance and client support</td>
</tr>
<tr>
<td>Equities</td>
<td>Electronic trading coverage team (all levels)</td>
<td>No</td>
<td>No (only transactions of covered clients)</td>
<td>Necessary for client support, troubleshooting and risk management purposes</td>
</tr>
<tr>
<td>Equities</td>
<td>Sales trading coverage team (all levels)</td>
<td>No</td>
<td>No (only transactions of covered clients)</td>
<td>Necessary for client support, troubleshooting and risk management purposes</td>
</tr>
<tr>
<td>Equities</td>
<td>Firm trading team (all levels)</td>
<td>No</td>
<td>No (only transactions of firm trading team)</td>
<td>Necessary for risk management purposes</td>
</tr>
</tbody>
</table>

Transactions matched on SIGMA X are reported to the SEHK, and the symbol, price, quantity and time of the transactions will be public information. Transaction information (including client
identity information) will also be submitted to the SFC on a regular basis and upon request by the SFC in accordance with applicable regulatory requirements.

Other teams (such as Operations and Compliance) may have access to information on transactions matched on SIGMA X on a post-trade basis. Other end of day reports (which may contain client identity information) are generated to monitor the performance of SIGMA X and the opportunities to improve performance. Electronic trading coverage, strats and technology personnel have access to these reports to identify issues and opportunities for improving the performance of SIGMA X.

11. Information for users

We will make available regular transaction analyses concerning the transactions that are conducted on users’ behalf on SIGMA X upon request.

12. Amendment of Guidelines

We may from time to time amend these Guidelines. The most recent version will be available on the Goldman Sachs Electronic Trading website at https://www.goldmansachs.com/disclosures/ or on request.

This message has been prepared by personnel in the Securities Division of one or more affiliates of The Goldman Sachs Group, Inc. (“Goldman Sachs”) and is not the product of Global Investment Research. It is not a research report and is not intended as such.

Non-Reliance and Risk Disclosure: This material is for the general information of our clients and is a solicitation of derivatives business generally, only for the purposes of, and to the extent it would otherwise be subject to, CFTC Regulations 1.71 and 23.605. This material should not be construed as an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. We are not soliciting any specific action based on this material. For the purposes of U.S. rules and regulations, it does not constitute a recommendation or take into account the particular investment objectives, financial conditions, or needs of individual clients. Before acting on this material, you should consider whether it is suitable for your particular circumstances and, if necessary, seek professional advice. The price and value of the investments referred to in this material and the income from them may go down as well as up, and investors may realize losses on any investments. Past performance is not a guide to future performance. Future returns are not guaranteed, and a loss of original capital may occur. We do not provide tax, accounting, or legal advice to our clients, and all investors are advised to consult with their tax, accounting, or legal advisers regarding any potential investment. The material is based on information that we consider reliable, but we do not represent that it is accurate, complete and/or up to date, and it should not be relied on as such. Opinions expressed are our current opinions as of the date appearing on this material only and only represent the views of the author and not those of Goldman Sachs, unless otherwise expressly noted.

Conflict of Interest Disclosure: We are a full-service, integrated investment banking, investment management, and brokerage firm. The professionals who prepared this material are paid in part based on the profitability of The Goldman Sachs Group, Inc., which includes earnings from the firm's trading, capital markets, investment banking and other business. They, along with other salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed herein or the opinions expressed in research reports issued by our Research Departments, and our market making, investing and lending businesses may make investment decisions that are inconsistent with the views expressed herein. In addition, the professionals who prepared this material may also produce material for, and from time to time, may advise or otherwise be part of our trading desks that trade as principal in the securities mentioned in this material. This material is therefore not independent from our interests, which may conflict with your interests. We and our affiliates, officers, directors, and employees, including persons involved in the preparation or issuance of this material, may from time to time have "long" or "short" positions in, act as principal in, and buy or sell the securities or derivatives (including options) thereof in, and act as market maker or specialist in, and serve as a director of, companies mentioned in this material. In addition, we may have served as manager or co manager of a public offering of securities by any such company within the past three years.

Not a Fiduciary: To the extent this material is provided to an employee benefit plan or account subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA") or Section 4975 of the Internal Revenue Code of 1986, as amended (the "Code") (each, a "Benefit Plan Investor"), by accepting this material such Benefit Plan Investor will be deemed to have represented, warranted and acknowledged that (1) the Benefit Plan Investor is represented by a fiduciary that is independent of Goldman Sachs and its affiliates (the "Independent Fiduciary"), (2) the Independent Fiduciary is a bank (as defined in section 202 of the Investment Advisers Act of 1940 (the "Advisers Act") or a similar institution that is regulated and supervised and subject to periodic examination by a State or Federal agency; an insurance carrier which is qualified under the laws of more than one State to perform the services of managing, acquiring or disposing of assets of a plan; an investment adviser registered under the Advisers Act or, if not registered as an investment adviser under the Advisers Act by reason of paragraph (1) of section 203A, is registered as an investment adviser under the laws of the State in which it maintains its principal office and place of business; a broker-dealer registered under the Securities Exchange Act of 1934; or an Independent Fiduciary that holds or has under management or control total assets of at least $50 Million; (3) the Independent Fiduciary is capable of evaluating investment risks independently, both in general and with regard to the information contained in this material; (4) the Independent Fiduciary is a fiduciary under ERISA and/or the Code with respect to, and is responsible for exercising independent judgment in evaluating, the information contained in this material; (5) neither Goldman Sachs nor its affiliates are undertaking to provide impartial investment advice, or
to give advice in a fiduciary capacity, in connection with the information contained in this material or with respect to any Benefit Plan Investor’s subsequent investment decisions; and (6) any financial interest of Goldman Sachs and its affiliates is or has been disclosed. To the extent this material is provided to any other recipient, this material is provided solely on the basis that the recipient has the capability to independently evaluate investment risk and is exercising independent judgment in evaluating investment decisions in that its investment decisions will be based on its own independent assessment of the opportunities and risks presented by a potential investment, market factors and other investment considerations.

Not a Municipal Advisor: Except in circumstances where Goldman Sachs expressly agrees otherwise in writing, Goldman Sachs is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice, including within the meaning of Section 15B of the Securities Exchange Act of 1934.

Legal Entities Disseminating this Material: This material is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Canada by either Goldman Sachs Canada Inc. or Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C. or by Goldman Sachs Asia Bank Limited, a restricted licence bank; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), by Goldman Sachs Futures Pte. Ltd (Company Number: 199004153Z) or by J.Aron & Company (Singapore) Pte (Company Number: 198902119H); in India by Goldman Sachs (India) Securities Private Limited, Mumbai Branch; in Ireland by Goldman Sachs Bank (Europe) Public Limited Company; in Europe by Goldman Sachs International (“GSI”), unless stated otherwise; in France by Goldman Sachs Paris Inc. et Cie and/or GSI; in Germany by GSI and/or Goldman Sachs AG; in the Cayman Islands by Goldman Sachs (Cayman) Trust, Limited; in Brazil by Goldman Sachs do Brasil Banco Múltiplo S.A.; and in the United States of America by Goldman Sachs & Co. LLC (which is a member of FINRA; NYSE and SIPC) and by Goldman Sachs Bank USA. You may obtain information about SIPC, including the SIPC brochure, by contacting SIPC (website: http://www.sipc.org; phone: 202-371-8300). GSI, which is authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this material in connection with its distribution in the United Kingdom and European Union. GSI, whose registered office is at Peterborough Court, 133 Fleet Street, London EC4A 2BB, appears in the FCA’s Register (Registration No.: 142888). GSI is registered as a Private Unlimited Company in England and Wales (Company Number: 2263851) and its VAT registration number is GB 447 2649 28. GSI is subject to the FCA and PRA rules of the FCA and PRA at www.fca.org.uk and www.bankofengland.co.uk/pr. The FCA is located at 25 The North Colonnade, Canary Wharf, London E14 5HS, and the PRA is located at Bank of England, 20 Moorgate, London EC2R 6DA. Unless governing law permits otherwise, you must contact a Goldman Sachs entity in your home jurisdiction if you want to use our services in effecting a transaction in the securities mentioned in this material. This material is not for distribution to retail clients, as that term is defined under the European Union Markets in Financial Instruments Directive (2004/39/EC), and any investments, including derivatives, mentioned in this material will not be made available by us to any such retail client.

Phone recording: Telephone conversations with Goldman Sachs personnel may be recorded and retained.

Reproduction and Red-Distribution: Without our prior written consent, no part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed. Notwithstanding anything herein to the contrary, and except as required to enable compliance with applicable securities law, you (and each of your employees, representatives and other agents) may disclose to any and all persons the U.S. federal income and state tax treatment and tax structure of the transaction and all materials of any kind (including tax opinions and other tax analyses) that are provided to you relating to such tax treatment and tax structure, without Goldman Sachs imposing any limitation of any kind.

Information Not for Further Dissemination: To the extent this communication contains Goldman Sachs’ pricing information, such pricing information is proprietary and/or confidential and is provided solely for the internal use of the intended recipient(s). You are notified that any unauthorized use, dissemination, distribution or copying of this communication or its contents, including pricing information, in whole or in part, is strictly prohibited. Further, unless prohibited by local law, any use, review or acceptance of this information is subject to and manifests your agreement with Goldman Sachs to use such information only in accordance with the terms set forth above. Goldman Sachs has caused its proprietary information to be delivered to you in reliance upon such agreement.

Receipt of Orders: An order sent to Goldman Sachs by email or instant message is not deemed to be received by Goldman Sachs until a Goldman Sachs representative verifies the order details with a phone call to the client or acknowledges receipt of the order via email or instant message to the client. Goldman Sachs does not accept client orders sent via fax or voicemail systems.

Not a Valuation: Values herein are not customer valuations and should not be used in lieu of a customer valuation statement or account statement. These values may not reflect the value of the positions carried on the books and records of Goldman Sachs or its affiliates.

Indicative Terms/Pricing Levels: This material may contain indicative terms only, including but not limited to pricing levels. There is no representation that any transaction can or could have been effected at such terms or prices. Proposed terms and conditions are for discussion purposes only. Finalized terms and conditions are subject to further discussion and negotiation.

© 2019 Goldman Sachs. All rights reserved.

Notice to Australian Investors

When this document is disseminated in Australia by Goldman Sachs & Co. LLC ("GSOCO"), Goldman Sachs International ("GSI"), Goldman Sachs (Asia) L.L.C. ("GSALLC") or Goldman Sachs (Singapore) Pte ("GSPP") (collectively the “GS entities”), this document, and any information provided herein does not supersede any customer statements, confirmations or other similar notifications.

- the person is a Sophisticated or Professional Investor for the purposes of section 708 of the Corporations Act of Australia; and
- the person is a wholesale client for the purpose of section 761G of the Corporations Act of Australia.

To the extent that the GS entities are providing a financial service in Australia, the GS entities are each exempt from the requirement to hold an Australian financial services licence for the financial services they provide in Australia. Each of the GS entities are regulated by a foreign regulator under foreign laws which differ from Australian laws, specifically:

- GSOCO is regulated by the US Securities and Exchange Commission under US laws;
- GSI is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, under UK laws;
- GSALLC is regulated by the Hong Kong Securities and Futures Commission under Hong Kong laws; and
- GSPP is regulated by the Monetary Authority of Singapore under Singapore laws.

Notice to New Zealand Investors
When this document is disseminated in New Zealand by Goldman Sachs & Co. LLC ("GSCO"), Goldman Sachs International ("GSI"), Goldman Sachs (Asia) L.L.C. ("GSALLC") or Goldman Sachs (Singapore) Pte ("GSSP") (collectively the "GS entities"), this document, and any access to it, is intended only for a person that has first satisfied the GS entities that the person is someone:

(i) who is an investment business within the meaning of clause 37 of Schedule 1 of the Financial Markets Conduct Act 2013 (New Zealand) (the "FMC Act");
(ii) who meets the investment activity criteria specified in clause 38 of Schedule 1 of the FMC Act;
(iii) who is large within the meaning of clause 39 of Schedule 1 of the FMC Act; or
(iv) is a government agency within the meaning of clause 40 of Schedule 1 of the FMC Act.

No offer to acquire the interests is being made to you in this document. Any offer will only be made in circumstances where disclosure is not required under the Financial Markets Conducts Act 2013 or the Financial Markets Conduct Regulations 2014.

If any credit ratings are contained in this material or any attachments, those that have been issued by Japan Credit Rating Agency, Ltd. (JCR) or Rating and Investment Information, Inc. (R&I) are credit ratings that have been issued by a credit rating agency registered in Japan (registered credit ratings). Other credit ratings are unregistered unless denoted as being registered. Before using unregistered credit ratings to make investment decisions, please carefully read "Explanation Regarding Unregistered Credit Ratings" (http://www.goldmansachs.com/disclaimer/ratings.html).