

Part I

Item 8: Identifying Information

Attach as Exhibit 1, the most recently filed or amended Schedule A of Form BD for the Broker-Dealer Operator disclosing information related to direct owners and executive officers.

Primary Business Name: GOLDMAN SACHS & CO. LLC

BD Number: 361

BD - AMENDMENT

~~04/15/2025~~ 02/13/2025

BD - DIRECT OWNERS/EXECUTIVE OFFICERS

Are there any indirect owners of the *applicant* required to be reported on Schedule B?

Yes No

Ownership Codes: NA - less than 5% B - 10% but less than 25% D - 50% but less than 75%
A - 5% but less than 10% C - 25% but less than 50% E - 75% or more

Full Legal Name	DE/FE/I	Title or Status	Date Acquired	Own. Code	Control Person	PR CRD #(or S.S.No., IRS Tax #, Emp. ID)
COLEMAN, DENIS PATRICK III	I	MANAGING DIRECTOR, MANAGER	01/2022	NA	Y	N 2782373
DOYLE, BRIAN RICHARD	I	MANAGING DIRECTOR, CFO	11/2019	NA	N	N 6003685
GREEFF, BRIAN MICHAEL	I	CO-PRINCIPAL OPERATIONS OFFICER	09/2023	NA	N	N 4273392
MATTHIAS, THOMAS FAIRBANKS	I	CHIEF COMPLIANCE OFFICER	09/2017	NA	N	N 2872690
MCCASKILL, MARK	I	MANAGING DIRECTOR, PRINCIPAL OPERATIONS OFFICER	06/2022	NA	N	N 3272131
RUEMMLER, KATHRYN HELEN	I	MANAGING DIRECTOR, CLO, MANAGER	03/2021	NA	Y	N 7250761
SOLOMON, DAVID MICHAEL	I	MANAGING DIRECTOR, MANAGER	04/2017	NA	Y	N 1616414
THE GOLDMAN SACHS GROUP, INC.	DE	CLASS A MEMBER	04/2017	E	Y	Y 13-4019460
Venezia, Carmine Anthony	I	CHIEF COMPLIANCE OFFICER	02/2025	NA	N	N 4117304
WALDRON, JOHN EDWARD	I	MANAGING DIRECTOR, CEO, MANAGER	12/2018	NA	Y	N 2569337

Part II

Item 3: Order Interaction with Broker-Dealer Operator; Affiliates

- Can any Subscriber opt out from interacting with orders and trading interest of the Broker-Dealer Operator in the NMS Stock ATS? Yes.

If yes, explain the opt-out process.

Direct Subscribers and Indirect Subscribers (defined in Part II, Item 5.a.) also are referred to herein collectively as “Participants.” Participants can restrict interactions with GSCO Firm and Conditional principal orders for any reason (e.g., where required pursuant to Section 28(e) of the Exchange Act) by using the “Agency Only Execution” condition (See Part III, Item 11.c.). ~~This restriction is applied at the Participant level.~~ The manner in which Participants can opt-out of interacting with GSCO principal flow is described in Part III, Item 11.c.

Part III

Item 11: Trading Services, Facilities and Rules

- c. Explain the established, non-discretionary rules and procedures of the NMS Stock ATS, including order interaction rules for the priority, pricing methodologies, allocation, matching, and execution of orders and trading interest, and other procedures governing trading, such as price improvement functionality, price protection mechanisms, short sales, locked-crossed markets, the handling of execution errors, and the time-stamping of orders and executions.

Rules governing pricing and matching priority are described below.

MATCHING PRIORITY

For Firm to Firm order matching, Sigma X2's matching logic is based on price/broker/time priority and the Counterparty Classification Framework (See Part III, Item 13.a.). At a given price level, this logic prioritizes opposite side orders from the same or affiliated broker-dealer Direct Subscriber(s) for crossing as long as they are eligible to match within the Counterparty Classification Framework. As outlined in Part III, Item 9.a, Firm orders always have priority over Conditional orders. Conditional orders will match with eligible contra-side Firm orders ahead of eligible contra-side Conditional orders, including Conditional orders that have a better price or earlier entry time than a contra-side Firm order(s). Conditional to Firm order matching (like Firm to Firm order matching) follows price/broker/time priority; Conditional to Conditional order matching follows price/broker/size/time priority. The Counterparty Classification Framework does not apply to Conditional order matching.

By default, matching priority exists at the individual broker-dealer Direct Subscriber market participant identifier ("MPID") level. Alternatively, a broker-dealer Direct Subscriber can modify the default such that its "broker" status is instead based on all of its affiliated MPIDs. Under this approach, order flow routed from customers, businesses or desks of a broker-dealer Direct Subscriber under multiple affiliated MPIDs will have priority to execute with opposite side orders routed to Sigma X2 by the broker-dealer Direct Subscriber using any of the affiliated MPIDs. Direct Subscribers can opt-out of the "broker" priority element by selecting the self-match prevention condition, as further described in the "Other Order Parameters and Conditions" discussion in this section.

GSCO broker status is inclusive of all of its affiliated MPIDs. Non-broker-dealer Direct Subscribers, as clients of GSCO, will receive matching priority with GSCO and its affiliated MPIDs. Specifically, all Firm and Conditional orders routed to Sigma X2 under a GS identifier ("GSID"), including GSCO client and/or principal orders, shall receive matching priority across all GSCO MPIDs.

Orders in Sigma X2 are treated as liquidity-taking or liquidity-providing based on their time of order arrival. When Sigma X2 assesses two orders for a potential match, the liquidity-providing order is the order that was first-in-time, and the liquidity-taking order is the order that was second-in-time. This applies to Firm and Firm Up orders. As described in Part III, Item 9.a, Conditional orders do not receive

executions and, accordingly, are not designated as liquidity-providing or liquidity-taking. Firm and Firm Up orders subject to the Post-Only condition (described below), which are always liquidity-providing orders, are only assessed for potential matching with orders that Sigma X2 received later-in-time. For example, a common execution (matching scenario) occurs in Sigma X2 when a resting Firm Day order executes against an incoming IOC order and Sigma X2 classifies the resting Day order as liquidity-providing and the IOC order as liquidity-taking. Please refer to the attached Matching Scenarios grid for examples with respect to Firm and Firm Up orders. If a Conditional order is entered with a Post-Only condition, only a contra order entered later-in-time can be a match for the Conditional order, generating a Firm Up Request. Please see Part III, Item 9.a. for additional order matching information for Conditional orders.

As noted above, matching priority can be impacted where Participants choose to impose certain conditions (e.g., self-match prevention) on their Firm and Conditional orders to limit interaction with orders in Sigma X2, as further described in the "Other Order Parameters and Conditions" discussion in this section.

Any change to a Firm or Conditional order by a Participant will reset its time priority, with the exception of reduction in the size of an order or a short sale change (i.e., short sell order changed to long sell order or long sell order changed to a short sell order) as further discussed below. System updates to the Assigned Limit Price of an order will not change time priority (e.g., Pegged Orders).

OTHER ORDER PARAMETERS AND CONDITIONS

The execution priority (outlined above) may change in instances where the Participants choose to impose certain conditions on their orders, including:

- Minimum Executable Quantity ("MinQty") - allows Participants to specify a minimum quantity for execution against any single contra order. Participants can select this feature on an order-by-order basis.

Sigma X2 does not aggregate contra-side orders to meet the MinQty. The MinQty specified on an order can only be filled by a single contra-side order. To illustrate, if a Participant's order has a MinQty of 300 shares, that order can be filled only against a single contra-side order of at least 300 shares, not by multiple contra-side orders totaling 300 shares.

When multiple contra-side orders are matched in one matching cycle against an order with MinQty enabled, each individual contra-side order must satisfy the MinQty, but it is possible for a single execution to be less than the MinQty. To illustrate, if a Participant has an order for 500 shares and a MinQty of 300 shares and there are two contra-side orders of 300 shares each, the Participant's 500 share order will execute against each 300-share order--first for 300 shares and then for the remaining 200 shares--since both contra-side orders meet the Participant's MinQty.

Participants may utilize Tag 9500 (MinQtyInstruction) to specify the method by which the MinQty instructions are to be applied in the event of a leaves quantity that is less than the MinQty: A, which specifies that the order becomes All or None if the leaves quantity is less than the minimum executable quantity; or M, which specifies that the order is canceled back if the leaves quantity is less than the minimum executable quantity. Under the default setting, an order will become All or None if the leaves quantity is less than the minimum executable quantity. Firm Up orders only support the M value.

- Self-Match Prevention - allows Participants to block a match with themselves for regulatory reasons (e.g., prevents wash trades). Participants can select this feature at the Participant-level (i.e., at the MPID- or GSID-level, as applicable) or on an order-by-order basis.

- Affiliate-Match Prevention - allows Participants to block a match with an affiliated Participant. Sigma X2 applies this feature at the Participant-level.

- Agency-Only Execution - allows Participants to block principal executions with GSCO (e.g., where required pursuant to Section 28(e) of the Exchange Act). Sigma X2 applies this feature at the Participant-level or on an order-by-order basis.

- Post-Only - accepted on Firm and Conditional orders, allows Participants to submit orders that will only execute when they are first-in-time (i.e., liquidity-providing orders). Post-Only orders do not price slide and will be given an Assigned Limit Price upon entry (as described in Part III, Item 7.a). They can be entered with any peg type. Participants can select this feature on an order-by-order basis.

- Counterparty Classification - for Firm orders only, allows liquidity-providing Participants (described above) to designate the category or categories of liquidity-taking orders with which their liquidity-providing orders may interact (described in Part III, Item 13 a.). Participants can select this feature at the Participant-level or on an order-by-order basis.

In accordance with such instructions, Sigma X2 matching logic would bypass matching of Firm and Conditional orders as required by the above conditions. Participants can request the application of the above conditions through their Coverage teams. GSCO Coverage employees implement such requests, which become effective the following trading day.

Additional non-discretionary rules and procedures of Sigma X2 include:

PRICE IMPROVEMENT

Either the provider or taker of liquidity, or both, can receive price improvement. Price improvement is not necessarily split equally between a liquidity provider and a liquidity taker; instead, the execution price will be the price closest to the midpoint of the NBBO. Included as an attachment is a chart that illustrates price improvement in Sigma X2.

PRICE PROTECTION MECHANISMS

All Firm and Conditional orders in Sigma X2 require a Limit Price and will be given an Assigned Limit Price as described in Part III, Item 7.a. No order will be given an execution that would violate the order's Limit Price. No executions will take place outside the NBBO. Sigma X2 will suspend matching in a symbol that is currently quoted in a LULD straddle state.

SHORT SALES AND REGULATION SHO

Participants may enter short sale orders in compliance with Regulation SHO. This rule applies to short sale orders from U.S. registered broker-dealer subscribers and, as discussed below, each Firm and Conditional short sale order must specify that a locate has been obtained in accordance with Regulation SHO Rule 203(b)(1). Sigma X2 will rely on the locate exemption provided in Rule 203(b)(2)(i) when accepting short sale orders from its U.S. registered broker-dealer Direct Subscribers that are obligated to comply with Rule 203(b)(1). For non-broker-dealer Direct Subscribers, Sigma X2 will reject any short sale order that does not identify the broker who provided the locate.

For short sale orders subject to Rule 201 under Regulation SHO that are not permissibly priced for execution (i.e., not priced above the Constructed NBB or SIP NBB (as defined in response to Part III, Item 23), as the case may be), the Assigned Limit Price will be the lowest permissible price in compliance with Rule 201 (including in sub-penny increments for orders that may be priced in sub-pennies pursuant to Rule 612 under Regulation NMS). Such orders are executed at the Assigned Limit Price if there is an available contra-side order or, if not, they are held for execution at the new Assigned Limit Price or better. As quoted prices change, the Assigned Limit Price is updated to the lowest

permissible price for execution under Rule 201 down to an order's original limit price. An order that is re-priced in this manner under Rule 201 does not have its original priority changed. Instead, the priority of such an order is established based on its original Assigned Limit Price.

LOCKED/CROSSED MARKETS

Sigma X2 will not execute Firm or Firm Up orders during a locked or crossed market.

TIME-STAMPING OF ORDERS AND EXECUTIONS

Orders are timestamped in microseconds at the time they are accepted by Sigma X2. Executions are timestamped in microseconds at the time that orders are matched.

ERRORS

GSCO handles errors involving Sigma X2 in accordance with the Firm's error policy. Bona fide errors are booked to the Sigma X2 error account. To remedy an error, using the Sigma X2 error account, GSCO will buy or sell shares, as needed, including through the use of GSCO algorithms and SOR, which may result in executions at various exchanges and market centers, including Sigma X2.