

CERTIFICATE AND RESOLUTION TO OPEN INTERACTIVE BROKERS ACCOUNT

Instructions: Please print this Form, complete it, and return it to Interactive Brokers.

This Form should be signed by the Secretary, Chief Executive, Board Member, Managing Member, General Partner or other authorized person acting on behalf of the entity opening the Account.

Name of Legal Entity: _____
(insert name of legal entity opening Account)

I, _____
(insert full name of person signing/certifying this Form)

in my official capacity as _____
(insert title of person signing/certifying this Form)

hereby certify that the following Resolutions were duly adopted by the Board of Directors/Officers/Managers/Partners of the entity named above and are now in full force and effect:

RESOLVED, that the corporation (or limited liability company, partnership or other entity), on its own behalf, or, if the Account is in the name of another entity, of which the corporation (or limited liability company, partnership or other entity) is a general partner, managing member or other authorized representative, on behalf of that entity, has authorized and directed the officer(s) or agent(s) below to establish and maintain one or more accounts (each, an "Account"), and to engage in any of the transactions hereinafter described, with or through Interactive Brokers LLC and/or its current or future affiliated brokerage companies (collectively "Interactive Brokers").

RESOLVED, that the corporation (or limited liability company, partnership or other entity), on its own behalf, or, if the Account is in the name of another entity, of which the corporation (or limited liability company, partnership or other entity) is a general partner, managing member or other authorized representative, on behalf of that entity is hereby authorized and empowered to purchase, hold, pledge, exercise, convert, tender, redeem, exchange, transfer, assign, sell (including short, when-issued and forward sales), enter into, write, issue and otherwise deal and trade, singly or in combination, in any of the investment or trading products selected during the Interactive Brokers Account application or any

time thereafter, including but not limited to: securities, debt securities, equity securities, other securities, commodities, metals, futures, mutual funds, hedge funds and other collective investments, exchange-traded products, indices, foreign currencies and related instruments of any kind, options, warrants, derivatives, contracts for differences, exchanges-for-physicals, swaps, international transactions in any of the foregoing and any transaction that is similar to any of the transactions described above (including an option with respect to any of them), any combination of these transactions or any other transaction, whether or not described in this resolution.

RESOLVED, that any transactions or agreements of any kind relating to any Account effected prior to the adoption of these resolutions are hereby unconditionally ratified in all respects.

RESOLVED, that each of the following listed officers or agents of the corporation, limited liability company, partnership or other entity that is opening the Account is hereby individually authorized:

- to give to and receive from Interactive Brokers oral, written or electronic instructions of any kind regarding the Account;
- to have complete authority at all times to bind the corporation, limited liability company, partnership or other entity that is opening the Account in any and all respects relating to the Account, including but not limited to providing Account information, signing relevant agreements, receiving disclosures, viewing or changing Account information, trading, and disposing of positions or funds;
- to order the transfer or delivery in or out of any securities, contracts, money or other property to any person or entity, including to/from the officers or agents listed herein;
- to sign for and on behalf of the corporation, limited liability company, partnership or other entity that is opening the Account all releases, assignments, powers of attorney or other documents in connection with any Account or transaction;
- to appoint any other person or persons to do any and all things that such officer or agent is hereby empowered to do and to grant electronic Account access (including trading access) to any additional user(s) even if such users are not specifically listed as authorized officers or agents on this Form; and
- generally, to take all such action as such officer or agent may deem necessary or desirable to implement or facilitate the trading activities authorized in the preceding Resolutions.

Authorized Officers/Agents:

Name of Officer or Agent	Title and Name of Firm

NOTE: The person that completed the online application and signed Account agreements must be listed above for the Account to be activated.

CERTIFICATION

In witness whereof, I hereunto set my hand and affirm and ratify each of the resolutions, representations, warranties, covenants, and agreements contained in this Certificate and Resolution.

X _____

(Signature of person signing/certifying this Form)

(date)