

**SCHEDULE OF FEES AND CHARGES
FOR EXCHANGE SERVICES**

NYSE Arca EQUITIES: LISTING FEES as of September 19, 2017

ADMINISTRATIVE FEES

Company Name or Symbol Change	\$2,500
Change in Par Value	\$2,500
Shareholder Rights Plans	\$2,500
MAXIMUM TOTAL FEES PAID BY AN ISSUER EACH YEAR¹	\$250,000

LISTING FEES

1. Common stock, preferred stock, and warrants issued by domestic issuers:

Aggregate total shares outstanding (TSO) at time of listing	Fee
Up to and including 30,000,000	\$100,000
30+ million up to and including 50,000,000	\$125,000
50+ million	\$150,000

2. Securities issued by foreign private issuers² (but only to the extent shares are issued and outstanding in the U.S.):

Total Shares Issued and Outstanding in U.S.	Fee
Up to and including 30,000,000	\$100,000
30+ million up to and including 50,000,000	\$125,000
50+ million	\$150,000

3. Debt Instruments and Purchase Rights \$2,500

4. Additional classes of securities:

a. Common Stock, when issuer has a class of \$5,000

common stock already listed

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| b. Preferred Stock and Warrants, whether or not common stock is listed | \$100,000, \$125,000 or \$150,000 as in #1 above, depending on aggregate TSO |
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5. Exchange Traded Products³

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| a. Exchange Traded Products (with the exception of Investment Company Units, Portfolio Depositary Receipts, Managed Fund Shares, and Currency Trust Shares that are listed on the Exchange pursuant to Rule 19b-4(e) under the Exchange Act, and for which a proposed rule change pursuant to Section 19(b) of the Exchange Act is not required to be filed with the Commission (collectively, “Generically-Listed Exchange Traded Products”)) | \$7,500 |
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| b. Generically-Listed Exchange Traded Products | No Charge |
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Limitation on Listing Fees

If three or more issues of Exchange Traded Products, other than Generically-Listed Exchange Traded Products, are issued by the same issuer and are listed on the Exchange in the same calendar year, such issues shall be subject to an aggregate maximum listing fee of \$22,500 for all such listed issues combined.

6. Structured Products⁴

These fees apply each time an issuer lists Structured Products, as well as to the subsequent listing of additional shares of such listed products. The Exchange treats each series of securities listed as Structured Products as a separate issue. No listing fee shall apply to securities listed under Rule 5.2-E(j)(2) (Equity Linked Notes); Rule 5.2-E(j)(4) (Index-Linked Exchangeable Notes); and Rule 5.2-E(j)(6) (Equity Index-Linked Securities, Commodity- Linked Securities, Currency-Linked Securities, Fixed Income Index-Linked Securities, Futures-Linked Securities and Multifactor Indexed-Linked Securities) that are listed on the Exchange pursuant to Rule 19b-4(e) under the Exchange Act, and for which a proposed rule change pursuant to Section 19(b) of the Exchange Act is not required to be filed with the Commission.

Shares Outstanding	Fee
Up to 1 million	\$ 5,000
1+ to 2 million	10,000
2+ to 3 million	15,000
3+ to 4 million	20,000
4+ to 5 million	25,000
5+ to 6 million	30,000
6+ to 7 million	30,000
7+ to 8 million	30,000
8+ to 9 million	30,000

9+ to 10 million	32,500
10+ to 15 million	37,500
in excess of 15 million	45,000

7. Closed-End Funds

The Listing Fees set out in this section apply to equity securities of closed-end funds.

This Listing Fee Schedule is applicable when a closed-end fund first lists a class of common stock, or first lists a class of preferred stock in a case where common stock is not already listed.

Number of Securities Issued	Total Listing Fee
Up to and including 10 million	\$20,000
Over 10 million up to and including 20 million	\$30,000
Over 20 million	\$40,000

Listing Fee Schedule for Listing of Additional Securities

In the case of the following types of additional listings, Listing Fees are calculated on a per share basis for each class according to the Listing Fee schedule below:

- At the time it first lists, a closed-end fund lists one or more classes of preferred stock or warrants in addition to a primary class of common stock or preferred stock;
- Once listed, a closed-end fund lists additional shares of a class of previously listed securities; or
- Once listed, a closed-end fund lists a new class of preferred stock or warrants.

To the extent that an issuer lists more than one class of the same type of security, the class with the greatest number of shares issued will be deemed the primary class.

When determining Listing Fees, calculations are made at each level of the schedule up to the last level applicable to the number of securities being listed. The total Listing Fee equals the sum of the amounts calculated at each level of the schedule. For examples of how Listing Fees are calculated, please see "Calculating Listing Fees" below.

Number of Securities Issued	Fee Per Share
Up to and including 2 million	\$0.01475
Over 2 million up to and including 4 million	\$0.0074
Over 4 million up to and including 300 million	\$0.0035
Over 300 million	\$0.0019

Limitations on Listing Fees

Fund Family Discount. If two or more closed-end funds from the same fund family list at approximately the same time, the Exchange will cap the collective Listing Fee for those funds at \$75,000. The Exchange will consider funds from the same fund family to be listing at approximately the same time if an issuer provides notice that such funds will be listed as part of the same transaction. A fund family consists of closed-end funds with a common investment adviser or investment advisers who are "affiliated persons" as defined in Section 2(a)(3) of the Investment Company Act of 1940, as amended.

Limitation on Listing Fees for Additional Class of Common Shares. A closed-end fund that applies to list a new class of common shares in addition to its primary class will be charged a fixed Listing Fee of \$5,000 in lieu of the per share schedule.

Minimum Listing Fee for Subsequent Listing of Additional Securities. The minimum application fee for a subsequent listing of additional securities is \$2,500. When listing additional securities, an issuer is billed Listing Fees in an amount equal to the greater of the \$2,500 minimum supplemental listing application fee or the fee calculated on a per share basis. This applies to the listing of additional shares of an already listed equity security or to the listing of an additional class of equity security (other than a new class of common shares).

Fee for Certain Changes. A \$2,500 fee will apply to applications for changes that involve modifications to Exchange records, for example, changes of name, par value, title of security or designation.

Application Fee for Technical Original Listings and Reverse Stock Splits. The Exchange applies a \$15,000 application fee for a Technical Original Listing if the change in the issuer's status is technical in nature and the shareholders of the original issuer receive or retain a share-for-share interest in the new issuer without any change in their equity position or rights. For example, a change in a closed-end fund's state of incorporation or a reincorporation or formation of a holding company that replaces a listed closed-end fund would be considered a Technical Original Listing. The \$15,000 application fee also applies to a reverse stock split.

Maximum Listing Fee for Stock Splits and Stock Dividends. Listing fees on shares issued in conjunction with stock splits and stock dividends are capped at \$150,000 per split or issuance.

Maximum Listing Fee for Issuance of Additional Shares of a Listed Class. Listing Fees on the issuance of additional shares of an already listed class of stock are capped at \$500,000 per transaction. This applies, for example, when shares are issued in conjunction with a merger or consolidation where a listed company survives, when there are subsequent public offerings of a listed security, or when there are conversions of convertible securities into a listed security.

Discounts on Listing Fees. In the case of transactions such as a consolidation between two or more listed issuers that results in the formation of a new issuer, or a merger or consolidation between a listed issuer and an unlisted issuer that results in the unlisted issuer surviving or the creation of a new issuer, where at the conclusion of the transaction a previously unlisted issuer immediately lists, Listing Fees for that new issuer are calculated at a rate of 25% of total Listing Fees for each class of securities being listed (to the extent that total calculated listing fee for a class of common stock would be greater than \$250,000, the calculation would be 25% of the \$250,000 maximum for a new listing of common stock).

No discount will be applied where a listed issuer survives the merger or consolidation, or in the case of a backdoor listing (i.e. resulting from a merger, acquisition or consolidation which has the effect of circumventing the standards for original listing).

Listing Fees for Pre-emptive Rights. Preemptive rights representing equity securities are not subject to a separate Listing Fee. As of the date that preemptive rights are exercised, Listing Fees will accrue on the securities issued and the issuer will be billed for those Listing Fees at the beginning of the following year.

Calculating Listing Fees

Treasury stock, restricted stock and shares issued in conjunction with the exercise of an over-allotment option, if applicable, are included in the number of shares a closed-end fund is billed for at the time a security is first listed.

The following are examples of how Listing Fees would be calculated by a closed-end fund in the case of an original listing and a subsequent additional issuance of common stock:

Example A: A closed-end fund listing 50 million common shares in the context of an initial public offering or transfer from another market would pay total Listing Fees of \$40,000.

Example B: The same closed-end fund subsequently applies to list an additional 5 million shares of common stock that are immediately issued. The closed-end fund will pay total Listing Fees of \$17,500 for the subsequent listing. Since the closed-end fund already has 50 million shares outstanding, the Listing Fee for the additional 5 million shares is calculated at a rate of \$0.0035 per share.

TECHNICAL ORIGINAL LISTING FEE⁵

Per Application (fixed charge) (securities other than Closed-End Funds, Exchange Traded Products and Structured Products)	\$5,000
Per Application (fixed charge, which may include multiple Issues of securities) (Exchange Traded Products and Structured Products)	\$2,500

For information about the technical original listing fee Applicable to Closed-End Funds, see under “Closed-End Funds” above.

SUBSEQUENT LISTING OF ADDITIONAL SECURITIES⁶

Number of Securities Issued	Fee Per Share ⁷
Up to and including 75 million	\$0.0048

Over 75 million up to and including 300 million \$0.00375

Over 300 million \$0.0019

**ANNUAL FEE
(PAYABLE JANUARY
IN EACH CALENDAR YEAR)⁸**

1. Common and Preferred Stock:

Aggregate TSO

Fee

Up to and including 10 million

\$30,000

10+ million up to and including 100 million

\$30,000 plus \$0.000375 per share
above 10 million

100+ million

\$85,000

2. Each Additional Class of Common Stock⁹

\$20,000 or \$0.000375 per share,
whichever is greater

3. Each Additional Class of Preferred Stock When the
Issuer has a Class of Common or Preferred Stock
Already Listed

\$5,000 or \$0.000375 per share,
whichever is greater

4. Each Class of Warrant

\$5,000 or \$0.000375 per warrant,
whichever is greater

5. Debt Instruments and Purchase Rights When the
Issuer has a Class of Common or Preferred Stock
Already Listed

\$500

6. Exchange Traded Products:

a. Exchange Traded Products (with the exception of Managed Fund Shares and Managed
Trust Securities):

Number of Shares Outstanding (each issue)	Annual Fee
Less than 25 million	\$5,000
25 million up to 49,999,999	\$7,500
50 million up to 99,999,999	\$10,000
100 million up to 249,999,999	\$15,000
250 million up to 499,999,999	\$20,000
500 million and over	\$25,000

b. Managed Fund Shares and Managed Trust Securities:

Number of Shares Outstanding (each issue)	Annual Fee
Less than 25 million	\$7,500
25 million up to 49,999,999	\$10,000
50 million up to 99,999,999	\$12,500
100 million up to 249,999,999	\$20,000
250 million up to 499,999,999	\$30,000
500 million and over	\$40,000

7. Structured Products

Annual Fees are based on the total number of securities outstanding per listed issue.

Shares Outstanding	Fee
Up to 6 million	\$10,000
6+ to 7 million	12,000
7+ to 8 million	14,000
8+ to 9 million	16,000
9+ to 10 million	18,000
10+ to 15 million	20,000
15+ to 25 million	25,000
25+ to 50 million	42,000
in excess of 50 million	55,000

Annual Fee Discount for Multiple Series of Securities Listed under Rule 5.2-E(j)(6). Multiple series of securities listed under Rule 5.2-E(j)(6) that are issued by the same issuer and are based on an identical reference asset and leverage factor (i.e., 1X, -1X, 2X, -2X, 3X or -3X) will receive a 30% discount off the aggregate calculated Annual Fee for such multiple series.

Example: An issuer issues ETN Series A based on the S&P 500 Index with a leverage factor of 2X and subsequently issues Series B based on the S&P 500 Index with a leverage factor of 2X. Series A has 20 million shares outstanding and Series B has 7 million shares outstanding. The Annual Fee, calculated separately, for Series A is \$25,000 and, for Series B, \$12,000. The aggregate Annual Fee for both series is \$37,000. The aggregate Annual Fee would be reduced by 30%, and the Annual Fee for both series combined would be \$25,900.

8. Closed-End Funds

Annual Fee Schedule for Primary Listed Security

The following Annual Fee Schedule is applicable to a closed-end fund's primary class of listed security (common stock, or preferred stock if no common stock is listed) and is equal to the greater of the minimum fee or the fee calculated on a per share basis:

Per Share Rate	\$0.00093 per share
Minimum Fee	\$25,000

Additional Classes of Listed Equity Issues

The Annual Fee for equity issues other than the primary class of security listed is the greater of the minimum or the fee calculated on a per share basis:

Per Share Rate \$0.00093 per share
Minimum Fee \$5,000

To the extent that a closed-end fund has more than one class of common shares listed, the class with the greatest number of shares outstanding will be deemed the primary class of common shares. The same analysis is applicable where a closed-end fund has more than one class of preferred stock listed, but no class of common shares listed. Where a closed-end fund lists a class of common shares, as well as a class of preferred stock, Annual Fees on the preferred stock will be billed at the rate applicable to an additional class of preferred stock.

Limitations on Annual Fees

Fund families that list between 3 and 14 closed-end funds will receive a 5% discount off the calculated Annual Fee for each fund listed, and those with 15 or more listed closed-end funds will receive a discount of 15%. No fund family shall pay aggregate Annual Fees in excess of \$1,000,000 in any given year.

In the case of transactions involving listed issuers (such as a consolidation between two or more listed issuers that results in the formation of a new issuer, or a merger or consolidation between a listed issuer and an unlisted issuer that results in the unlisted issuer surviving or the creation of a new issuer), where at the conclusion of the transaction a previously unlisted issuer immediately lists, Annual Fees will not be charged to that new issuer for the year in which it lists to the extent that the transaction concludes after March 31. To the extent that the transaction concludes on or before March 31 in any calendar year, however, the newly listing issuer will be charged pro rata Annual Fees from the date of listing to the end of the year.

In addition, to the extent that a listed issuer is involved in a consolidation between two or more listed issuers that results in the formation of a new issuer, or a merger or consolidation between a listed issuer and an unlisted issuer that results in the unlisted issuer surviving or the creation of a new issuer, or a merger between two listed issuers where one listed issuer survives, and the transaction concludes on or before March 31 in any calendar year, the non-surviving listed issuer(s) will only be subject to pro rata Annual Fees for that year through the date of the conclusion of the transaction. To the extent that the transaction concludes after March 31, the non-surviving listed issuer(s) will be subject to full Annual Fees for that year.

1 The maximum total fees per year encompasses all Listing and Annual Fees
incurred by an issuer for all issues listed in a calendar year. The maximum total
fees per year does not apply to Exchange Traded Products, Structured Products or
Closed-End Funds.

2 17 CFR 240.3b-4.

3 For the purposes of this Schedule, the term “Exchange Traded Products” includes
securities described in NYSE Arca Equities Rules 5.2-E(j)(3) (Investment
Company Units); 8.100-E (Portfolio Depositary Receipts); 8.200-E (Trust Issued
Receipts); 8.201-E (Commodity-Based Trust Shares); 8.202-E (Currency Trust
Shares); 8.203-E (Commodity Index Trust Shares); 8.204-E (Commodity Futures
Trust Shares); 8.300-E (Partnership Units); 8.500-E (Trust Units); 8.600-E
(Managed Fund Shares), and 8.700-E (Managed Trust Securities).

4 “Structured Products” are defined as securities listed under Rule 5.2-E(j)(1) (Other
Securities), 5.2-E(j)(2) (Equity Linked Notes); Rule 5.2-E(j)(4) (Index-Linked
Exchangeable Notes); Rule 5.2-E(j)(6) (Equity Index-Linked Securities,
Commodity- Linked Securities, Currency-Linked Securities, Fixed Income Index-
Linked Securities, Futures-Linked Securities and Multifactor Indexed-Linked
Securities); Rule 5.2-E(j)(7) (Trust Certificates); Rule 8.3-E (Currency and Index
Warrants); and Rule 8.400-E (Paired Trust Shares).

5 A Technical Original Listing would occur as a result of a change in state of
incorporation, reincorporation under the laws of same state, reverse stock split,
recapitalization, creation of a holding company or new company by operation of
law or through an exchange offer, or similar events affecting the nature of a listed
security. This fee applies if the change in the company’s status is technical in
nature and the shareholders of the original company receive or retain a share-for-
share interest in the new company without any change in their equity position or
rights.

6 This fee is calculated starting at the rate applicable to the number of shares already
listed and outstanding (including treasury stock and restricted stock), and applies to
subsequent issuances of common stock, preferred stock and warrants. These fees
also apply to foreign private issuers, but only to the extent securities are issued and
outstanding in the United States. This fee does not apply to Exchange Traded
Products. The Listing Fee Schedule for Listing of Additional Shares for Closed-
End Funds is set forth in Section 7 under "Listing Fees," above.

7 Issuers are subject to a minimum fee of \$5,000 per application. These fees will be
assessed as follows, subject to any maximum on fees paid by an issuer per year: To
the extent that an issuer submits a supplemental listing application for shares that
are immediately issued, such as in connection with a merger or acquisition, stock
split or stock dividend, Listing Fees for those shares are billed at the time the
supplemental listing application is processed. However, to the extent an issuer
submits a supplemental listing application for shares that are not issued at the time
of listing, such as for an equity compensation plan or for convertible securities
where the listed securities will be issued over time, only the applicable minimum
supplemental listing application fee will be billed at the time the supplemental

listing application is processed. Listing Fees will accrue on these securities as of the date of issuance and the accrued Listing Fees will be billed at the beginning of the following year along with the issuer's Annual Fees. These fees also apply to foreign private issuers, but only to the extent securities are issued and outstanding in the United States, subject to any maximum on fees paid by an issuer per year. In addition, issuers which transfer their listing to the NYSE Arca Marketplace from the NYSE shall be subject to these fees.

8 Issues are subject to Annual Fees in the year of listing, pro-rated based on days listed that calendar year. The Annual Fees for Exchange Traded Products and Structured Products are billed in January for the forthcoming year. The Annual Fees applicable to Exchange Traded Products that have liquidated and as a result are delisted from the Exchange will be prorated for the portion of the calendar year that such issue was listed on the Exchange, based on days listed that calendar year, and refunded.

9 For purposes of Annual Fee calculation when an issuer has multiple classes of common stock listed, NYSE Arca would assess the class of common stock with the highest TSO the Annual Fee proposed above for listed issuers, that is, a minimum Annual Fee of \$30,000 for up to and including 10 million TSO plus, if applicable, a per share charge of \$0.000375 on each share over 10 million up to and including 100 million TSO, subject to the \$85,000 maximum Annual Fee per issue. For each additional class of common stock listed, NYSE Arca would assess Annual Fees as proposed above for additional classes, that is, an Annual Fee of \$20,000 or \$0.000375 per share listed, whichever is greater.

Commentary:

.1 Foreign Private Issuers. Annual Fees also apply to foreign private issuers, but only to the extent securities are issued and outstanding in the United States. NYSE Arca will calculate the Annual Fee for foreign private issuers based on a four-quarter average of the securities issued and outstanding in the United States during the preceding year. The purpose of utilizing a four-quarter average is to recognize the possibility of flow-back and flow-in of securities to and from the home country market and more reasonably reflect the number of securities in the United States over the course of the year. To the extent that an issuer that is billed by NYSE Arca as a foreign private issuer has a change in status that requires the issuer to commence filing U.S. periodic and annual reports with the SEC during the course of a year, NYSE Arca will bill that issuer Listing and Annual Fees as a domestic issuer at the beginning of the first calendar year following the issuer's change in status. An issuer that changes its status is not subject to new Listing Fees for worldwide securities already issued and outstanding.

.2 Stock Splits and Stock Dividends. Listing Fees on shares issued in conjunction with stock splits and stock dividends are capped at \$150,000 per split or issuance, subject to the \$250,000 maximum on total fees paid each year by an issuer.

.3 Mergers and Consolidations. In the case of transactions such as a consolidation between two or more listed issuers that result in the formation of a new issuer that immediately lists upon consummation of the consolidation, or a merger between a listed issuer and an unlisted issuer that results in the unlisted issuer surviving or the creation of a new issuer (which lists within 12 months from the consummation of the

transaction), Listing Fees for that newly listed issuer will be 25% of the Listing Fee for each class of securities being listed, up to 25% of the maximum applicable to the issue(s) listed. No discount will be applied, however, where a listed issuer survives the merger or consolidation, or in the case of a backdoor (or “reverse”) merger.

.4 *Transfer Listings.* Issuers that transfer their listings from any other national securities exchange will not be subject to Listing Fees upon initial listing. This Listing Fee waiver will apply to all classes of securities. With the exception of issuers subject to Commentary .6 below (Waiver of Annual Fee for Transfer Listings), such issuers, however, will be subject to Annual Fees and Fees for Subsequent Listing of Additional Securities. This listing fee waiver will have retroactive effect with respect to any securities listed on or after June 24, 2008.

.5 *Companies Listing Upon Emergence from Bankruptcy or that are Publicly-Traded but not Listed.* Companies that list upon emergence from bankruptcy, or whose primary class of common stock is registered under the Exchange Act but not listed on a national securities exchange, will not be subject to Listing Fees upon initial listing.

.6 *Waiver of Annual Fee for Transfer Listings.* An issuer that transfers its listing from another national securities exchange will not be subject to the Annual Fee for the remainder of the calendar year following the date of listing on the Exchange.