
---

proposed in the Advance Notice.\textsuperscript{5} This publication serves as notice of no objection to the Advance Notice.

I. THE ADVANCE NOTICE

The proposals reflected in the Advance Notice would revise NSCC’s Rules and Procedures (“Rules”)\textsuperscript{6} to change the methodology NSCC uses for calculating the haircut-based margin charge applicable to municipal bonds.

A. Background

NSCC provides clearing, settlement, risk management, central counterparty services, and a guarantee of completion for virtually all broker-to-broker trades involving equity securities, corporate and municipal debt securities, and certain other securities. NSCC manages its credit exposure to its members by determining an appropriate Required Fund Deposit (i.e., margin) for each member.\textsuperscript{7} The aggregate of all NSCC members’ Required Fund Deposits (together with certain other deposits required under the Rules) constitute NSCC’s Clearing Fund, which NSCC would access should a defaulting member’s own Required Fund Deposit be insufficient to satisfy losses to

149 (January 2, 2020). The comment period for the related Proposed Rule Change filing closed on January 23, 2020, and the Commission received no comments.

\textsuperscript{5} As the proposal contained in the Advance Notice was also filed as a proposed rule change, all public comments received on the proposal are considered regardless of whether the comments are submitted on the proposed rule change or the Advance Notice.


\textsuperscript{7} See Rule 4 (Clearing Fund) and Procedure XV (Clearing Fund Formula and Other Matters) of the Rules (“Procedure XV”), supra note 6.
NSCC caused by the liquidation of the defaulting member’s portfolio. NSCC collects each member’s Required Fund Deposit to mitigate potential losses to NSCC associated with the liquidation of the member’s portfolio in the event of the member’s default.

Each member’s Required Fund Deposit consists of a number of applicable components, which are calculated to address specific risks that the member’s portfolio presents to NSCC. Generally, the largest component of a member’s Required Fund Deposit is the volatility component. The volatility component is designed to calculate the potential losses on a portfolio over a given period of time assumed necessary to liquidate the portfolio, within a 99% confidence level.

The methodology for calculating the volatility component of the Required Fund Deposit depends on the type of security. Specifically, for certain securities, including

---

8 See id.

9 The Rules identify when NSCC may cease to act for a member and the types of actions NSCC may take. For example, NSCC may suspend a firm’s membership with NSCC or prohibit or limit a member’s access to NSCC’s services in the event that member defaults on a financial or other obligation to NSCC. See Rule 46 (Restrictions on Access to Services) of the Rules, supra note 6.

10 Procedure XV, supra note 6.

11 See id.

12 For most securities (e.g., equity securities), NSCC calculates the volatility component as the greater of (1) the larger of two separate calculations that utilize a parametric Value at Risk (“VaR”) model, (2) a gap risk measure calculation based on the largest non-index position in a portfolio that exceeds a concentration threshold, which addresses concentration risk that can be present in a member’s portfolio, and (3) a portfolio margin floor calculation based on the market values of the long and short positions in the portfolio, which addresses risks that might not be adequately addressed with the other volatility component calculations. See id.; see also Securities Exchange Act Release No. 82780 (February 26, 2018), 83 Fed. Reg. 9035 (March 2, 2018) (File No. SR-NSSC-2017-808); Securities
municipal bonds, NSCC calculates a haircut-based volatility component by multiplying the absolute value of a member’s positions in such securities by a certain percentage designated by NSCC.\(^{13}\)

NSCC’s current methodology for designating the percentages used in calculating the haircut-based volatility component for municipal bonds involves distinguishing between municipal bonds based on tenor (i.e., remaining time to maturity), municipal sector (e.g., general obligation, transportation, healthcare, etc.), and credit rating.\(^{14}\) Pursuant to that methodology, NSCC assigns each tenor-based group a percentage.\(^{15}\) For municipal bonds rated higher than BBB+, the tenor-based percentage is the percentage NSCC uses to calculate the haircut-based volatility component.\(^{16}\) However, for municipal bonds rated BBB+ or lower, NSCC multiplies the tenor-based percentage by a sector-based risk factor, resulting in a larger percentage for the haircut.\(^{17}\) The additional

---


\(^{13}\) Procedure XV, \textit{supra} note 6.

\(^{14}\) Notice of Filing, \textit{supra} note 4 at 2198.

\(^{15}\) See \textit{id}.

\(^{16}\) For example, a $10MM short position in a municipal bond rated above BBB+ with 3 years to maturity is subject to the 2-5 years tenor-based group haircut of 5%, which applies to the absolute market value of the positions, resulting in a haircut-based volatility component of $500,000. Notice of Filing, \textit{supra} note 4 at 2198.

\(^{17}\) For example, a $10MM short position in a healthcare sector municipal bond rated BBB+ or lower with 3 years to maturity is subject to the 2-5 years tenor-based group haircut (5%) multiplied by the sector-based factor of 1.2, resulting in a 6% haircut-based volatility component of $600,000. Notice of Filing, \textit{supra} note 4 at 2198.
sector-based risk factors account for the variable risks between municipal sectors associated with the various industries in which the bonds are issued and the sources of bond repayment.\textsuperscript{18}

In all cases, the percentage used to calculate the municipal bond haircut-based volatility component is not less than 2\%, regardless of a municipal bond’s credit rating.\textsuperscript{19}

\textbf{B. New Changes to NSCC’s Methodology for Calculating Municipal Bond Haircut Percentages}

NSCC states that it regularly assesses its margining methodologies to evaluate whether margin levels are commensurate with the particular risk attributes of the various products, portfolios, and markets that NSCC serves.\textsuperscript{20} NSCC further states that based on recent impact studies, the margin levels generated from municipal bonds using the current methodology exceed the levels necessary to mitigate the risk associated with those securities.\textsuperscript{21} In the Advance Notice, NSCC proposes to change the methodology for calculating the municipal bond haircut-based volatility component so that the amount of margin NSCC collects is more commensurate with the risk attributes of those securities.

As proposed in the Advance Notice, NSCC would retain the current provision that in all cases the percentage used to calculate the municipal bond haircut-based volatility component is not less than 2\%, regardless of a municipal bond’s credit rating.\textsuperscript{\textsuperscript{18}}

\textsuperscript{18} See id.

\textsuperscript{19} Procedure XV, \textit{supra} note 6.

\textsuperscript{20} Notice of Filing, \textit{supra} note 4 at 2198.

\textsuperscript{21} As part of the Advance Notice, NSCC filed Exhibit 3 – NSCC Impact Studies, comparing the current and proposed methodologies. Pursuant to 17 CFR 240.24b-2, NSCC requested confidential treatment of Exhibit 3.
would also continue to distinguish between municipal bonds based on tenor, credit rating, and municipal sector. However, NSCC would calculate the haircut percentages for various groups of municipal bonds based on the historical returns of one or more benchmark indices over a look-back period not shorter than 10 years, using a minimum 99% calibration percentile.

The proposal would change the manner in which NSCC addresses the risk presented by lower-rated municipal bonds. Instead of the current methodology’s approach which applies a sector-based straight risk factor to the tenor-based haircut, resulting in a larger haircut percentage, the proposed approach would allow the calculation to be more precisely tailored to the risks presented by particular municipal bonds. Specifically, the new approach would base the haircut percentage on the historical returns of one or more benchmark indices, such as tenor-based indices, municipal bond sector-based indices, and high-yield indices, over a look-back period of at least ten years and would no longer use a sector-based straight risk factor for lower-rated municipal bonds. This approach should allow NSCC to more accurately calculate margin amounts appropriate for the risks presented by such municipal bonds by allowing NSCC to take into account a broader range of risk characteristics associated with municipal bonds. NSCC notes that, based on recent impact studies comparing the current and proposed methodologies, the proposed methodology would manage NSCC’s applicable risks well above the 99% confidence level, although it would generate lower overall margin amounts.\(^\text{22}\)

\(^{22}\) Notice of Filing, \textit{supra} note 4 at 2199.
Under the proposal in the Advance Notice, NSCC states that for municipal bonds rated higher than BBB+, NSCC would use a tenor-based index as the applicable benchmark index. Specically, NSCC would use the percentage derived from the tenor-based index as the haircut for the purpose of calculating the volatility component for municipal bonds rated higher than BBB+. For municipal bonds rated BBB+ or lower (or not rated), NSCC states that it would use a percentage that is the highest of: (1) the applicable tenor-based index, (2) municipal bond sector-based indices, and (3) a high-yield index. For all municipal bonds, when deriving the haircut percentage from the applicable indices, NSCC would use a look-back period of a 10 year rolling window plus a 1-year “worst case scenario” stress period. NSCC would identify the largest 3-day price return movement (reflected as a percentage) within the 99th percentile of all 3-day price return movements during the look-back period. Additionally, NSCC proposes to recalibrate the municipal bond haircut percentages no less frequently than annually.

As proposed in the Advance Notice, NSCC would have the ability to modify certain aspects of the application of the proposed methodology consistent with NSCC’s applicable governance procedures and based on NSCC’s determination that such

\[23\] Id.
\[24\] Id.
\[25\] Id.
\[26\] NSCC believes that a 10-year window plus 1-year stress period would capture relevant data and cover sufficient market data without diluting the “tail” with an abundance of data. NSCC believes this look-back period is typically long enough to capture at least two recent market cycles, whereas a longer look-back period might “flatten” out the results because recent volatile periods might be offset by non-volatile periods, making the more recent volatility appear less significant. Notice of Filing, supra note 4 at 2199.
modifications are necessary to manage the applicable risks above the 99% confidence level. Specifically, based on NSCC’s regular review of its margin methodologies, NSCC would be able to modify: the frequency of re-calibrating the municipal bond haircut percentages; applicable benchmark indices and the applicable period for the price return used in the calculations; and the look-back period. NSCC states that any such modifications would be subject to the governance procedures applicable to all of NSCC’s margin methodologies, as set forth in NSCC’s Clearing Agency Model Risk Management Framework, which the Commission has approved.27

Finally, NSCC proposes a method to address extraordinary circumstances in which a certain municipality or issuer may present unique risks not otherwise captured by the proposed methodology’s use of a percentage derived from the maximum of the applicable tenor-based index, municipal bond sector-based indices, and high-yield indices.28 In such scenarios, NSCC proposes to have the ability to use the highest percentage generated for any municipal bond group when calculating the haircut-based volatility component for municipal bonds issued by the municipality or issuer presenting such unique risks.


28 For example, the market price risk for issues of a municipality facing technical default following a natural disaster may not be fully captured by the proposed methodology due to the liquidity profile of municipal securities.
II. DISCUSSION AND COMMISSION FINDINGS

Although the Clearing Supervision Act does not specify a standard of review for an advance notice, the stated purpose of the Clearing Supervision Act is instructive: to mitigate systemic risk in the financial system and promote financial stability by, among other things, promoting uniform risk management standards for SIFMUs and strengthening the liquidity of SIFMUs.\(^\text{29}\)

Section 805(a)(2) of the Clearing Supervision Act authorizes the Commission to prescribe regulations containing risk management standards for the payment, clearing, and settlement activities of designated clearing entities engaged in designated activities for which the Commission is the supervisory agency.\(^\text{30}\) Section 805(b) of the Clearing Supervision Act provides the following objectives and principles for the Commission’s risk management standards prescribed under Section 805(a):\(^\text{31}\)

- to promote robust risk management;
- to promote safety and soundness;
- to reduce systemic risks; and
- to support the stability of the broader financial system.

---

\(^{29}\) See 12 U.S.C. 5461(b).


\(^{31}\) 12 U.S.C. 5464(b).
Section 805(c) provides, in addition, that the Commission’s risk management standards may address such areas as risk management and default policies and procedures, among others areas.\(^{32}\)

The Commission has adopted risk management standards under Section 805(a)(2) of the Clearing Supervision Act and Section 17A of the Exchange Act (the “Clearing Agency Rules”).\(^{33}\) The Clearing Agency Rules require, among other things, each covered clearing agency to establish, implement, maintain, and enforce written policies and procedures that are reasonably designed to meet certain minimum requirements for its operations and risk management practices on an ongoing basis.\(^{34}\) As such, it is appropriate for the Commission to review advance notices against the Clearing Agency Rules and the objectives and principles of these risk management standards as described in Section 805(b) of the Clearing Supervision Act. As discussed below, the Commission believes the proposal in the Advance Notice is consistent with the objectives and principles described in Section 805(b) of the Clearing Supervision Act,\(^{35}\) and in the Clearing Agency Rules, in particular Rules 17Ad-22(e)(4) and (e)(6).\(^{36}\)

\(^{32}\) 12 U.S.C. 5464(c).


\(^{34}\) 17 CFR 240.17Ad-22.

\(^{35}\) 12 U.S.C. 5464(b).

\(^{36}\) 17 CFR 240.17Ad-22(e)(4) and (e)(6).
A. Consistency with Section 805(b) of the Clearing Supervision Act

The Commission believes that the Advance Notice is consistent with the stated objectives and principles of Section 805(b) of the Clearing Supervision Act.

As described above in Section I.A., NSCC’s current methodology calculates municipal bond haircut percentages using tenor-based percentages and sector-based risk factors. NSCC states that the current methodology generates margin amounts greater than necessary to mitigate NSCC’s risks associated with municipal bonds. NSCC proposes to replace the current methodology with one that would calculate the haircut percentages based on the historical returns of one or more benchmark indices over a look-back period of not shorter than 10 years, using a minimum 99% calibration percentile. These changes would result in margin amounts that are more commensurate with the risk attributes of municipal bonds, while still managing NSCC’s applicable risks well above the 99% confidence level. Accordingly, the Commission believes that the proposed methodology for calculating municipal bond haircut percentages would be consistent with promoting robust risk management because the proposed methodology would enable NSCC to more precisely manage the relevant risks than the current methodology.

Further, by helping to ensure that NSCC collects margin amounts sufficient to manage NSCC’s risks associated with municipal bonds, the proposed methodology would help limit NSCC’s exposure in the event of a default of a member with positions in municipal bonds. Accordingly, the Commission believes that the proposed methodology would be consistent with promoting safety and soundness at NSCC.

37 Notice of Filing, supra note 4 at 2199.
Finally, as noted above, NSCC states that based on recent impact studies, while the proposed methodology would fully manage NSCC’s applicable risks well above the 99% confidence level, it would reduce margin requirements for every NSCC member holding positions in municipal bonds. The changes proposed in the Advance Notice would therefore result in lower capital demands on such members, who could benefit from having the ability to use their liquid resources for other purposes, including handling market stress events, which could, in turn, have beneficial implications for the stability of the broader financial system. Accordingly, the Division believes that the proposed methodology would be consistent with supporting the stability of the financial system and reducing systemic risks.

As described above in Section I.B., NSCC proposes to re-calibrate the municipal bond haircut percentages no less frequently than annually. Regular re-calibration of the municipal bond haircut percentages is necessary to ensure that the relevant calculations and resulting margin levels take into account any changes over time to the risk attributes of municipal bonds. The Commission believes that the proposal to re-calibrate the municipal bond haircut percentages no less frequently than annually would be consistent with robust risk management because it would require NSCC to regularly review the municipal bond haircut percentages to ensure that margin levels remain commensurate with the particular risk attributes of municipal bonds. Additionally, by helping to ensure that NSCC continues to collect margin amounts sufficient to manage the risks associated with municipal bonds, NSCC’s proposal to re-calibrate the municipal bond haircut percentages no less frequently than annually would help limit NSCC’s exposure in the

---

38 Id.; Proposed Rule Change, supra note 4 at 154.
event of a default of a member with positions in municipal bonds. Accordingly, the Commission believes that NSCC’s proposal to re-calibrate the municipal bond haircut percentages no less frequently than annually would be consistent with promoting safety and soundness at NSCC, which in turn would support the stability of the broader financial system and reduce systemic risks.

As described above in Section I.B., a certain municipality or issuer may present unique risks to NSCC not otherwise captured by the proposed methodology’s use of a percentage derived from the maximum of the applicable tenor-based index, municipal bond sector-based indices, and high-yield indices. In such scenarios, NSCC proposes to have the ability to use the highest percentage generated for any municipal bond group when calculating the haircut-based volatility component for municipal bonds issued by the municipality or issuer presenting such unique risks. The Commission believes the proposed discretion allowing NSCC to apply the highest percentage to municipal bonds issued by a municipality or issuer presenting unique risks would be consistent with robust risk management by helping to ensure that NSCC collects sufficient margin amounts with respect to such securities. Additionally, by helping to ensure that NSCC collects sufficient margin amounts with respect to municipal bonds issued by a municipality or issuer presenting such unique risks, the proposed discretion could help limit NSCC’s exposure in the event of a default of a member with positions in such municipal bonds. Accordingly, the Commission believes that the proposed discretion allowing NSCC to apply the highest percentage to municipal bonds issued by a municipality or issuer presenting unique risks would be consistent with promoting safety and soundness at
NSCC, which in turn would support the stability of the broader financial system and reduce systemic risks.

**B. Consistency with Rule 17Ad-22(e)(4)(i)**

Rule 17Ad-22(e)(4)(i) requires that NSCC establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively identify, measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes, including by maintaining sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence.\(^{39}\)

As described above in Section I.B., NSCC proposes to replace the current methodology for calculating municipal bond haircut percentages with a methodology that would utilize the historical returns of one or more benchmark indices over a look-back period of not shorter than 10 years, using a minimum 99% calibration percentile. These changes would result in more precisely determined margin amounts, while still managing NSCC’s applicable risks well above the 99% confidence level.\(^{40}\) Accordingly, the Commission believes that the proposed methodology is consistent with Rule 17Ad-22(e)(4)(i) because it should enable NSCC to effectively identify, measure, monitor, and manage its credit exposures to members with positions in municipal bonds, including by

---

\(^{39}\) 17 CFR 240.17Ad-22(e)(4)(i).

\(^{40}\) Notice of Filing, *supra* note 4 at 2199.
maintaining sufficient financial resources to cover NSCC’s credit exposure to such members fully with a high degree of confidence.\textsuperscript{41}

As described above in Section I.B., NSCC proposes to re-calibrate the municipal bond haircut percentages no less frequently than annually. The proposal would require NSCC to regularly review the municipal bond haircut percentages, thereby helping to ensure that the haircut percentages and resulting margin levels take into account any changes over time to the risk attributes of municipal bonds. Accordingly, the Commission believes that the proposal to re-calibrate the municipal bond haircut percentages no less frequently than annually is consistent with Rule 17Ad-22(e)(4)(i) because it should allow NSCC to effectively identify, measure, monitor, and manage its credit exposures to members with positions in municipal bonds, including by maintaining sufficient financial resources to cover NSCC’s credit exposure to such members fully with a high degree of confidence.\textsuperscript{42}

As described above in Section I.B., NSCC proposes to have the ability to use the highest percentage generated for any municipal bond group when calculating the haircut-based volatility component for municipal bonds issued by a municipality or issuer presenting unique risks not otherwise captured by the calculations in the proposed methodology. Such discretion should help ensure that NSCC collects sufficient margin amounts with respect to those securities. Accordingly, the Commission believes that the proposed ability to apply the highest percentage to such municipal bonds is consistent with Rule 17Ad-22(e)(4)(i) because it should better enable NSCC to effectively identify,

\textsuperscript{41} Id.

\textsuperscript{42} Id.
measure, monitor, and manage its credit exposures to members with positions in such municipal bonds, including by maintaining sufficient financial resources to cover NSCC’s credit exposure to such members fully with a high degree of confidence.\textsuperscript{43}

C. \textbf{Consistency with Rules 17Ad-22(e)(6)(i) and (v)}

Rule 17Ad-22(e)(6)(i) requires that NSCC establish, implement, maintain and enforce written policies and procedures reasonably designed to cover its credit exposures to its participants by establishing a risk-based margin system that, at a minimum, considers, and produces margin levels commensurate with, the risks and particular attributes of each relevant product, portfolio, and market.\textsuperscript{44} Rule 17Ad-22(e)(6)(v) requires that NSCC establish, implement, maintain and enforce written policies and procedures reasonably designed to cover its credit exposures to its participants by establishing a risk-based margin system that, at a minimum, uses an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products.\textsuperscript{45}

As described above in Section I.B., NSCC proposes to replace the current methodology for calculating municipal bond haircut percentages with a methodology that would utilize the historical returns of one or more benchmark indices over a look-back period of not shorter than 10 years, using a minimum 99% calibration percentile. NSCC designed the proposed methodology to generate margin amounts that are more commensurate with the risk attributes of municipal bonds than the current methodology.

\textsuperscript{43} Id.

\textsuperscript{44} 17 CFR 240.17Ad-22(e)(6)(i).

\textsuperscript{45} 17 CFR 240.17Ad-22(e)(6)(v).
Accordingly, the Commission believes that the proposed methodology is consistent with Rules 17Ad-22(e)(6)(i) and (v) because it is designed to establish a risk-based margin system that (1) considers and produces relevant margin levels commensurate with the risks and particular attributes of municipal bonds, and (2) uses an appropriate method for measuring credit exposure that accounts for municipal bond risk factors and portfolio effects.\textsuperscript{46}

As described above in Section I.B., NSCC proposes to re-calibrate the municipal bond haircut percentages no less frequently than annually. The proposal would require NSCC to regularly review the municipal bond haircut percentages, thereby helping to ensure that the haircut percentages and resulting margin levels take into account any changes over time to the risk attributes of municipal bonds. Accordingly, the Commission believes that the proposal to re-calibrate the municipal bond haircut percentages no less frequently than annually is consistent with Rules 17Ad-22(e)(6)(i) and (v) because it would contribute to a risk-based margin system designed to (1) consider and produce relevant margin levels commensurate with the risks and particular attributes of municipal bonds, and (2) use an appropriate method for measuring credit exposure that accounts for municipal bond risk factors and portfolio effects.\textsuperscript{47}

As described above in Section I.B., NSCC proposes to have the ability to use the highest percentage generated for any municipal bond group when calculating the haircut-based volatility component for municipal bonds issued by a municipality or issuer presenting unique risks not otherwise captured by the calculations in the proposed

\textsuperscript{46} 17 CFR 240.17Ad-22(e)(6)(i) and (v).

\textsuperscript{47} Id.
methodology. This discretion should help ensure that NSCC collects sufficient margin amounts with respect to those securities. Accordingly, the Commission believes that the proposed discretion to apply the highest percentage to such municipal bonds is consistent with Rules 17Ad-22(e)(6)(i) and (v) because it would contribute to a risk-based margin system designed to (1) consider and produce relevant margin levels commensurate with the risks and particular attributes of municipal bonds, and (2) use an appropriate method for measuring credit exposure that accounts for municipal bond risk factors and portfolio effects.  

III. CONCLUSION

IT IS THEREFORE NOTICED, pursuant to Section 806(e)(1)(I) of the Clearing Supervision Act, that the Commission DOES NOT OBJECT to Advance Notice (SR-NSCC-2019-801) and that NSCC is AUTHORIZED to implement the proposed change as of the date of this notice or the date of an order by the Commission approving proposed rule change SR-NSCC-2019-004, whichever is later.

By the Commission.

J. Matthew DeLesDernier, Assistant Secretary.

---

48 17 CFR 240.17Ad-22(e)(6)(i) and (v).