ing different PMP determinations for the same security. (The MSRB would expect, however, that the consistent application of policies and procedures within a dealer would result in different traders or desks arriving at PMP determinations that are substantially the same under comparable facts and circumstances.)

MSRB Response to Comments on SR-MSRB-2016-12, at 7-8 (November 14, 2016)

(July 12, 2017)

3.8.1 May dealers adopt a reasonable exception review process to evaluate PMP determinations?

Yes. As a general matter, the MSRB expects that dealers will employ supervisory review processes that consider, among other things, the reliability of their (or their vendors') PMP determinations. To review reliability, a dealer might review PMP determinations that result in mark-ups that exceed pre-determined thresholds, and it also might compare PMP determinations with some other measure of market value to ascertain whether the PMP determinations fall outside pre-established ranges.

In cases where a dealer reviews PMP determinations before the associated trade confirmations are sent, dealers may correct PMP determinations to promote more accurate mark-up calculations, provided they do so according to reasonable and consistently applied policies and procedures. As a general matter, however, the MSRB expects that it will be rare for a dealer to correct the PMP of a security based on exception reporting, and documentation in such situations will be paramount. To prevent "cherry picking," the dealer's policies and procedures should be specific in describing the PMP review process and the conditions under which the dealer may show that a PMP was erroneous (*e.g.*, the PMP determination was based on an isolated transaction, or a PMP determined through the use of an economic model did not reflect recent news about the security). If a dealer determines that a PMP is erroneous, it must correct it consistent with Rule G-30, and it must do so using the information reasonably available to it at the time it makes the correction.

There may also be cases where a dealer's exception review process results in corrected customer trade prices. For example, a dealer may review a trade where the mark-up exceeded a pre-determined threshold and the PMP was determined correctly. Dealers may refer to Question 3.5.1 in these cases.

(March 19, 2018)

3.9 May dealers develop objective criteria to automatically determine whether a trade is "contemporaneous" for purposes of establishing a presumptive PMP at the first step of the waterfall analysis?

Yes. Dealers may establish an objective set of criteria to determine whether a trade is contemporaneous, provided the objective criteria are established based on the exercise of reasonable diligence. For example, dealers could define an objective period of time as a default proxy for determining whether the trade is contemporaneous. Dealers could also define criteria to consider other relevant factors, such as whether intervening trades by other firms occurred at prices sufficiently different than the dealer's trade to suggest that the dealer's trade no longer reasonably reflects the current market price for the security, or whether changes in interest rates or the credit quality of the security, or news reports were significant enough to reasonably change the PMP of the security.

Given the different trading characteristics of different municipal securities, and relevant court and SEC case law applicable to debt securities in general, it likely would not be reasonable for a dealer's policies and procedures to determine categorically that all transactions that occur outside of a specified time frame are not "contemporaneous." Accordingly, dealers should include in their policies and procedures an opportunity to review and override the automatic application of default proxies (*e.g.*, by reconsidering the application for transactions identified through reasonable exception reporting and specifying designated time intervals (or market events) after which such proxies will be reviewed).

(July 12, 2017)

3.10 Since Rule G-15 adopts a same-day trigger standard for mark-up disclosure, would it be reasonable to assume a same-day standard for determining whether trades are contemporaneous for purposes of determining PMP under Rule G-30?

The MSRB notes that the determination of whether mark-up disclosure is required under Rule G-15 is distinct from the determination of whether a transaction is contemporaneous under the waterfall analysis. The PMP guidance under Rule G-30 provides that a dealer's cost is considered contemporaneous if the transaction occurs close enough in time to the subject transaction that it would reasonably be expected to reflect the current market price for the municipal security. While same-day transactions may often be contemporaneous according to this meaning, the MSRB has not set forth a specific time-period that is categorically contemporaneous. As noted above in Question 3.9, the MSRB would expect that dealers developing objective criteria for this purpose would base the determination of such criteria on the exercise of reasonable diligence.

(July 12, 2017)

3.11 How should dealers determine their contemporaneous cost if they have multiple contemporaneous purchases?

Dealers may rely on reasonable and consistently applied policies and procedures that employ methodologies to establish PMP where they have multiple contemporaneous principal trades. For example, a dealer could employ consistently an average weighted price or a last price methodology. Such methodologies could further account for the type of principal trade, giving greater weight to principal trades with other dealers than to principal trades with customers.

MSRB Response to Comments on SR-MSRB-2016-12, at 12-13 (November 14, 2016)

(July 12, 2017)

3.12 What is the next step in the analysis, when determining contemporaneous cost or proceeds, if a dealer has no contemporaneous transactions with another dealer?

Where the dealer has no contemporaneous cost or proceeds, as applicable, from an inter-dealer transaction, the dealer must then consider whether it has contemporaneous cost or proceeds, as applicable, from a customer transaction. Note that, because the dealer's contemporaneous cost or proceeds from a customer transaction will also include the mark-up or mark-down charged in that transaction, the dealer should adjust its contemporaneous cost or proceeds from that customer transaction to account for the mark-up or mark-down included in the price. In these instances, the difference between the dealer's "adjusted contemporaneous cost or proceeds" (the dealer's contemporaneous cost or proceeds in the customer transaction, adjusted by the mark-up or mark-down) and the price to its customer is equal to the mark-up (or mark-down) to be disclosed on customer confirmations under Rule G-15. The MSRB has noted that this approach allows the dealer to avoid "double counting" in the mark-up and mark-down it discloses to each customer. For example, if a dealer buys 100 bonds from Customer A at a price of 98 and immediately sells 100 of the same bonds to Customer B at a price of 100, the dealer may apportion the mark-up and mark-down paid by each customer. Assuming for illustration that the dealer determines the PMP in accordance with the waterfall guidance to be 99, then the dealer would disclose to Customer A a total dollar amount mark-down of $1,000, also expressed as 1.01% of PMP, and it would disclose to Customer B a total dollar amount mark-up of $1,000, also expressed as 1.01% of PMP.[3]

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 21 (September 1, 2016)

(July 12, 2017)
(Updated March 19, 2018)

3.13 May dealers adjust their contemporaneous cost to reflect what they believe to be a more accurate PMP, or their role taking risk to provide liquidity?

Dealers may adjust their contemporaneous cost only in one case: where a dealer's offsetting trades that trigger disclosure under Rule G-15 are both customer transactions (discussed above at Question 3.12). Other adjustments to reflect the size or side of market for a dealer's contemporaneous cost are not permitted.

(July 12, 2017)

3.14 May dealers apportion their expected aggregate monthly fees—for example to access an alternative trading system (ATS) or other trading platform—to individual contemporaneous transactions to be included in their contemporaneous costs?

No. For any given mark-up on a transaction, Supplementary Material .06 requires dealers to look first to their contemporaneous cost as incurred. The MSRB does not believe it would be consistent with Rule G-30 for dealers to consider an estimated apportionment of a future charge to be part of the specific cost they incurred in a contemporaneous transaction.

(July 12, 2017)

3.15 In determining contemporaneous cost, may dealers include transaction fees—for example to access an ATS or other trading platform—that were included in the price they paid?

Yes, provided the transaction fee is reflected in the price of the contemporaneous trade that is reported to EMMA, consistent with MSRB rules and guidance on pricing, trade reporting and fees. The MSRB will monitor and adjust this guidance as needed if it determines that pricing practices change in a way that diminishes the utility and reliability of mark-up disclosure.

(July 12, 2017)

3.16 May a dealer treat its own contemporaneous transaction as "isolated" and therefore disregard it when determining PMP?

No. Under Supplementary Material .06, isolated transactions or isolated quotations generally will have little or no weight or relevance in establishing PMP. The guidance also specifically provides that, in the municipal market, an "off-market" transaction may qualify as an isolated transaction. Through cross-references, Supplementary Material .06 makes clear that a dealer may deem a transaction or quotation at the hierarchy of pricing factors or similar-securities level of the waterfall to be isolated. However, the concept of "isolated" transactions or quotations does not apply to a dealer's contemporaneous cost, which presumptively determines PMP.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 19; 21 (September 1, 2016)

(July 12, 2017)

3.17 Supplementary Material .06 notes that changes in interest rates may allow a dealer to overcome the presumption that its own contemporaneous cost is the best measure of PMP. Does this refer only to formal policy interest rate changes, or does it also contemplate market changes in interest rates?

It refers to any change in interest rates, whether the change is caused by formal policy decisions or market events. However, Supplementary Material .06 notes that a dealer may overcome the presumption that its contemporaneous cost is the best measure of PMP based on a change in interest rates only in instances where they have changed after the dealer's transaction to a degree that such change would reasonably cause a change in municipal securities pricing.

(July 12, 2017)

3.18 Supplementary Material .06 notes that changes in the credit quality of the municipal security may allow a dealer to overcome the presumption that its own contemporaneous cost is the best measure of PMP. Does this refer only to formal credit rating changes, or does it also contemplate market changes in implied or observed credit spreads such as those due to market-wide credit spread volatility or anticipated changes in the credit quality of the individual issuer?

It refers to any changes to credit quality, with respect to that particular security or the particular issuer of that security, whether the change is caused by a formal ratings announcement or market events. Thus, for example, this could include changes in the guarantee or collateral supporting repayment as well as significant recent information concerning the issuer that is not yet incorporated in credit ratings (*e.g.*, changes to ratings outlooks). However, Supplementary Material .06 notes that a dealer may overcome the presumption that its contemporaneous cost is the best measure of PMP based on a change in credit quality only in instances where it has changed significantly after the dealer's transaction.

(July 12, 2017)

3.18.1 When considering inter-dealer trades at the hierarchy of pricing factors level of the waterfall analysis, if the only contemporaneous interdealer trades in the security are executed at the same time and involve a broker's broker or an ATS, may a dealer choose to determine PMP by reference to the inter-dealer trade price which is reasonably likely to be on the opposite side of the market from the dealer seeking to determine PMP?

Yes. Consistent with the standard of reasonable diligence, dealers may adopt a reasonable approach to consistently choosing between or referring to multiple contemporaneous inter-dealer trades. If the only contemporaneous inter-dealer trades in the security are executed at the same time and involve a broker's broker or an ATS in the security, it may be reasonable for the dealer seeking to determine PMP to do so by reference to the trade price which is reasonably likely to be on the opposite side of the market from the dealer seeking to determine PMP.

For example, assume that Dealer XYZ is selling a municipal security to a retail customer. Also, assume that the dealer lacks contemporaneous cost and that there are only two contemporaneous inter-dealer transactions in the security, and that both of those transactions occur at the exact same time and in the exact same trade amount. Additionally, both inter-dealer transactions are identified by an ATS special condition indicator on EMMA. One transaction is executed at a price of 113.618 and the other is executed at a price of 113.868. Assume further that the difference between these two ATS transaction prices is in the customary and typical range of the fee an ATS would charge for its services. In this case, it may be reasonable for Dealer XYZ to conclude that the transaction at 113.618 reflects a sale from a dealer to an ATS taking a principal position in the security, and that the transaction at 113.868 reflects a sale from that ATS to another dealer. Under these circumstances, Dealer XYZ may reasonably determine the PMP by reference to the transaction at 113.868, because the counterparty to the ATS in that transaction was purchasing the security and thus on the opposite side of the market from the side of Dealer XYZ in its customer trade.

(March 19, 2018)

3.19 May dealers adopt a reasonable default proxy where the waterfall guidance refers to trades between dealers and institutional accounts with which any dealer regularly effects transactions in the same security, if such information cannot be ascertained through reasonable diligence?

Yes. Consistent with the Rule G-30 standard of "reasonable diligence" in establishing the PMP of a municipal security, dealers reasonably may use objective criteria as a proxy for the elements of these steps of the waterfall that they cannot reasonably ascertain, such as whether a customer transaction involves an institutional customer and whether that institutional customer regularly trades in the same security with any dealer. A reasonable approach might assume that transactions at or above a $1,000,000 par amount involve institutional customers, since that size transaction is conventionally considered to be an institutional-sized transaction. In addition, because institutional investors transacting at or above this size threshold are typically sophisticated investors, the same size proxy might be used to assume that the institutional customer regularly transacts with a dealer in the same security.

(July 12, 2017)

3.19.1 May a dealer reasonably determine that new issue trade prices executed at list offering/takedown prices are not reflective of the PMP at the time of their execution?

Yes. Because new issues may be priced days before the transactions are executed and reported to RTRS, a dealer may, but is not required to, determine that new issue trades executed at list offering or takedown prices are not reflective of the PMP at the time of their execution. These transactions generally are denoted by a list offering price/takedown indicator on EMMA and in the MSRB Transaction Subscription Service. Market participants may also determine the list offering price by viewing the security's home page (*i.e.*, the Security Details page) on EMMA.

(March 19, 2018)

3.20 Can an "all-to-all" platform (i.e., one that allows non-dealers to participate) qualify as an inter-dealer mechanism at the step of the waterfall that refers to bids and offers for actively traded securities?

Yes, provided that the dealer determines that the prices available on an "allto-all" platform are generally consistent with inter-dealer prices. Dealers should include in their policies

and procedures how they will periodically review a platform's activity to make such a determination.

(July 12, 2017)

3.21 When considering bid and offer quotations from an inter-dealer mechanism, how many inter-dealer mechanisms must a dealer check before considering the next category of factors under the waterfall analysis?

The obligation to determine PMP requires a dealer to use reasonable diligence. It does not require a dealer to seek out and consider every potentially relevant data point available in the market. With respect to this factor in the waterfall analysis, a dealer must only seek out and consider enough information to reasonably determine that there is no probative information to determine PMP before proceeding to the next category of factors.

(July 12, 2017)

3.22 In considering bids and offers for actively traded securities made through an inter-dealer mechanism, how can a dealer determine that transactions generally occur at the displayed quotations on the inter-dealer mechanism?

Consistent with the Rule G-30 standard of reasonable diligence and a reasonable policies and procedures approach, a dealer could request and assess from the platform relevant statistics and relevant information reasonably sufficient to conclude that the inter-dealer mechanism meets the applicable requirements under Supplementary Material .06. A dealer could then periodically request and assess updated statistics and relevant information to confirm that the inter-dealer mechanism continues to satisfy the requirements.

(July 12, 2017)

3.23 At the similar securities stage of the waterfall analysis, how can a dealer determine on a systematic basis that an inter-dealer quotation is "validated"?

Consistent with the standard of reasonable diligence and a reasonable and consistently applied policies and procedures approach to the PMP determination, for example, a dealer could determine that a bid (offer) quotation is validated if it is quoted on an "inter-dealer mechanism" (including the all-to-all platforms that qualify, as discussed above). With respect to a dealer's own bids or offers, dealers are reminded of their existing regulatory obligations under applicable MSRB rules regarding bona fide bids or offers and the requirement that any published quotations must be based on the dealer's best judgment of the fair market value of the securities. *See, e.g.*, Rule G-13 and MSRB Notice to Dealers That Use the Services of Broker's Brokers (December 22, 2012). Dealers are also reminded that under Rule G-30, Supplementary Material .06, isolated transactions or isolated quotations (including those that are off-market) generally will have little or no weight or relevance in establishing the PMP of a security.

Due to the lack of bid (offer) quotations for many municipal securities, under the waterfall analysis, dealers in the municipal securities market may not often find information from contemporaneous bid (offer) quotations in the municipal securities market.

(July 12, 2017)
(Updated March 19, 2018)

3.24 May a dealer use the same process it uses to identify a "similar" security for best-execution purposes to identify "similar" securities for PMP purposes?

Yes. Assuming the dealer's process for identifying "similar" securities for Rule G-18 best-execution purposes is reasonable and in compliance with Rule G-18, a dealer may rely on the same process in connection with identifying similar securities under Rule G-30, Supplementary Material .06.

Alternatively, due to the different purposes of the "similar" security analysis for best-execution purposes as compared to PMP determination purposes, dealers reasonably may adopt a more restrictive approach to identifying "similar" securities for Rule G-30 than they may for Rule G-18. While the relevant part of the best-execution analysis under Rule G-18 seeks to identify the *best market* to address a customer's order or inquiry by reference to another security, the relevant part of the waterfall analysis seeks to identify the *PMP* of one security by reference to another security. Further, Rule G-30 Supplementary Material .06 provides that, in order to qualify as a "similar" security, *at a minimum*, the municipal security should be sufficiently similar that a market yield for the subject security can be fairly estimated from the yield of the "similar" security. Due to the large number and diversity of municipal securities, the MSRB is of the view that, generally, if the prices or yields of a security would require an adjustment in order to account for differences between the security and the subject security, it would be reasonable for a dealer to determine that that security is not sufficiently "similar" to the subject security for purposes of Supplementary Material .06. To be clear, dealers have the flexibility to determine that a security that requires an *immaterial* adjustment in order to account for differences is sufficiently "similar" for these purposes, but they are not required to do so. This approach also is consistent with the MSRB's view that, in order for a security to qualify as sufficiently "similar," the security must be at least highly similar to the subject security with respect to nearly all the "similar" security factors listed in Rule G-30 Supplementary Material .06(b)(ii) that are relevant to the subject security.

Whichever approach a dealer chooses to apply, the dealer must apply that approach consistently across all municipal securities.

Due to the lack of active trading in many municipal securities and the above discussion regarding the identification of "similar" securities in the municipal securities market, under the waterfall analysis, dealers in the municipal securities market

may not often find information from sufficiently similar securities as compared to dealers in other fixed income markets.

Because of the unique characteristics of the municipal securities market, the MSRB response to this question may differ from the FINRA interpretation under FINRA Rule 2121.

(July 12, 2017)

3.24.1 How many "similar" securities must a dealer consider at the "similar" securities stage of the waterfall analysis?

The obligation to determine PMP requires a dealer to use reasonable diligence. It does not require a dealer to seek out and consider every potentially relevant data point available in the market. At this point in the waterfall analysis, a dealer must only seek out and consider enough information to reasonably determine that it has identified the prevailing market price of the security (or that there is no probative information to determine PMP before proceeding to the next level). A dealer's policies and procedures should explain the process for identifying similar securities (and, if relevant, how the dealer may adjust the prices or yields of identified similar securities). Because the reasonable diligence standard is often guided by industry norms, dealers should periodically revisit their policies and procedures to ensure that their established processes continue to remain reasonable.

Due to the unique characteristics of the municipal securities market, including the large number of issuers and the bespoke nature of many municipal securities, it is unlikely that the dealer will identify a substantial number of "similar" securities for many municipal securities. For example, it would be reasonable for a dealer to determine that a comparison security is not sufficiently "similar" to the subject security for purposes of Supplementary Material .06 if the prices or yields of the comparison security would require an adjustment in order to account for differences between that security and the subject security.

(March 19, 2018)

3.25 How is the "relative weight" provision in paragraphs (a)(v) (regarding the hierarchy of pricing factors) and (a)(vi) (regarding similar securities) of Supplementary Material .06 meant to be used in operation?

This provision is meant to be used when there is more than one comparison transaction or quotation within the categories specified in the hierarchy of pricing factors and when there is more than one comparison transaction or quotation within the similar securities level of the waterfall analysis. In these cases, a dealer may consider the facts and circumstances of the comparison transactions or quotations to determine the weight or degree of influence to attribute to a particular transaction or quotation. For example, a dealer might give greater weight to more recent (timely) comparison transactions or quotations. Similarly, to the extent a dealer considers comparison transactions or quotations in which the dealer is on the same side of the market as the dealer in the subject transaction (if known from dealer customer trade reports),[4] a dealer might give relatively less weight or influence to such information in determining PMP than information from transactions or quotations in which the dealer was on the opposite side of the market from the dealer in the subject transaction.

Consistent with the standard of reasonable diligence and a reasonable policies and procedures approach to the PMP determination, a dealer may adopt a reasonable methodology that it will consistently apply when considering the facts and circumstances of comparison transactions or quotations and assigning relative weight to such transactions or quotations. For example, a dealer might employ an average weighted price methodology (if all relevant trade sizes are publicly available) or last price methodology, provided its policies and procedures called for the reasonable and consistent use of the methodology and did not ignore potentially relevant facts and circumstances, such as side of the market.

Due to the unique characteristics of the municipal securities market, the MSRB response to this question may differ from the FINRA interpretation under FINRA Rule 2121.

(July 12, 2017)
(Updated March 19, 2018)

3.26 When dealers consider the hierarchy of pricing factors under Supplementary Material .06(a)(v), or similar securities factors under paragraph (a)(vi), may they consider the size of comparison transactions to determine their relative weight?

Yes. Paragraphs (a)(v) and (a)(vi) include a non-exhaustive list of facts and circumstances that may impact the "relative weight" of comparison transactions or quotations that may be considered at that point in the waterfall analysis. The MSRB believes it would be reasonable to consider the size of a comparison transaction when considering its relative weight.

(July 12, 2017)

3.27 What is an "applicable index" as that term is used at the "similar securities" level of Supplementary Material .06?

Supplementary Material .06 lists a number of non-exclusive factors that a dealer can look to in determining whether a security is sufficiently "similar" to the subject security. One of these factors is how comparably they trade over an applicable index or U.S. Treasury securities of a similar duration. The inclusion of the more general term "applicable index," is intended to give dealers flexibility to consider, for example, commonly used municipal market bond indices, yield curves and benchmarks as these may be more relevant than data on Treasury securities (especially for tax-exempt bonds).

Amendment No. 1 to SR-MSRB-2016-12, at 5 (November 14, 2016)

(July 12, 2017)

3.28 Must dealers keep their PMP determination for each trade in their books and records?

The MSRB believes that dealers should keep records to demonstrate their compliance with Rule G-30, particularly where they have the evidentiary burden to demonstrate why a contemporaneous transaction was not the best measure of PMP for a given trade. The MSRB further notes that it would expect PMP documentation to be an important component of a firm's system to supervise compliance with Rules G-15 and G-30.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 20 n. 39 (September 1, 2016); MSRB Response to Comments on SR-MSRB-2016-12, at 8 (November 14, 2016)

(July 12, 2017)
(Updated March 19, 2018)

3.29 Is there a difference between the PMP that is determined for mark-up disclosure purposes under Rule G-15 and for fair pricing purposes under Rule G-30?

As noted during the rulemaking process, the MSRB recognizes that by allowing dealers to determine PMP for mark-up disclosure purposes at the time of entry of information into systems for confirmation generation, a mark-up disclosed on a confirmation may not reflect subsequent trades that could be considered "contemporaneous" under Supplementary Material .06. However, the MSRB does not believe it is necessary to make a formal distinction between a PMP determined for disclosure purposes and a PMP determined for other regulatory purposes. Still, in connection with any post-transaction fair pricing review process, dealers should not disregard any new information relevant under Supplementary Material .06 that occurs after the mark-up determination (*e.g.*, contemporaneous proceeds obtained after the customer transaction).

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 14; 25; 28 (September 1, 2016); MSRB Response to Comments on SR-MSRB-2016-12, at 10 (November 14, 2016)

(July 12, 2017)

Section 4: Time of Execution and Security-Specific URL Disclosures

4.1 When must dealers disclose the time of execution on a customer confirmation?

Under Rule G-15, dealers must disclose the time of execution for all transactions, including principal and agency transactions. However, for transactions in municipal fund securities and transactions for an institutional account, as defined in Rule G-8(a)(xi), in lieu of disclosing the time of execution, dealers may instead include on the confirmation a statement that the time of execution will be furnished upon written request of the customer. This time-of-execution disclosure requirement is not limited to circumstances where mark-up disclosure is triggered; therefore, it is required even where mark-up disclosure is not.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 13-14 (September 1, 2016); Amendment No. 1 to SR-MSRB-2016-12, at 4-5 (November 14, 2016)

(July 12, 2017)

4.2 How should the time of execution be disclosed?

Dealers have an obligation under Rule G-14, on reports of sales or purchases of municipal securities, to report the "time of trade" to the MSRB's Real-Time Transaction Reporting System. In addition, dealers have an obligation under Rule G-8(a)(vii) to make and keep records of the time of execution of principal transactions in municipal securities. The time of execution for confirmation disclosure purposes is the same as the time of trade for Rule G-14 reporting purposes and the time of execution for purposes of Rule G-8(a)(vii), except that dealers should omit all seconds, without rounding to the minute, from the time-of-execution disclosure because the trade data displayed on EMMA does not include seconds.

Alternatively, if disclosure in this format is operationally challenging or burdensome for a dealer, a dealer may choose to disclose the seconds, again without rounding to the minute (*e.g.*, a time of trade of 10:00:59 may be disclosed as 10:00:59 or 10:00). Additionally, because EMMA displays the time of trade in eastern standard time (EST), dealers may disclose on the customer confirmation the time of execution in either military time (as reported to RTRS under Rule G-14) or in traditional EST with an AM or PM indicator (*e.g.*, a time of trade of 14:00:59 may be disclosed on a confirmation as 14:00:59, 14:00, 2:00:59 PM or 02:00 PM). The time-of-execution disclosure format used by a dealer should be consistent for all municipal securities transaction confirmations on which the disclosure is provided.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 14 n. 29 (September 1, 2016); MSRB Response to Comments on SR-MSRB-2016-12, at 6 n. 11 (November 14, 2016)

(July 12, 2017)
(Updated March 19, 2018)

4.3 When must dealers disclose a security-specific URL on a customer confirmation?

Under Rule G-15, dealers must disclose a security-specific URL, in a format specified by the MSRB as discussed below, for all non-institutional customer trades other than transactions in municipal fund securities, even where mark-up disclosure is not required. In the rare situations where there is no CUSIP assigned for a security that is subject to Rule G-15 at the time the dealer trades the security with a customer, the dealer is not required to include the security-specific URL on the customer confirmation.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 13-14; 27; 35 (September 1, 2016); Amendment No. 1 to SR-MSRB-2016-12, at 4 (November 14, 2016)

(July 12, 2017)
(Updated March 19, 2018)

4.4 What is the security-specific URL that must be disclosed?

The template for the URL that must be disclosed under Rule G-15 is: https://emma.msrb.org/cusip/[insert CUSIP number].[5] The URL is currently live and operational. Paper confirmations must include this URL with the security-specific CUSIP in print form; electronic confirmations must include the security-specific URL as a hyperlink to the web page.

MSRB Response to Comments on SR-MSRB-2016-12, at 6 (November 14, 2016)

FINRA has provided its own security-specific URL template in its guidance.

(July 12, 2017)
(Updated March 19, 2018)

4.5 Do dealers need to provide any other disclosure concerning the security-specific URL?

Yes. Dealers must include a brief description of the type of information that is available on the security-specific web page for the subject security, such as information about the prices of other transactions in the same security, the official statement and other disclosures for the security, ratings and other market data and educational material. To be clear, the disclosure does not need to describe with specificity all of the information available on the relevant web page. As described above, the description should be brief. Additionally, it only needs to describe enough information about the relevant web page that a reasonable investor would understand the type of information available on that page. For example, the following language would satisfy this obligation: "For more information about this security (including the official statement and trade and price history), visit [insert link]."[6] Because this language is an example only, dealers may use other language to describe the content of the web page.

As a reminder, Rule G-15(a)(i)(E) requires all requirements to be clearly and specifically indicated on the front of the confirmation, subject to limited exceptions. Because the description of the type of information available on the security-specific web page is not listed as an exception, it must be on the front of the confirmation.

SR-MSRB-2016-12 Proposed Rule Change to MSRB Rules G-15 and G-30, at 13; 27 (September 1, 2016); MSRB Response to Comments on SR-MSRB-2016-12, at 6 n. 9 (November 14, 2016)

(July 12, 2017)
(Updated March 19, 2018)

4.6 Is disclosure of the time of execution or security-specific URL required for transactions that involve a dealer and a registered investment adviser?

No. Disclosure of the time of execution and security-specific URL is not required for transactions with an institutional customer. Under Rule G-15, a registered investment adviser is an institutional accountholder; accordingly, disclosure is not required for these transactions. This is the case even if the registered investment adviser with whom the dealer transacted later allocates all or a portion of the securities to a retail account or where the transaction is executed directly for a retail account if the investment adviser has discretion over the transaction. The MSRB notes that this answer is specific to the time-of-execution and security-specific URL disclosure requirements in Rule G-15; it is not intended to alter any other obligations.

(July 12, 2017)

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[1] EMMA is a registered trademark of the MSRB.

[2] Prior to May 14, 2018, Supplementary Material .01(d) provides that dealer compensation on a principal transaction is considered to be a mark-up or mark-down that is computed from the inter-dealer market price prevailing at the time of the customer transaction. As of May 14, 2018, the reference to the prevailing "inter-dealer" price is amended to instead, as noted above, reference the "prevailing market price," as described in Supplementary Material .06. Supplementary Material .06, which applies to customer transactions and not internal position movements, generally embodies the principle that the PMP of a security is generally the price at which dealers trade with one another. This underlying principle does not mean that dealers may avoid following the steps of the waterfall analysis in the specific order prescribed in Supplementary Material .06. However, it remains a useful principle that dealers may wish to consider in approaching certain unspecified aspects of the waterfall analysis. The MSRB's responses to Questions 3.11, 3.12, 3.20 and 3.23, in part, are reflective of this underlying principle. Other answers, including those in response to Questions 3.9, 3.10, 3.21 and 3.25 are reflective of the MSRB's longstanding "reasonable diligence" standard, discussed above.

[3] This example assumes that the dealer has identified that it has contemporaneous cost and proceeds at the time that it is determining the mark-up and mark-down to each customer. If this is not the case, however, because the dealer systematically inputs information into its systems for the generation of PMP at the time of trade, then there is a different result. For example, assume that the trade at 98 occurs at 10:00 AM, the trade at 100 occurs at 3:00 PM and these trades are contemporaneous. If the dealer systematically determines PMP at the time of trade, consistent with Question 3.4, at the time of the 10:00 AM trade, the dealer may simply proceed down the waterfall to determine the PMP for the security without the need to adjust that PMP. At the time of the 3:00 PM trade, however, the dealer should adjust its contemporaneous cost as described above to account for the mark-down included in the price.

[4] At the institutional transactions and quotations categories in the hierarchy of pricing factors level of the waterfall, generally, dealers consider information from only one side of the market, depending on whether the dealer is charging a mark-up or mark-down. However, pursuant to reasonable and consistently applied policies and procedures, a dealer may consider information from transactions in which the dealer is on the other side of the market when reasonable to do so. For example, this may be reasonable where the dealer has identified no comparison transactions in which the dealer is on the opposite side of the market as the dealer in the subject transaction. In this case, the dealer may reasonably adjust the transaction price by an amount to account for the price at which that transaction might have occurred had it been a transaction in which the dealer was on the opposite side of the market from the dealer in the subject transaction. Also for example, where the dealer has identified comparison transactions on

both sides of the market, the dealer reasonably may perform a similar adjustment (*i.e.*, adjust a price from a transaction in which the dealer is on the same side of the market as the dealer in the subject transaction by an amount to account for the price at which that transaction might have occurred had it been a transaction in which the dealer was on the opposite side of the market from the dealer in the subject transaction). A dealer's ability to consider such information may be particularly important in the municipal market in which securities often trade infrequently and in which dealers may often have such limited information available to them at the time of their PMP determination.

[5] The MSRB previously announced the URL template as: http://emma.msrb.org/cusip/[insert CUSIP number]. Accordingly, confirmations for dealers that began to program their confirmations in accordance with the previously announced URL template may begin with the *http* format, rather than the *https* format. The MSRB does not expect such dealers to reprogram the URLs provided on customer confirmations as the *http* format will continue to function and will automatically redirect to the more secure *https* site.

[6] As a reminder, for dealers that currently seek to satisfy their obligation to provide a copy of the official statement to customers under Rule G-32(a)(iii) by notifying customers of the availability of the official statement through EMMA, the provision of the link described in this set of FAQs would satisfy both the relevant Rule G-15 security-specific URL obligation and the Rule G-32(a)(iii), provided that, for purposes of Rule G-32(a)(iii), the URL address also is accompanied by the additional information described. For example, if a dealer included the sample description included in this question, the addition of the language "Copies of the official statement are also available from [insert dealer name] upon request" would satisfy both the Rule G-15 security-specific URL obligation and Rule G-32(a)(iii) obligations.

Interpretive Letters

Callable securities: "catastrophe" calls. This will acknowledge receipt of your letter dated October 20, 1977 which has been referred to me for reply. In your letter you request an interpretation of the provisions in rules G-12 and G-15 requiring that the dollar price for transactions in callable securities effected on a yield basis be priced to the lower of price to call or price to maturity. (*See* rules G-12(c)(v)(I) and G-15(a)(viii)[1]).

At its meeting held October 25-26, 1977, the Board confirmed that the requirements in rules G-12 and G-15 relating to pricing to call do not include "catastrophe" calls, that is, calls which occur as a result of events specified in the bond indenture which are beyond the control of the issuer. *MSRB interpretation of November 7, 1977.*

[1] Currently codified at rule G-15(a)(i)(A)(5).

Callable securities: disclosure. I am writing in response to your letter of August 17, 1982, concerning the requirements of Board rules G-12(c)(v)(E) and G-15(a)(v)[*1] concerning securities descriptions set forth on confirmations. In your letter you note that certain descriptive details are required to be disclosed on the confirmation only "if necessary for a materially complete description of the securities," and you inquire whether information as to a security's callability is one of these details.

Rules G-12(c)(v)(E) and G-15(a)(v)[1] require confirmations to set forth a

> description of the securities, including at a minimum the name of the issuer, interest rate, maturity date, and if the securities are limited tax, subject to redemption prior to maturity (callable) or revenue bonds, an indication to such effect, including in the case of revenue bonds the type of revenue, **if necessary for a materially complete description of the securities**, and in the case of any securities, **if necessary for a materially complete description of the securities**, the name of any company or other person in addition to the issuer obligated, directly or indirectly, with respect to debt service or, if there is more than one such obligor, the statement 'multiple obligators' may be shown." (emphasis added)

As you can see, the phrase "if necessary for a materially complete description of the securities" modifies only the requirements for disclosure of "the type of revenue," or ... disclosure of "the name of any company or other person obligated ... with respect to debt service...," and does not modify the requirements for disclosure of the other listed information. Both rules, therefore, deem information as to the "name of the issuer, interest rate, maturity date and if the securities are limited tax, subject to redemption prior to maturity (callable) or revenue bonds" to be necessarily material and subject to disclosure on the confirmation. In the specific case which you cite, that of a security with an "in-part" sinking fund call feature, the confirmation of a transaction in such security would be required to identify the security as "callable." *MSRB interpretation of August 23, 1982.*

[1] Currently codified at rules G-15(a)(i)(B) and G-15 (a)(i)(C).

Callable securities: extraordinary mandatory redemption features. I am writing in response to your letter of February 15, 1983 regarding the confirmation disclosure requirements applicable to municipal securities which are subject to extraordinary mandatory redemption features. In your letter you inquire whether such securities need be identified as "callable" securities on the confirmation. You also inquire as to the relationship between an extraordinary mandatory redemption feature and a "catastrophe call" feature, and the disclosure requirements applicable to the latter type of provision.

An extraordinary mandatory redemption feature, in my understanding, is a call provision under which an issuer of securities would be obliged to call all or a part of an issue if certain stated unexpected events occur. For example, many of the recent mortgage revenue issues have extraordinary mandatory redemption provisions under which securities would be called if a portion of the proceeds of the issue has not been used to acquire mortgages by a certain stated date, or if moneys received from principal prepayments have not been used to acquire new mortgages by a certain period following receipt of the prepayment. In general, securities which are subject to extraordinary mandatory redemption provisions must be identified as "callable" securities on any confirmation. Extraordinary redemption provisions would not, however, be used for purposes of computing a yield or dollar price.

One specific type of extraordinary mandatory redemption provision is what has been colloquially termed a "catastrophe" or "calamity" call provision. Under this type of provision the issuer of securities would be obliged to call all or part of an issue if the financed project is destroyed or damaged by some catastrophe (*e.g.*, by fire, flood, lightning or other act of God) or if the tax exempt status of the issue is negated. The Board has previously expressed the view that securities which are callable solely under this type of "catastrophe" call provision, and are not otherwise callable, need not be designated as "callable" securities on a confirmation.

In summary, therefore, securities which are subject to extraordinary mandatory redemption provisions other than "catastrophe" call provisions must be identified as "callable" securities on confirmations. *MSRB interpretation of February 18, 1983.*

Original issue discount, zero coupon securities: disclosure of, pricing to call feature. I am writing in response to your inquiry in our recent telephone conversation regarding the application of Board rules to the recent original issue discount on "zero coupon" new issues of municipal securities. In particular, you indicated that these types of securities are often subject to somewhat unusual call provisions, and you inquired as to the application to these types of securities of Board rules concerning the disclosure of call provisions and the use of such call provisions in dollar price and yield computations.

Subsequent to our conversation, I obtained several examples of these call provisions, which were provided to the Board in connection with your inquiry. In the first of these examples, involving an original issue discount security, the call provision commences ten years after issuance, with the redemption price initially set at 90 and increasing by 2 points every three years, reaching a redemption price of 100 twenty-five years after issuance. In the second example, involving a "zero coupon" security, the call provision commences ten years after issuance; the redemption price is based on the compound accreted value of the security (plus a stated redemption premium for the first five years of the call provision), with certain of the securities initially redeemable at an approximate dollar price of 18.

As you know, the call provisions on "zero coupon" and original issue discount securities are one of the special characteristics of such securities, but are not, by any means, the sole special characteristic. The Board is of the view that municipal securities brokers and dealers selling such securities are obliged, under Board rule G-17 as well as under the anti-fraud rules under the Securities Exchange Act, to disclose to customers all material information regarding such special characteristics. As the Board stated in its April 27, 1982 "Notice Concerning 'Zero Coupon' and 'Stepped Coupon' Securities,"

> persons selling such securities to the public have an obligation to adequately disclose the special characteristics of such securities so as to comply with the Board's fair practice rules.

Therefore, in selling an original issue discount or "zero coupon" security to a customer, a dealer would be obliged to disclose, among other matters, any material information with respect to the call provisions of such securities.

I note also that Rule G-15 requires customer confirmations of transactions in callable securities to indicate that the securities are "callable," and to contain a legend stating, in part, that information concerning the call provisions of such securities will be made available upon the customer's request. Customer confirmations of transactions in callable original issue discount or "zero coupon" securities would have to contain such a legend, in addition to the designation "callable," and the details of the call provisions of such securities would have to be provided to the customer in writing upon the customer's request.

The requirement under rules G-12 and G-15 for the computation of dollar price and (under rule G-15) yield to a call or option feature would apply to a transaction in an original issue discount or "zero coupon" security. Therefore, if the dollar price to the call on a transaction in such securities is lower than the price to maturity, such dollar price should be used. In the case of customer confirmations, if the yield to call on a transaction in such securities is lower, such yield must be shown. As you noted in our conversation, in view of the redemption price structure of the call provisions on such securities, the price or yield to call on a particular transaction might be lower than the price or yield to maturity, even though the transaction is effected at a price below par. Since heretofore the industry has been accustomed to call provisions at prices at or above par, industry members may wish to pay particular attention to the processing of transactions in original issue discount or "zero coupon" securities with these unusual types of call provisions, to ensure that the dollar price or yield of such transactions is not inadvertently overstated due to a failure to check the price or yield to call. *MSRB interpretation of June 30, 1982.*

Callable securities: pricing to call. Your letter dated May 1, 1978 concerning the pricing to call provisions of rules G-12 and G-15 has been referred to me for response. In your letter, you request clarification of the application of such provisions to a situation in which securities have been prerefunded and the escrow fund is to be held to the maturity date of the securities. We understand that the securities in question are part of a term issue, sold on a yield basis, and are subject to a mandatory sinking fund call beginning two years prior to maturity.

Under rules G-12 and G-15, the dollar price of a transaction effected on a yield basis must be calculated to the lowest of price to premium call price to par option or price to maturity. The calculation of dollar price to a premium call or par option date should be to that date at which the issuer may exercise an option to call the whole of a particular issue or, in the case of serial bonds, a particular maturity, and not to the date of a call in part.