Appendix: Summary of Impact to Licensed Data Products (Licensed Data Feeds, Morningstar Essentials, and Morningstar API Center)

As a subscriber to our Licensed Data products, please read the summary below of potential impacts the methodology changes may have to your data processing activities. **Please note there are no schema changes or data point additions to the data feeds as a result of these methodology changes**. Due to the calculation and peer group changes, some data points may change in value after the effective date of Oct. 31, 2016. Similarly, some data points may decrease in coverage or cease to populate. As such, depending on your usage and processing of the data, some adjustments may be needed to account for these changes.

Impact of Removal of Load Adjustments to Licensed Data Products:

- Because all Load Waived share classes will be marked as obsolete as of the effective date of Oct. 31, 2016, Morningstar will remove the 'LW' universe from all data feeds.
- Morningstar will remove Load Waived share classes from Essentials deliveries and the API Center.
- Morningstar will remove Load adjustments within the calculation of Morningstar Return from all regions where they currently apply. Since these values may change after the effective date, there may be an impact to their Morningstar Ratings.
- Morningstar will continue to calculate Load-adjusted Returns for Europe, Africa & Asia (EAA) and U.S. funds.

Impact of Combining ETFs and Open-End Funds into One Peer Group to Licensed Data Products:

- Morningstar will continue to deliver U.S. open-end (FO) and ETF (FE) data feeds as separate deliveries. ETFs will remain a separate drop-down option in the Essentials interface, and will also remain as a separate universe option in the API Center.
- Morningstar will remove market price ranks for ETFs; however, the NAV ranks and market price returns will remain unchanged. Please note these data points will cease to populate in the feeds for ETFs. If you utilize these data points in an API Center-generated file, they will also no longer populate in these deliveries.
- Morningstar will remove existing ETF category averages and will combine U.S. category average data so that only one category average for open-end funds and ETFs is created. As a result, category codes for ETFs will change from $FECA$__$$ to the corresponding $FOCA$__$$ category code, and $FECA$_$$ codes will no longer populate after the effective date. Open-end funds and ETFs within the same category will now have the same category sizes, averages, and other characteristics. Morningstar will not recalculate historical category averages.
- Any firm-level calculations for open-end funds will now include ETFs within that calculation, if they are from the same provider company. This will impact firm-level data points such as Manager Tenure, Success Ratio, and Family Score that can be found in the Stewardship feed. Also, for those clients that license Morningstar Essentials, Morningstar will now display pie charts of the Manager Ownership, Manager Tenure, and Fee Level Breakdown for ETFs on the Essentials site.
- Morningstar will calculate broad distribution fee ranks for ETFs, as part of the combined open-end fund and ETF peer group. Therefore, if you currently utilize open-end fee level ranks, you may notice changes in rank based on the addition of ETFs to the calculations.
- The new FINRA-approved disclosure for use of the Morningstar Rating is available below:

  Morningstar Rating™
  The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance,

placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods.

Impact of Discontinuation of Morningstar Ratings for ETNs to Licensed Data Products:

- Morningstar will remove ETNs and ETCs from the Morningstar Ratings and rankings calculations globally. These share classes will continue to be delivered in the FE data feed deliveries, but the corresponding ratings and rankings will no longer populate for the securities.

Impact of Oldest Share Class Changes to Licensed Data Products:

- The “OldestShareClass” data point that can be found in the DataWarehouse and Historical Performance deliveries will continue to populate the oldest active share class. However, under the new methodology, the extended performance history of the security can date back to the original inception date of the fund (including obsolete share classes), which in some instances will provide additional return data to populate for securities.

Impact of Cash Allocation Changes to Licensed Data Products:

- Under the existing methodology, fixed-income holdings are currently classified as “cash” if they are less than one year (364 days) to maturity. As of the effective date of Oct. 31, 2016, Morningstar will reduce this window to 91 days to maturity, resulting in bonds that are between 92 and 364 days to maturity being reclassified from “cash” to “fixed income” asset categories. This may impact certain securities within the DataWarehouse and All Holdings and Asset Classification feeds, relating to portfolio statistics, top holdings, and asset allocation breakdowns.
- Clients who utilize such data to create their own classifications may need to adjust their accounting of these cash investments in their classification models or adjust their displays for disclosing the changes.