Nasdaq Fund Network (NFN)

Batch Upload File Format Specification for NFN Website Users

5/5/2020 Nasdaq Global Information Services

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1 Overview

Through the Nasdaq Fund Network (NFN), Nasdaq facilitates the distribution of daily valuation and corporate action data from fund families and trust sponsors to the market data community.

Nasdaq offers a number of inbound user interface options for fund families, trust sponsors and pricing agents to use to report the NFN data. For firms that opt to use the NFN website facility, Nasdaq allows firms to submit data in a batch file format using the data formats as outlined in this document.

For information on how to upload a preformatted batch file via the NFN secured website, please refer to the <u>NFN Website User</u> <u>Guide</u>.

2 Data Format Changes

2.1 Introduction of NFN 0050 Formats – June 2011

Introduced on June 13, 2011, the NFN 0050 data formats include the following enhancements for NFN pricing agents:

- Consolidate mutual funds and UITs into single inbound (and outbound) message format.
- Expand money market fund message to include net asset value (NAV) field and new data elements outlined in the SEC Money Market Reform Act.
- Separate dividends and distributions message format to allow for advance notifications.

Below is a quick reference table to show how the message formats are changing from the NFN 0040 release to the NFN 0050 release. For more details, please refer to the <u>NFN 0050 Release Data Mapping document</u>.

	NFN 0040 Row Header	NFN 0050 Row Header						
Daily Valuation Data								
Mutual Funds	MFL	MFU						
Unit Investment Trust (UIT) – Debt	UTD	MFU						
UIT – Equity	UTE	MFU						
Money Market Fund	No Longer Supported (as of July 8, 2016)	MMF						
Annuity	MFL	MFU						
Structured Products	Not Supported	MFU						
Alternative Investment Products (AIPs)	Not Supported	MFU						
NextShares Exchange Traded Managed Funds	Not Supported	MFU						
Corporate Actions		·						
Dividends / Interest – All Issues	Part of Valuation Message	DIV						
Capital Distributions – All Issues	Part of Valuation Message	DST						

To facilitate the NFN data format release for customers, Nasdaq will support backward compatibility for the NFN 0040 data formats for mutual funds and UITs through September 30, 2017. For information on how Nasdaq will map the NFN 0040 inbound data entry during the parallel transition period, please refer to the <u>NFN 0040 to NFN 0050 Data Mapping document</u>.

While Nasdaq will offer backward compatibility with NFN 0040 data formats, firms using the legacy feeds should be aware of the following limitations:

- Firms must use the NFN 0050 data formats to report NAV values over \$1000 for mutual funds and annuities.
- Firms must use the NFN 0050 data formats to report UITs or money market instruments with a negative yield value.
- Firms must use the NFN 0050 data formats to report dividends and distributions with a future effective date. (As is the current practice, firms using the NFN 0040 data formats may only report dividends and distributions on ex-date.)
- Firms must use the NFN 0050 data formats to price new asset classes, such as structured products and alternative investment products (AIPs).

It is Nasdaq's policy to only support backward capability for one version of the NFN data formats. As a result, Nasdaq ceased to support the NFN 0030 data formats at the close of business on Friday, June 10, 2011.

2.2 Alternative Investment Product (AIP) Release – March 2013

Nasdaq supports Alternative Investment Products (AIPs) via the NFN system as of March 11, 2013. To support this new asset class, Nasdaq added a new Instrument Type value of "AP" to the NFN 0050 message formats MFU, DIV and DST.

Within the MFU valuation message format, AIPs will be required populate the NAV and Offer/Market Price fields. Nasdaq will support a new Footnote code value of "C" to be used for revaluation of assets by AIPs.

Due to the limited version life, Nasdaq will <u>not</u> support AIPs via the legacy NFN 0040 formats. NFN pricing agents must use the NFN 0050 message formats (or NFN web data entry page) to report AIPs.

2.3 Dividend Enhancement Release – September 2013

In response to NFN pricing agent requests, Nasdaq implemented the following enhancements to Dividend reporting on September 9, 2013:

- **Daily Dividend Factor:** To support greater reporting granularity up to 6 decimal for the Daily Dividend field within the NFN 0050 valuation messages, Nasdaq changed the inbound and outbound price format from \$\$\$\$.dddd to \$\$.dddddd. Please note that NFN pricing agent firms must be prepared to input data in the new price format as of the NFN release date.
- **Cash Distribution Type:** To support end-of-year reporting, Nasdaq added a new code for Special Cash Dividends within the NFN 0050 Dividend / Interest message. The new "S" code will be introduced as an <u>optional</u> value for NFN 0050 data

entry. To allow firms to report Cash Dividends and Special Cash Dividends with the same Ex-Date, Nasdaq will also modify the validation logic to use the combination of Symbol, Cash Distribution Type and Ex-Date for Action processing.

2.4 Test Fund Release – August 2014

In response to NFN pricing agent requests, Nasdaq modified how test symbols are assigned and supported for mutual funds, money market funds, UITs, annuities, AIPs and structured products on August 11, 2014. To make it easier for firms to validate test records, Nasdaq started to support test symbols in all NFN reports as well as the outbound NFN Data Service data feed. Nasdaq also standardized field names across NFN interfaces and specification documents.

2.5 New Footnote Codes – April 2015

Nasdaq introduced new Footnote codes to the NFN system on April 13, 2015.

In association with the amended SEC Money Market Reform Act, Nasdaq added the following two new footnote codes to the NFN 0050 inbound message formats:

Footnote Code	Definition	Purpose
G	Redemption Gate	Denotes if a money market fund has temporarily suspended shareholder redemptions.
		Under the amended SEC Money Market Reform Act, the SEC allows the board of directors of a non-governmental money market fund to temporarily suspend shareholder redemptions for up to 10 business days in a 90 day period ("redemption gate") if the level of the fund's weekly liquid assets falls below 30% of the fund's total assets.
		Government money market funds are permitted, but not required, to impose liquidity fees and redemption gates.
		For more information on the SEC Money Market Reform Act amendments, please refer to the SEC website at http://www.sec.gov/rules/final/2014/33-9616.pdf.
L	Liquidity Fee	Denotes if a money market fund is imposing a liquidity fee.

Under the amended SEC Money Market Reform Act, the SEC allows the board of directors of a non-government money market fund to impose a liquidity fee of up to 2% if the level of the fund's "weekly liquid assets" falls below 30% of the fund's total assets.
The rule also requires non-government money market funds to impose a 1% liquidity fee if the fund's level of weekly liquid assets falls below 10% of total assets, unless the fund's board of directors determines that it would not be in the fund's best interest to impose the fee or determines to impose a lower or higher (up to 2%) liquidity fee.
Government money market funds are permitted, but not required, to impose liquidity fees and redemption gates.
For more information on the SEC Money Market Reform Act amendments, please refer to the SEC website at http://www.sec.gov/rules/final/2014/33-9616.pdf.

Please note that Nasdaq already supported floating NAVs (up to 6 decimal digits) for money market funds via the NFN 0050 message formats.

Based on customer input, Nasdaq added the following new footnote code for interval price mutual fund instruments to the NFN 0050 message formats:

Footnote Code	Definition	Purpose
I	Repurchase Offer Period	Denotes that a repurchase offer period is in effect for an interval fund.
		An interval fund is a type of investment company that periodically offers to repurchase its shares from shareholders. That is, the fund periodically offers to buy back a stated portion of its shares from shareholders. Shareholders are not required to accept these offers and sell their shares back to the fund.
		During repurchase offer periods, interval funds have an increased frequency of NFN price reporting.

As part of the 2015 release, Nasdaq also modified the secured NFN website landing page to make it easier for NFN issuers and pricing agents to stay informed of NFN system changes and upcoming events. For details, please refer to <u>NFN News #2014-7</u>.

2.6 NextShares Exchanged Traded Managed Funds- September 2015 / February 2016

Nasdaq introduced NextShares as a new exchange-listed and exchange-traded asset class in February 2016. For more information, visit the NextShares website at <u>http://www.nextshares.com</u>.

The NFN system is used to report daily net asset value (NAV) for NextShares. NFN NAV data is used by trade confirmation systems so that fund accountants input the NAV entries (and NAV corrections) in a timely and consistent manner. To report NextShares, fund accountants must use the NFN 0050 inbound message formats with a new Instrument Type code of "EM". Please note that NextShares NAV reporting deadline is 6:45 p.m., Eastern Time (ET).¹ Please also note that, because NextShares are exchange listed instruments, corporate actions need to be coordinated with <u>Nasdaq Market Operations</u>.

To prevent symbol conflicts with other asset classes, NFN Operations will assign seven character tickers for NextShares valuation report purposes. The symbol will be compromised of the listing exchange ticker symbol followed by "NX". If, for example, the NextShares had an exchange listing ticker of "ETMFC", the symbol for NAV reporting would be "ETMFCNX".

Please note that Nasdaq released the NFN system changes for NextShares on September 14, 2015. As part of this release, Nasdaq changed the NFN system open time to at 8:00 a.m., ET.

2.7 Money Market Reform Changes – July 2016

To facilitate the reporting of intraday NAVs under the SEC Money Market Reform Act, Nasdaq introduced a new Money Market Fund message format with calculation time on **July 11, 2016**. NFN pricing agents should use the new Money Market Fund (MMC) message format to specify the calculation time for a specific NAV record.

Nasdaq will continue to support the current 0050 money market fund (MMF) message format as it supports intraday and floating NAVs. Because the inbound \$\$ message format does not include a timestamp, however, market data vendors show these money market fund records with the Nasdaq receipt time (rather than NFN pricing agent calculation time).

Because it is not compliant with the SEC Money Market Reform Act, Nasdaq ceased to support the 0040 money market fund (MO) message format as of close of business on July 8, 2016.

¹ To ensure that UTP and other market participant firms have adequate time to complete the nightly trade adjustment process prior to system close, the NAV reporting deadline for NextShares is 6:45 p.m., ET. In the event that a NFN pricing agent misses the NextShares NAV reporting deadline or needs to correct NAV data on a T+1 to T+3 basis, it must contact <u>Nasdaq Trading Services</u> / Trade Support Desk.

2.8 NFN Instrument Code and CSV File Upload Release – June 2017

Based on clients' requests, Nasdaq will add new Instrument Code values for Interval Fund and Business Development Company (BDC) on or about June 5, 2017. Firms that wish to use the new Instrument Codes must use NFN 0050 message formats for data entry. Please note that Interval Fund and BDC instruments will be classified as Mutual Fund instrument type for NFN 0050 reporting purposes.

Based on client requests, Nasdaq will introduce a comma separated value (CSV) file option for NFN valuation data as part of the June 2017 release. Based on the NFN 0050 standard, the CSV file will have a defined message header row for each valuation message format and file naming convention. Please note that Nasdaq will initially support the CSV file upload option via the NFN secured website interface only. Refer to the NFN CSV file specification for details on the file creation. File Header (All Versions)

Each file must be in ASCII format and contain a header used to verify the file as a valid NFN file. The file header must be 18 bytes in length and include the following information:

Field Name	Offset	Length	Format	Description / Values			
System Name	0	4	Alpha	"MFQS"			
Data Format Version	4	4	Numeric	Defines the version of the NFN data formats being used for the pay messages in the batch file transmission. The allowable values are:			
				Version	Scheduled Live Date	Scheduled Retirement Date	
				0040	March 2, 2009	July 8, 2016 (money market funds)	
						September 30, 2017 (mutual funds and UITs) ²	
				0050	June 13, 2011	N/A	

² NFN discontinued support for the 0040 money market fund format (MO) on July 8, 2016. While NFN still allows firms to report mutual funds and UIT valuation data via legacy 0040 message formats, it is supporting "as is" (with no new functionality).

Current System Month	8	2	Numeric	Two byte, numeric representation of the current month (e.g., January = 01)
Current System Day	10	2	Numeric	Two byte, numeric representation of the current day (e.g., 01 to 31)
Current System Year	12	4	Numeric	Four byte, numeric representation of the current year (e.g., 2010, 2011)
End-of-Row Marker	16	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)

Examples: **MFQS004006102011** for a NFN version 0040 file posted on June 10, 2011; **DSVF005006132011** for a NFN version 0050 file posted on June 13, 2011.

Please note that the date of header record must match the current system / calendar date in order for the file to be accepted.

Please also note that, where specified in the associated formats, price related fields must be submitted in the dictated format (inclusive of the decimal point).

2.9 NFN Instrument Type and Instrument Code Release – March 2018

Based on clients' requests, Nasdaq will add new Instrument Type values for Collective Investment Trust (CIT), Managed Accounts, Separate Accounts and Hedge Fund on or about March 26, 2018. Firms that wish to use the new Instrument Types must use NFN 0050 message formats for data entry.

2.10 Integration of rebranding MFQS to Nasdaq Fund Network, Retirement of 0040 Format – August 2018

Nasdaq has rebranded Mutual Fund Quotation Service (MFQS) to Nasdaq Fund Network (NFN). As a result of this rebranding Nasdaq is making a change to the valuation files. The header for System Name of all valuation files for the <u>0050 format only</u>, will change to "DSVF". Nasdaq will run a parallel period for the old System Name of "MFQS" and the new System Name "DSVF"

from August 20, 2018 until March 1, 2019. As of March 1, 2019, all pricing agents should have changed their headers to the new System Name.

Field Name	Offset	Length	Format	Description / Values
System Name	0	4	Alpha	"DSVF"

New Instrument Codes – August 20, 2018

Nasdaq will introduce new Instrument Type Code Value for Demand Deposit Accounts. Firms that wish to use the new instrument codes must use the NFN 0050 message formats for data entry.

Retirement of 0040 – August 20, 2018

Nasdaq will retire the 0040 message format for FTP and CTCI. This will be a hot cut, all messages must be sent in the 0050 format as of August 20, 2018.

2.11 Retirement of 0040 Format – October 19, 2020

3 Nasdaq will retire the 0040 message format for Web Batch files. This will be a hot cut, all messages must be sent in the 0050 format as of October 19, 2020.NFN 0040 Data Formats (Legacy)

The legacy NFN 0040 money market fund file formats are scheduled to be retired on July 8, 2016. New NFN subscribers or customer programs should code to the NFN 0050 message formats.

*Please note that NFN 0040 Data Format will retire on October 19, 2020 .

3.1 NFN Valuation – Mutual Funds and Annuities (NFN 0040)

The format may be used to submit just NAV and offer/market information on a daily basis, or it can be used to submit dividend and capital gain data. The file must contain one record for each fund being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Numeric Format	Description ,	/ Values
Row Header	0	3		"MFL" for mutual fund updates.	
MFQS Symbol	3	7		Nasdaq assigr	ned ticker symbol for the fund.
Instrument Name	10	50		Instrument name for the mutual fund or annuity.	
Instrument Code	60	1		Denotes the type of fund instrument. The allowable values are:	
				Code	Definition
				0	Mutual Fund – Open End
				С	Mutual Fund – Closed End Fund / ETF
				М	Annuity – Variable
				N	Annuity – Equity Indexed
					r asset classes such as structured products and alternative ducts, firms must use NFN 0050 message formats.

Field	Offset	Length	Numeric Format	Descriptio	n / Values	
Footnotes	61	5			Any footnotes applicable for the fund. For instruments reported via the mutual fund message format, the allowable values are:	
				Code	Definition	
				D	NAV adjusted for Capital Gains distribution	
				F	Instrument uses prior day's closing price for NAV calculation	
				N	No Load Fund	
				Р	12(b)1 Fee	
				R	Redemption Fee	
				S	NAV adjusted for stock split or stock dividend	
				X	NAV adjusted for cash dividend	
					e no footnotes for a fund, please submit 5 spaces. To ew footnote value, please contact <u>Nasdaq NFN</u>	
NAV	66	6	\$\$\$.dd	Net asset v "NA".	alue (NAV) for the fund. If unavailable, please submit	
NAV Override	72	1			Indicates if the system should ignore % price validations associated with this field. Allowable values:	
				Space - ove	erride OFF	
				"#" - overri	ide ON	

Field	Offset	Length	Numeric Format	Description / Values
Offer / Market Price	73	8	Offer: \$\$\$.ddUpdated offer/market price of the NFN instrument.\$\$\$\$.ddOpen-end funds and annuities should report offer price in \$\$\$.dd format.Market: \$\$\$.dddClosed end funds and structured products should report r price in the \$\$\$.ddd format.\$\$\$.ddddIf unavailable, please submit "NA".	
Offer / Market Price Override	81	1		Indicates if the system should ignore % price validations associated with this field. Allowable values: Space - override OFF "#" - override ON
Entry Date	82	8	mmddyyyy	Date the valuation data should be applied.
Update Flag - NAV/Offer/Market	90	1		Indicates if the NAV/Offer/Market information should be updated. Allowable values: "Y" - the NAV/Offer/Market information is updated in current message format. (Default) "N" - the NAV/Offer/Market information is not be updated in current message format.
Total Cash Distribution	91	8	\$\$\$.dddd	Amount of cash dividend. If unavailable, please submit "NA". Note: If cash dividend is reported, the "X" footnote code must also be reported in the NFN 0040 message format.

Field	Offset	Length	Numeric Format	Description / Values
Total Cash Distribution Override	99	1		Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF "#" - override ON
Stock Dividend Ratio	100	8	\$\$\$.dddd	 Indicates the stock split/dividend ratio. If unavailable, please submit "NA". Examples: 2-for-1 stock split should be reported as "0002.000000". 1-for-2 reverse stock split should be reported as "0000.500000". 10% stock dividend would be reported as "0001.100000". Note: If Stock Dividend is reported, the "S" footnote code must also be reported in the NFN 0040 message format.
Stock Dividend Override	108	1		Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF "#" - override ON
Short-Term Capital Gain	109	8	\$\$\$.dddd	Amount of short-term capital gain. If unavailable, please submit "NA". Note: If Capital Gain is reported, the "D" footnote code must also be reported in the NFN 0040 message format.

Field	Offset	Length	Numeric Format	Description / Values
Short-Term Capital Gain Override	117	1		Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF "#" - override ON
Reserved	118	8		Field (other-term gain) is no longer supported by NFN system. Space fill. See <u>NFN 0040 to NFN 0050 mapping document</u> for details.
Reserved	126	1		Field is no longer supported by NFN system. Space fill.
Long-Term Capital Gain	127	8	\$\$\$.dddd	Amount of long-term capital gain. If unavailable, please submit "NA". Note: If Capital Gain is reported, the "D" footnote code must also be reported in the NFN 0040 message format.
Long-Term Capital Gain Override	135	1		Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF "#" - override ON
Unallocated Distributions	136	8	\$\$\$.dddd	Amount of unassigned term gains. Closed-end funds only. If unavailable, please submit "NA".
Payment Date	144	8	mmddyyyy	Indicates the dividend payment date for a fund. If no date, please submit spaces.

Field	Offset	Length	Numeric Format	Description / Values
Record Date	152	8	mmddyyyy	Indicates the dividend record date for a fund. If no date, please submit spaces.
Ex Date	160	8	mmddyyyy Indicates the dividend ex date for a fund. If no date, please su spaces. For NFN 0040 messaging, the Ex Date should be the s as the Entry Date.	
Total Net Assets	168	8	\$\$\$\$\$.d	Indicates the total net assets for the fund <u>in millions</u> . If unavailable, please submit "NA". See <u>NFN 0040 to NFN 0050 mapping document</u> for details.
Reserved / Filler	176	2		Space fill
End-of-row marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)

3.3 NFN Valuation - UIT Equity (NFN 0040)

The file must contain one record for each fund being updated. The records must be 180 characters long, in the following format:

*Please note that NFN 0040 Data Format will retire on October 19, 2020.

Field	Offset	Length	Numeric Format	Description	on
Row Header	0	3		"UTE" for e	equity-based UIT updates.
MFQS Symbol	3	7		Nasdaq as	signed ticker symbol for the trust.
Instrument Name	10	50		Name of th	he trust.
Footnotes	60	5		Any footno values are	otes applicable for the fund. For UITs, the current
				Code	Definition
				Х	Redemption NAV adjusted for income distribution
				D	Redemption NAV adjusted for capital distribution
				0	Primary Offering
				Y	Secondary Offering
				W	NRO / Brown Out Indicator
				Н	Deferred Sales Charge
				F	Instrument uses prior day's closing price for Redemption NAV calculation purposes
				To request Operations	t a new footnote value, please contact <u>Nasdaq NFN</u> <u>s.</u>

Field	Offset	Length	Numeric Format	Description
Redemption Price	65	11	\$\$\$\$.dddddd	Price received if trust is redeemed.
				If unavailable, please submit "NA".
Redemption Price Override	76	1		Indicates if the system should ignore validations on this field. Allowable values:
				Space - override OFF
				"#" - override ON
Offer Price	77	11	\$\$\$\$.dddddd	The price paid to purchase units.
				If unavailable, please submit "NA".
Offer Price Override	88	1		Indicates if the system should ignore validations on this field. Allowable values:
				Space - override OFF
				"#" - override ON
Wrap Price	89	11	\$\$\$\$.dddddd	The price paid to purchase units in a wrap account. If unavailable, please submit "NA".
Entry Date	100	8	Mmddyyyy	Date that valuation data should be applied.
Update Flag - Redemption Price	108	1		Indicates if the Redemption NAV/Offer/Wrap updated price information should be updated. Allowable values are:
/Offer				"Y" - the NAV/Offer/Market information will be updated. (Default)
				"N" - the NAV/Offer/Market information will not be updated.

Field	Offset	Length	Numeric Format	Description
Total Cash Distribution	109	9	\$\$\$.ddddd	Amount of income distribution. If unavailable, please submit "NA". See <u>NFN 0040 to NFN 0050 mapping document</u> for details. <i>Note: If Income distribution is reported, message must have "X"</i>
Total Cash Distribution Override	118	1		code in footnote field. Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF
Deturn of Capital	110	0		"#" - override ON
Return of Capital (ROC)	119	9	\$\$\$.dddd	Amount of capital distribution. If unavailable, please submit "NA". See <u>NFN 0040 to NFN 0050 mapping document</u> for details. <i>Note: If Capital distribution is reported, message must have "D" code in footnote field.</i>
Record Date	128	8	Mmddyyyy	Indicates the record date for either an income distribution or a capital distribution. If no date, please submit spaces.
Payment Date	136	8	Mmddyyyy	Indicates the payment date for either an income distribution or a capital distribution. If no date, please submit spaces.
Reserved / Filler	144	34		Space fill

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Field	Offset	Length	Numeric Format	Description
End-of-row marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)

3.4 NFN Valuation - UIT Debt (NFN 0040)

The file must contain one record for each fund being updated. The records must be 180 characters long, in the following format:

*Please note that NFN 0040 Data Format will retire on October 19, 2020

Field	Offset	Length	Numeric Format	Description
Row Header	0	3		"UTD" for debt-based UIT updates.
MFQS Symbol	3	7		Nasdaq assigned ticker symbol for the trust.
Instrument Name	10	50		Name of the trust.

Field	Offset	Length	Numeric Format	Descripti	on
Footnotes 60 5			Any footnotes applicable for the fund. For UITs, the current values are:		
				Code	Definition
				X	Redemption NAV adjusted for income distribution
				D	Redemption NAV adjusted for capital distribution
				0	Primary Offering
				Y	Secondary Offering
				W	NRO / Brown Out Indicator
				Н	Deferred Sales Charge
				F	Instrument uses prior day's closing price for Redemption NAV calculation purposes
					e no footnotes for a fund, please submit 5 spaces. t a new footnote value, please contact <u>Nasdaq NFN</u> s.
Redemption Price	65	11	\$\$\$\$.dddddd	Price recei	ved if trust is redeemed.
				If unavaila	able, please submit "NA".
Redemption Price Override	76	1		Indicates i Allowable	f the system should ignore validations on this field. values:
					verride OFF
				"#" - over	nue ON

Field	Offset	Length	Numeric Format	Description
Offer Price	77	11	\$\$\$\$.dddddd	The price paid to purchase units.
				If unavailable, please submit "NA".
Offer Price Override	88	1		Indicates if the system should ignore validations on this field. Allowable values:
				Space - override OFF
				"#" - override ON
Wrap Price	89	11	\$\$\$\$.dddddd	The price paid to purchase units in a wrap account. If unavailable, please submit "NA".
Current Yield	100	6	\$\$\$.dd	The amount of return of the trust.
				If unavailable, please submit "NA".
ELTR	106	6	\$\$\$.dd	Estimated long-term return (ELTR) of the trust. If unavailable, please submit "NA".
Accrued Interest	112	11	\$\$\$\$.dddddd	Interest accrued since the last interest payment was made. If unavailable, please submit "NA".
Reserved	123	11		Field (Par value Per Unit) is no longer supported. Space fill. See <u>NFN 0040 to NFN 0050 mapping document</u> for details.
Entry Date	134	8	Mmddyyyy	Date that the valuation data should be applied.

Field	Offset	Length	Numeric Format	Description
Update Flag - Redemption Price/Offer	142	1		Indicates if the Redemption NAV, Offer, Wrap NAV/Offer/Wrap updated price, current yield, ELTR, accrued interest and par value per unit information should be updated. Allowable values are: "Y" - the NAV/Offer/Market information will be updated. (Default) "N" - the NAV/Offer/Market information will not be updated.
Total Cash Distribution	143	9	\$\$\$.ddddd	Amount of income distribution. If unavailable, please submit "NA". See <u>NFN 0040 to NFN 0050 mapping document</u> for details. <i>Note: If Income distribution is reported, message must have</i> "X" code in footnote field.
Total Cash Distribution Override	152	1		Indicates if the system should ignore validations on this field. Allowable values: Space - override OFF "#" - override ON
Return of Capital (ROC)	153	9	\$\$\$.ddddd	Amount of capital distribution. If unavailable, please submit "NA". See <u>NFN 0040 to NFN 0050 mapping document</u> for details. <i>Note: If Capital distribution is reported, message must have</i> "D" code in footnote field.

Field	Offset	Length	Numeric Format	Description
Record Date	162	8	Mmddyyyy	Indicates the record date for either an income distribution or a capital distribution. If no date, please submit spaces.
Payment Date	170	8	Mmddyyyy	Indicates the payment date for either an income distribution or a capital distribution. If no date, please submit spaces.
End-of-Row Marker	178	2		Two character row marker to denote the placement of the current message within the file: Carriage return or end of file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)

4 NFN 0050 Data Formats

Due to the fixed nature of the NFN inbound message formats, it is very important that fields be the proper length and format.

- Numeric values must use the correct decimal placement and zero padding. Example: If a firm wanted to report a NAV of \$10.01 in NFN 0050 format, it would enter "000010.010000".
- Text values must be left justified and space padded. Example: If a firm wanted to report NA for Offer/Market Price in NFN 0050 format, it would enter "NA " (NA followed by 11 spaces).
- Dates must be entered in MMDDYYYY format. Example: June 13, 2011 would be entered as "06132011".
- When submitting values as "NA", it is very important that both characters be entered as upper case letters.
- CUSIP must be entered as 9 alphanumeric characters (with no spaces or special codes).

5 File Header (All Versions)

5.1 File Header

Each file must be in the ASCII format and contain a header use to verify the file is a valid NFN file. The file header must be 18 characters in length and include the following information:

Field Name	Offset	Length	Format	Description	/ Values				
System Name	0	4	Alpha	Version of th	Version of the System Name based on format version:				
					Version	System Name			
					0040	"MFQS"			
					0050	"DSVF"			
Data Format Version	4	4	Numeric	Defines the version of the NFN data formats being used for the payload messages in the NFN FTP file. The allowable values are:					
				Version	Scheduled Liv	ve Date	Scheduled Ret	irement Date	

				0040	March 2, 2009	October 19, 2020 – Money Market Funds October 19, 2020 – Open End Mutual Funds, Closed End Mutual Funds, Unit Investment Trusts and Annuities	
				0050	June 13, 2011	N/A	
Current Month	8	2	Numeric	Two byte, 01)	numeric representation of	the current month (e.g., January =	
Current Day	10	2	Numeric	Two byte,	numeric representation of	the current day (e.g., 01 to 31)	
Current Year	12	4	Numeric	Four byte,	numeric representation of	the current year (e.g., 2010, 2011)	
End of Row	16	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file.(Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)			

Examples: **MFQS004006102011** for a NFN version 0040 file posted on June 10, 2011; **DSVF005006132011** for a NFN version 0050 file posted on June 13, 2011.

Please note that the date of header record must match the current date in order for the file to be accepted.

Please also note that, where specified in the associated formats, price related fields must be submitted in the dictated format (inclusive of the decimal point).

5.2 Daily Valuation Message for Mutual Funds, Unit Investment Trusts (UITs), Annuities Structured Products, Alternative Investment Products (AIPs), NextShares, Collective Investment Trust (CIT), Managed Accounts, Separate Accounts, Hedge Funds, and Demand Deposit Accounts (NFN 0050)

This message format should be used to report daily valuation data for all NFN instrument classes except money market funds. The file must contain one record for each instrument being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Format	Description	Required ³	Data Validation
Row Header	0	3	Alphanumeric	Defines inbound data format. "MFU" for mutual fund, UIT and annuity, structured products, alternative investment products, NextShares, Collective Investment trust, managed accounts, separate accounts, hedge fund, and demand deposit account updates.	Yes	 Field level validations: Row Header not defined. Message does not match the Row Header value.
Symbol (pka Fund ID)	3	11	Alphanumeric	Defines the NASDAQ assigned ticker symbol for NFN instrument. Note: This field is being expanded to 11 bytes to accommodate for symbology changes as needed.	Yes	 Field level validations: Symbol is not defined in system. Symbol status is not set to active. Symbol not associated with the supported

³ Each row in the NFN batch file must be 180 bytes. Firms may not omit fields. If not required, firms may opt to space fill the field.

Field	Offset	Length	Format	Description	Required ³	Data Validation
						 instrument types. Firm not entitled for Symbol. Symbol is associated with Money Market Fund.
Footnotes	14	10	Alphanumeric	Any footnotes applicable for the NFN instrument. The allowable values are:	No for normal conditions Yes for ex- date adjustments	 Field level validations: Footnote codes not defined. Footnote codes are duplicated. Footnote code not defined for NFN instrument type.

NFN Batch File Upload Specification Document

Code	Definition	Instrument	
Code	Dennicion	Туре	
		.,,,,	
D	Capital gains	All	
	distribution*		
F	Fund uses prior day	All	
	prices to calculate NFN		
	valuation values		
H	Deferred sales charge	UIT	
I	Repurchase offer period	Mutual Fund	
	for interval funds	Mutual Fullu	
	for interval funds		
N	No load fund	Mutual Fund	
0	Primary offering	UIT	
Р	12(b)1 fee	Mutual Fund	
R	Redemption fee	Mutual Fund	
S	Stock split or dividend	All	
5		All	
	adjustment *		
W	NRO indicator	UIT	
		011	
X	Cash dividend, special	All	
	cash dividend or income		
	distribution adjustment*		
Y	Secondary offering	UIT	
С	Revaluation	AIP and	
		Structured	
		Product	

Field	Offset	Length	Format	Descript	ion	Required ³	Data Validation
				a separat message Please co	or codes D, S and X, firms must also enter te Dividend/Interest or Capital Distribution ontact <u>NFN Operations</u> if you wish to a new footnote code.		
Instrument	24	2	Alphanumeric	Indicates	the type of NFN instrument being	Yes	Field level
Туре				reported	Proposed values are:		validation:
(pka Fund Type)				Code	Definition		 Instrument Type value is not defined. Instrument
.,				MF	Mutual Fund ⁴		
				UT	Unit Investment Trust		Type value
				AN	Annuity		does not match the
				SP	Structured Product		value in NFN registration
				AP	Alternative Investment Product ⁵		service for Symbol.
				EM	NextShares Exchange Traded Managed Fund		
				СТ	Collective Investment Trust		
				MA	Managed Accounts		
				SA	Separate Accounts		
				HF	Hedge Fund		

⁴ Mutual Fund instrument type is used for Open-End Mutual Funds, Closed End Mutual Funds / ETFs, Interval Fund and Business Development Company (BDC) instruments.

⁵ Alternative Investment Product instrument type is used for Managed Future Fund, Fund of Hedge Fund, Non-Traded REIT, Non-Traditional Hedge Fund, Commodity Pool Fund and Private Equity Offering.

Field Offset		: Length	Format	Descrip	tion	Required ³	Data Validation
				DD	Demand Deposit Account		
Reporting Type	26	1	Alphanumeric		s the reporting frequency for NFN ent. Proposed values are:	Yes	Field level validations:
				Code R I	DefinitionDaily / End of Day reporting (Default)Note: Firms may use the "R" code for funds that report on daily, weekly, bi- weekly, or quarterly basis.Intraday UpdateNote: On the outbound NFN Data Service data feed, Nasdaq supports the "I" reporting type value on entries with the current trading date only. For prior entry dates, Nasdaq will treat "R" and "I" values in the same manner so vendors will only update the closing value.		Reporting Type value is not defined.
NAV	27	13	\$\$\$\$\$.dddddd		s the net asset value (NAV) for the NFN ent. If unavailable, please submit "NA".	Yes	 NAV price validations: System price validation parameter for normal price reporting. If current NAV is more than X% higher or lower than

Field	Offset Length	Format	Description	Required ³	Data Validation
					 prior NAV, firm should enter "#" is override field. System price validation for ex-date dividends and distributions. If the current NAV is 100% higher or lower than prior NAV, firm should enter "#" in override field. Firm must also enter "D", "S" or "X" in the Footnotes field. System price validation: NAV cannot be more than offer price. System price validation: NAV cannot be zero. If unavailable, enter "NA".

Field	Offset	Length	Format	Descriptio	n	Required ³	Data Validation
							Instrument Type validation:
							 UITs must enter Redemption Price (rather than NAV).
							Field level validations:
							 NAV format does not match specification.
NAV Override	40	1	Alphanumeric (with special characters)		the system should ignore % price associated with the NAV field. Allowable	No	Field level validations:
				Code	Definition		NAV Override value is not
				Code	Definition		defined.
				#	Override On		
				<space></space>	Override Off (Default)		
Offer/ Market Price	41	13	\$\$\$\$.ddddd	Offer prices are typically reported by open end mutual funds, UITs and annuities. For these instruments, the price should reflect the price at which an investor can purchase shares. Market prices are typically reported by closed end funds and other exchange traded instruments. For these instruments, the price should reflect the closing price on the primary market.		Yes	 For Offer Price validations: System price validation parameter for normal price reporting. If difference

Field	Offset Length	Format	Description	Required ³	Data Validation
			If unavailable, please submit "NA".		 between NAV / Redemption Price and offer / market price fields is greater than X%, firm should enter "#" in override field. System price validation parameter for normal price reporting. If Offer / Market price is more than X% higher or lower than price, firm should enter "#" in override field System price validation for ex-date dividends and distributions: If the current offer price is 100% higher or lower than prior offer

Field	Offset	Length	Format	Description	Required ³	Data Validation
						 price, firm should enter "#" in override field. Firm must also enter "D", "S" or "X" in the Footnotes field. Format level validations: Offer / Market Price format does not match specification.
Offer / Market Price Override	54	1	Alphanumeric (with special characters)	Indicates if the system should ignore % price validations associated with the offer price and market price field. Allowable values:CodeDefinition	No	Field level validations: • Offer / Market Price
				# Override On <space> Override Off (Default)</space>		Override value is not defined.
Redemption Price (UITs only)	55	13	\$\$\$\$\$.ddddd	Indicates the amount that an investor would receive if he were to redeem UIT shares. If unavailable, please submit "NA".	Yes for UITs only	Price level validations: • System price validation parameter for

Field	Offset	Length	Format	Description	Required ³	Data Validation
				If space filled, Nasdaq will populate the field as "NA".		 normal price reporting. If current Redemption Price is more than X% higher or lower than prior Redemption Price, firm should enter "#" is override field. System price validation for ex-date dividends and distributions. If the current Redemption Price is 100% higher or lower than prior Redemption Price, firm should enter "#" in override field. Firm must also enter "D", "S" or "X" in the

Field	Offset	Length	Format	Description	Required ³	Data Validation
						 Footnotes field. System price validation: NAV cannot be more than offer price. System price validation: Redemption Price cannot be zero. If unavailable, enter "NA".
						Instrument Type validation:
						 Mutual funds, annuities, structured products and AIPs should enter NAV (rather than Redemption Price).
						Field level validations:
						 Redemption Price format does not

Field	Offset	Length	Format	Description	n	Required ³	Data Validation
							match specification.
Redemption Price Override (UITs only)	68	1	Alphanumeric (with special characters)	Indicates if the system should ignore % price validations associated with the redemption price field. Allowable values: Code Definition # Override On <space> Override Off (Default)</space>		No	 Field level validations: Redemption Price Override value is not defined.
Wrap Price	69	13	\$\$\$\$\$.ddddd	The price paid to purchase units in a wrap account. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".		Yes for UITs only	 Field level validations: Wrap price format does not match specification.
Total Net Assets	82	15	\$\$\$\$\$\$\$\$	Indicates the total net assets (actual amount in <u>appropriate currency</u>) for instrument. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".		No	 Total Net Asset validations: If the Total Net Assets is less than \$ threshold parameter, firm should enter "#" in override field. Total Net Assets cannot be zero.

Field	Offset	Length	Format	Description	Required ³	Data Validation
						 Field level validations: Total Net Asset format does not match specification.
Total Net Assets Override	97	1	Alphanumeric (with special characters)	Indicates if the system should ignore system validations associated with the Total Net Asset field. Allowable values: Code Definition # Override On <space> Override Off (Default)</space>	No	Field level validations: • Total Net Assets Override value is not defined.
Current Yield	98	9	\$\$\$\$.dddd	The annual rate of return on investment. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Wrap price format does not match specification.
Current Yield Direction	107	1	Alphanumeric (with special characters)	Indicates if the current yield is a positive or negative number. Code Definition - Negative yield; <dash></dash>	No	Field level validations:Yield direction value is not defined.

Field Offset		Length	Format	Descriptio	n	Required ³	Data Validation
				<space></space>	Current yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield (Default)		
ELTR	108	9	\$\$\$\$.dddd	Estimated long term return (ELTR) or the yield over the life of the portfolio of a UIT or other NFN instrument. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".		No	 Field level validations: ELTR format does not match specification.
ETLR 117 Direction	117	1	Alphanumeric (with special characters)	Indicates if the ELTR value is a positive or negative number. Code Definition		No	Field level validations: • ELTR value is not defined.
				- <dash></dash>	Negative yield; ELTR is less than 0.00% so it should be displayed with negative sign.		not denned.
Accrued Interest	118	13	\$\$\$\$\$.dddddd		Positive or zero ELTR(Default) crued since the last interest payment If unavailable, please submit "NA".	No	Field level validations:
				If space fill "NA".	If space filled, Nasdaq will populate the field as "NA".		 Accrued Interest format does not match specification.

Field	Offset	Length	Format	Descriptio	n	Required ³	Data Validation
Daily Dividend Factor	131	9	\$\$.ddddd	Indicates the dividend factor if the fund or UIT declares a daily dividend. Please note that firms should make dividend adjustments for weekends and holidays as necessary. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".		No	 Field level validations: Daily Dividend format does not match specification. Daily Dividend cannot be zero. Daily Dividend Factor cannot exceed NAV.
Daily Dividend Adjustment Indicator	140	40 1	Alphanumeric		the Daily Dividend Factor was fattened veekend, holiday or other non-reported values are:	Yes only if Daily Dividend is reported	 Field level validations: Daily Dividend Adjustment value is not defined. Daily Dividend Adjustment factor does not match
				Code	Definition		
				Y	Fat adjustment reflected in Daily Dividend Factor		
				N	No fat adjustment for Daily Dividend Factor		
				<space></space>	Not applicable; no Daily Dividend Factor provided		logic for associated price field. If Daily Dividend field

Field	Offset	Length	Format	Description	Required ³	Data Validation
						is populated with numeric value, this field must be populated as Y or N. If Daily Dividend field is populated as "NA" or spaces, this field must be populated as <space>.</space>
Entry Date	141	8	MMDDYYYY	Reflects the date for which the daily update is valid. Except for prior day corrections, this field should reflect the current day's date.	Yes	 Date validations: Entry date cannot be a future date. Entry date cannot be more than 365 days in the past. Entry date is not a valid calendar date. Symbol was not active on entry date. Field level validations:

Field	Offset	Length	Format	Description	Required ³	Data Validation
						Entry date does not match specification.
Currency	149	3	Alphanumeric	 Indicates the ISO currency code associated with the NFN price-related fields. For this field, Nasdaq will use ISO 4217 currency alphabetic codes. For NFN 0050, if this field is space filled, Nasdaq will populate the value as assigned in the listing. 	No	Field validations:Currency is not a defined value.
CUSIP	152	9	Alphanumeric	Indicates the unique security identifier as assigned by S&P CUSIP Bureau for NFN instrument. If CUSIP is unknown, firm may enter a dummy CUSIP such as "123456789".	Yes	Offline validation: • Nasdaq will compare the CUSIP number reported in this message against the CUSIP number in the NFN system. If the two values do not match, Nasdaq will include the instrument in its mismatched CUSIP report.

Field	Offset	Length	Format	Description	Required ³	Data Validation
Reserved / Filler	161	17	Space filled	Space fill as needed to meet fixed message length requirement.	No	
End-of-Row Marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file.	Yes	
				(Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)		

5.3 Daily Valuation Message for Money Market Funds (NFN 0050)

This message format should be used to report daily or weekly valuation data for money market funds only.

Note: While this version of the money market fund message format may be used for intraday valuation reporting, it does <u>not</u> support an inbound time stamp. Downstream market data distributors will, therefore, display intraday records with associated NFN dissemination time.

The file must contain one record for each instrument being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Format	Description	Required ⁶	Data Validation
Row Header	0	3	Alphanumeric	Defines inbound data format. "MMF" for money market fund updates with no inbound time.	Yes	 Field level validations: Row Header value is not defined. Data format does not match the Row Header value.
Symbol (pka Fund ID)	3	11	Alphanumeric	Defines the NASDAQ assigned ticker symbol for NFN instrument. Note: This field was expanded to 11 bytes to accommodate for symbology changes as needed.	Yes	 Field level validations: Symbol is not defined in system. Symbol status is not set to active. Symbol is not associated with the supported instrument types. Firm not entitled for Symbol.

⁶ Each row in the NFN batch file must be 180 bytes. Firms may not omit fields. If not required, firms may opt to space fill the field.

Field	Offset	Length	Format	Descrip	otion	Required ⁶	Data Validation
							Symbol not associated with Money Market Fund.
Footnotes 14	14	10	Alphanumeric	instrum	tnotes applicable for the NFN ent. The allowable values for market funds are:	No	 Field level validations: Footnote codes not defined.
				Code	Definition		Footnote codes are duplicated.
				A	Fund's return may differ due to capital gains or losses		Footnote code not defined for
	B Sales or account charges impact yield	Sales or account charges may impact yield		Instrument Type.			
				F	Fund uses price of day prior to the day of reporting		
				G	Redemption Gate In Effect		
				L	Liquidity Fee In Effect		
				S	Stock split dividend*		
				D	Capital Distribution*		
				X	Cash dividend, special cash dividend or income distribution adjustment*		
				also ent	For codes D, S and X, firms must er a separate Dividend/Interest al Distribution message.		

Field	Offset	Length	Format	Descrip	tion	Required ⁶	Data Validation
					Please contact <u>NFN Operations</u> if you wish to request a new footnote code.		
Reporting Type	24	1	Alphanumeric		s the reporting frequency for rument. Proposed values are:	Yes	Field level validation:Instrument Type
				Code	Definition		value is not defined.Instrument Type
				R	Daily / End of Day reporting (Default)		value does not match the value in
					Note: Firms may use the "R" code for funds that report on daily, weekly, bi-weekly, or quarterly basis.		NFN registration service for Symbol.
				I	Intraday Update		
					Note: On the outbound NFN Data Service data feed, Nasdaq supports the "I" reporting type value on entries with the current trading date only. For prior entry dates, Nasdaq will treat "R" and "I" values in the same manner so vendors will only update the closing value.		
Average Maturity	25	3	Numeric	-	maturity reported in number of unavailable, please submit "NA".	Yes	Average maturity validations:

Field	Offset	Length	Format	Description	Required ⁶	Data Validation
						 Average maturity must not exceed 365. Field level valuations: Average maturity format does not match specification.
Average Life	28	3	Numeric	Average life as calculated in accordance with the SEC Money Market Reform Act. If unavailable, please submit "NA".	Yes	 Average life validations: Average life must not exceed 365. Field level validation: Average life format does not match specification.
NAV	31	13	\$\$\$\$\$.dddddd	Indicates the net asset value (NAV) for the fund. If unavailable, please submit "NA".	Yes	 NAV price validations: System price validation parameter for normal price reporting. If current NAV is more than X% higher or lower than prior NAV, firm should enter "#" is override field. Field level validations:

Field	Offset	Length	Format	Descriptio	on	Required ⁶	Data Validation
							NAV format does not match specification.
NAV 2 Override	44	1	Alphanumeric (including special characters)	price valida	the system should ignore the system should ignore ations associated with the rket NAV field. Allowable	No	Field level validations:NAV Override value is not defined.
				Code	Definition		
				#	Override On		
				<space></space>	Override Off (Default)		
Gross 7 Day Yield	45	9	\$\$\$\$.ddd	Provides yield based on average net income earned by the securities in the fund's portfolio during the past 7 days. In accordance with the <u>SEC definition</u> , gross 7 day yield should exclude capital changes and income other than investment income. In addition, the gross 7 day yield should not reflect a deduction of shareholders fees and fund operating expenses. If unavailable, please submit "NA".		Yes	 Price level validations: System validation with variable parameter: If current Gross 7 Day Yield is more than X% higher or lower than prior Gross 7 Day Yield, firm should enter "#" is override field. Field level validations: Gross 7 Day Yield format does not match specification.
Gross 7 Day Yield Direction	54	1	Alphanumeric (including special characters)		the gross 7 day yield value is negative. Allowable values:	Yes only if yield is negative	Field level validations:

Field	Offset	Length	Format	Descriptio	n	Required ⁶	Data Validation
				- <dash></dash>	DefinitionNegative yield;Gross yield is less than0.00% so it should bedisplayed with negativesign.Positive or zero yield(Default)		Yield direction value is not defined.
Gross 7 Day Yield Override	55	1	Alphanumeric (including special characters)	validations	The system should ignore % associated with the Gross 7 ield. Allowable values: Definition Override On Override Off (Default)	No	Field level validations:Override value is not defined.
Subsidized 7 Day Yield	56	9	\$\$\$\$.ddd	The subsidi calculation	zed yield reflects the yield with expense limitation effect. If unavailable, please	Yes	 Price level validations: System validation with variable parameter: If current Subsidized 7 Day Yield is more than X% higher or lower than prior Subsidized 7 Day Yield, firm should enter "#" is override field.

Field	Offset	Length	Format	Descriptio	n	Required ⁶	Data Validation
Subsidized	65	1	Alphanumeric	Indicator if	the subsidized 7 day yield –	Yes only if	 Field level validations: Subsidized 7 Day Yield format does not match specification. Field level validations:
7 Day Yield Direction	05		(including special characters)		value is positive or negative.	yield is negative	 Yield direction value is not defined.
				Code	Definition		
				- <dash></dash>	Negative yield; Subsidized yield is less than 0.00% so it should be displayed with negative sign.		
				<space></space>	Positive or zero yield (Default)		
Subsidized 7 Day Yield Override	66	1	Alphanumeric (including special characters)	validations	the system should ignore % associated with the 7 Day Yield field. Allowable	No	Field level validations:Override value is not defined.
				Code	Definition		
				#	Override On		
				<space></space>	Override Off (Default)		
Effective Annualized 7 Day Yield	67	9	\$\$\$\$.dddd		e expected annualized yield hat any income earned was	No	 Field level validations: Effective Annualized 7 Day Yield format

Field	Offset	Length	Format	Descriptio	n	Required ⁶	Data Validation
				field is space	ble, please submit "NA". If this ce filled, Nasdaq will e this field as "NA".		does not match specification.
Effective Annualized 7 Day Yield Direction	76	1	Alphanumeric (including special characters)		the effective annualized 7 alue is positive or negative. values:	N	 Field level validations: Yield direction value is not defined.
				Code	Definition		
				- <dash> <space></space></dash>	Negative yield; Effective annualized yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield (Default)		
30 Day Yield	77	9	\$\$\$\$.ddd	Indicates the 30 day yield value based on the SEC calculation methodology with expense limitation currently in effect. If unavailable, please submit "NA". If this field is space filled, Nasdaq will disseminate this field as "NA".		No	 Field level validations: 30 Day Yield format does not match specification.
30 Day Yield Direction	86	1	Alphanumeric (including special characters)	special positive or negative. Allowable values:		No	Field level validations:Yield direction value
				Code	Definition		is not defined.

Field	Offset	Length	Format	Description		Required ⁶	Data Validation
				<dash> 3 0 d s <space> P</space></dash>	Negative yield; 30 day yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield (Default)		
30 Day Yield Date	87	8	MMDDYYYY	the 30 day yie If unavailable If this field is	period end date for which eld was calculated. e, please submit "NA". space filled, Nasdaq will his field as "NA".	Yes only if 30 day yield is reported	 Date validations: 30 Day Yield Date is a future date. 30 Date Yield Date is more than 365 days in the past. 30 Day Yield Date is not a valid calendar date. Field level validations: 30 Day Yield Date does not match specification.
Daily Dividend Factor	95	9	\$\$.ddddd	money marke dividend. Plea make dividend weekends and	dividend factor if the et fund declares a daily ase note that firms should d adjustments for d holidays as necessary. e, please submit "NA".	No	 Field level validations: Daily Dividend format does not match specification. Daily Dividend cannot be zero.

Field	Offset	Length	Format	Descriptio	n	Required ⁶	Data Validation
					is space filled, Nasdaq will e this field as "NA".		Daily Dividend cannot exceed NAV.
Daily Dividend Adjustment Indicator	104	1	Alphanumeric	Indicates if the Daily Dividend Adjustment Factor was fattened to reflect weekend, holiday or other non- reported period. Allowable values are:		Yes only if Daily Dividend is reported	 Field level validations: Daily Dividend Adjustment value is not defined. Daily Dividend Adjustment factor
				Code	Definition		does not match logic
				Y	Fat adjustment reflected in Daily Dividend Factor		for associated price field. If Daily Dividend field is
				N	No fat adjustment for Daily Dividend Factor		populated with numeric value, this field must be
		<space></space>	Not applicable; no Daily Dividend Factor provided		populated as Y or N. If Daily Dividend field is populated as "NA" or spaces, this field must be populated as <space>.</space>		
Total Net Assets	105	15	\$\$\$\$\$\$\$\$\$\$\$		ne total net assets (actual listed currency) for	No	Total Net Asset validations: • If the Total Net
		If this field	, please submit "NA". is space filled, Nasdaq will e this field as "NA".		Assets is less than \$ threshold parameter, firm should enter "#" in override field.		

Field	Offset	Length	Format	Description	Required ⁶	Data Validation
						 Total Net Assets cannot be zero. Field level validations: Total Net Asset format does not match specification.
Total Net Assets Override	120	1	Alphanumeric (with special characters)	Indicates if the system should system validations associated Total Net Asset field. Allowab Code Definition # Override On <space> Override Off (Determined off (Determined off))</space>	l with the le values:	 Field level validations: Total Net Assets Override value is not defined.
Entry Date	121	8	MMDDYYYY	Reflects the date for which th update is valid. Except for pri corrections, this field should r current day's date.	or day	 Date validations: Entry date cannot be a future date. Entry date cannot be more than 365 days in the past. Entry date is not a valid calendar date. Symbol was not active on entry date. Field level validations: Entry date does not match specification.

Field	Offset	Length	Format	Description	Required ⁶	Data Validation
Currency	129	3	Alphanumeric	Indicates the ISO currency code associated with the NFN price-related fields. For this field, Nasdaq will use <u>ISO</u> <u>4217 currency alphabetic codes.</u> For NFN 0050, if this field is space filled, Nasdaq will populate the value as assigned in the listing.	No	 Field validations: Currency reported is not a defined value.
CUSIP	132	9	Alphanumeric	Indicates the unique security identifier as assigned by S&P CUSIP Bureau for NFN instrument. If CUSIP is unknown, firm may enter a dummy CUSIP such as "123456789".	Yes	Offline validations: • Nasdaq will compare the CUSIP number reported in this message against the CUSIP number in the NFN system. If the two values do not match, Nasdaq will include the instrument in its mismatched CUSIP report.
Reserved / Filler	141	37	Space filled	Space fill as needed to meet fixed message length requirement.		
End-of- Row Marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file.	Yes	
				(Note: Carriage return command is typically stored as a hexadecimal code of		

Field	Offset	Length	Format	Description	Required ⁶	Data Validation
				"0xD" and end of file is typically stored as "0xA".)		

5.4 Daily Valuation Message for Money Market Funds with Calculation Time (NFN 0050)

This new message format should be used by money market funds to report intraday, daily or weekly valuation data as of July 11, 2016. Firms should use this version of the money market fund message format if they wish to have a specific NAV calculation time displayed.

The file must contain one record for each instrument being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Format	Description	Required ⁷	Data Validation
Row Header	0	3	Alphanumeric	Defines inbound data format. "MMC" for money market fund updates with calculation time.	Yes	 Field level validations: Row Header value is not defined. Data format does not match the Row Header value.
Symbol	3	11	Alphanumeric	Defines the NASDAQ assigned ticker symbol for NFN instrument. Note: This field was expanded to 11 bytes to accommodate for symbology changes as needed.	Yes	 Field level validations: Symbol is not defined in system. Symbol status is not set to active. Symbol is not associated with the

⁷ Each row in the NFN batch file must be 180 bytes. Firms may not omit fields. If not required, firms may opt to space fill the field.

Field	Offset	Length	Format	Descrip	tion	Required ⁷	Data Validation
							 supported instrument types. Firm not entitled for Symbol. Symbol not associated with Money Market Fund.
Footnotes	14	4 10 Alphanumeric Any footnotes applicable for the NFN instrument. The allowable values for money market funds are:	No	 Field level validations: Footnote codes not defined. 			
				Code	Definition		Footnote codes are duplicated.
				A	Fund's return may differ due to capital gains or losses		Footnote code not defined for
				В	Sales or account charges may impact yield		Instrument Type.
				F	Fund uses price of day prior to the day of reporting		
				G	Redemption Gate In Effect		
				L	Liquidity Fee In Effect		
				S	Stock split dividend*		
				D	Capital Distribution*		
				X	Cash dividend, special cash dividend or income distribution adjustment*		

Field	Offset	Length	Format	Descrip	tion	Required ⁷	Data Validation
				also ente or Capita Please co	For codes D, S and X, firms must er a separate Dividend/Interest al Distribution message. ontact <u>NFN Operations</u> if you request a new footnote code.		
Reporting Type	24	1	Alphanumeric		s the reporting frequency for rument. Proposed values are:	Yes	Field level validation: Instrument Type
				Code	Definition		value is not defined.Instrument Type
				R	Daily / End of Day reporting (Default) Note: Firms may use the "R" code for funds that report on daily, weekly, bi-weekly, or quarterly basis.		 Instrument Type value does not match the value in NFN registration service for Symbol.
				I	Intraday Update		
					Note: On the outbound NFN Data Service data feed, Nasdaq supports the "I" reporting type value on entries with the current trading date only. Although all prior day transactions will be marked as "C" reporting type on outbound message formats, Nasdaq will reflect calculation time on all outbound money market		

Field	Offset	Length	Format	Description	Required ⁷	Data Validation
				fund messages 2016.	as of July 11,	
Average Maturity	25	3	Numeric	Average maturity reported days. If unavailable, pleas		 Average maturity validations: Average maturity must not exceed 365. Field level valuations: Average maturity format does not match specification.
Average Life	28	3	Numeric	Average life as calculated with the SEC Money Marke If unavailable, please subr	et Reform Act.	 Average life validations: Average life must not exceed 365. Field level validation: Average life format does not match specification.
NAV	31	13	\$\$\$\$\$.dddddd	Indicates the net asset val the fund. If unavailable, p "NA".		 NAV price validations: System price validation parameter for normal price reporting. If current NAV is more than X% higher or lower than prior NAV, firm

Field	Offset	Length	Format	Descriptio	n	Required ⁷	Data Validation
							 should enter "#" is override field. Field level validations: NAV format does not match specification.
NAV Override	44	1	Alphanumeric (including special characters)	Indicates if the system should ignore price validations associated with the money market NAV field. Allowable values:		No	 Field level validations: NAV Override value is not defined.
				Code	Definition		
				#	Override On		
				<space></space>	Override Off (Default)		
Gross 7 Day Yield	45	9	\$\$\$\$.dddd	income ear fund's portf In accordar gross 7 day changes an investment gross 7 day	eld based on average net ned by the securities in the folio during the past 7 days. Ance with the <u>SEC definition</u> , a yield should exclude capital d income other than income. In addition, the a yield should not reflect a of shareholders fees and fund expenses.	Yes	 Price level validations: System validation with variable parameter: If current Gross 7 Day Yield is more than X% higher or lower than prior Gross 7 Day Yield, firm should enter "#" is override field.
				If unavailat	ole, please submit "NA".		 Field level validations: Gross 7 Day Yield format does not match specification.

Field	Offset	Length	Format	Descriptio	n	Required ⁷	Data Validation
Gross 7 Day Yield Direction	54	1	Alphanumeric (including special characters)		the gross 7 day yield value is negative. Allowable values:	Yes only if yield is negative	Field level validations: Yield direction value
Direction				Code	Definition	negative	is not defined.
				- <dash></dash>	Negative yield; Gross yield is less than 0.00% so it should be displayed with negative sign.		
				<space></space>	Positive or zero yield (Default)		
Gross 7 Day Yield Override	55	1	Alphanumeric (including special characters)	validations	the system should ignore % associated with the Gross 7 ield. Allowable values:	No	 Field level validations: Override value is not defined.
				Code	Definition		delinedi
				#	Override On		
				<space></space>	Override Off (Default)		
Subsidized 7 Day Yield	56	9	\$\$\$\$.dddd	calculation currently ir please sub Note: A dir support ne	ection field is being added to gative yield values. Once	Yes	 Price level validations: System validation with variable parameter: If current Subsidized 7 Day Yield is more than
					ed, NASDAQ will discontinue ary footnote code of "0".		X% higher or lower than prior Subsidized 7 Day Yield, firm

Field	Offset	Length	Format	Descriptio	n	Required ⁷	Data Validation
							 should enter "#" is override field. Field level validations: Subsidized 7 Day Yield format does not match specification.
Subsidized 7 Day Yield Direction	65	1 Alphanumeric (including special characters) Indicates if the subsidized 7 day yield subsidized value is positive or negative Allowable values:		value is positive or negative.	Yes only if yield is negative	 Field level validations: Yield direction value is not defined. 	
				Code - <dash> <space></space></dash>	Definition Negative yield; Subsidized yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield (Default)		
Subsidized 7 Day Yield Override	66	1	Alphanumeric (including special characters)	validations	The system should ignore % associated with the 7 Day Yield field. Allowable	No	Field level validations:Override value is not defined.
				Code #	Definition Override On		
				<space></space>	Override Off (Default)		

Field	Offset	Length	Format	Descriptio	n	Required ⁷	Data Validation
Effective Annualized 7 Day Yield	67	9	\$\$\$\$.dddd	Reflects the expected annualized yield assuming that any income earned was reinvested. If unavailable, please submit "NA". If this field is space filled, Nasdaq will disseminate this field as "NA".		No	 Field level validations: Effective Annualized 7 Day Yield format does not match specification.
Effective Annualized 7 Day Yield Direction	76	1	Alphanumeric (including special characters)	day yield v	Indicates if the effective annualized 7 day yield value is positive or negative. Allowable values:		Field level validations:Yield direction value is not defined.
Direction				Code	Definition		
				- <dash> <space></space></dash>	Negative yield; Effective annualized yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield		
30 Day Yield	77	9	\$\$\$\$.dddd	on the SEC expense lin If unavailal this field is	(Default) ne 30 day yield value based calculation methodology with nitation currently in effect. ble, please submit "NA". If space filled, Nasdaq will e this field as "NA".	No	 Field level validations: 30 Day Yield format does not match specification.
30 Day Yield Direction	86	1	Alphanumeric (including special characters)		the 30 day yield value is negative. Allowable values: Definition	No	Field level validations:Yield direction value is not defined.

Field	Offset	Length	Format	Description	n	Required ⁷	Data Validation
				- <dash> <space></space></dash>	Negative yield; 30 day yield is less than 0.00% so it should be displayed with negative sign. Positive or zero yield (Default)		
30 Day Yield Date	87	8	MMDDYYYY	the 30 day If unavailab If this field i	e period end date for which yield was calculated. de, please submit "NA". is space filled, Nasdaq will e this field as "NA".	Yes only if 30 day yield is reported	 Date validations: 30 Day Yield Date is a future date. 30 Date Yield Date is more than 365 days in the past. 30 Day Yield Date is not a valid calendar date. Field level validations: 30 Day Yield Date does not match specification.
Daily Dividend Factor	95	9	\$\$.ddddd	money marl dividend. Pl make divide weekends a	e dividend factor if the ket fund declares a daily ease note that firms should end adjustments for and holidays as necessary. ele, please submit "NA".	No	 Field level validations: Daily Dividend format does not match specification. Daily Dividend cannot be zero.

Field	Offset	Length	Format	Descriptio	'n	Required ⁷	Data Validation
					is space filled, Nasdaq will e this field as "NA".		Daily Dividend cannot exceed NAV.
Daily Dividend Adjustment Indicator	104	1	Alphanumeric	Indicates if the Daily Dividend Adjustment Factor was fattened to reflect weekend, holiday or other non- reported period. Allowable values are: Code Definition Y Fat adjustment reflected in Daily Dividend Factor N No fat adjustment for Daily Dividend Factor <space> Not applicable; no Daily Dividend Factor provided</space>		Yes only if Daily Dividend is reported	 Field level validations: Daily Dividend Adjustment value is not defined. Daily Dividend Adjustment factor does not match logic for associated price field. If Daily Dividend field is populated with numeric value, this field must be populated as Y or N. If Daily Dividend field is populated as "NA" or spaces, this field must be populated as <space>.</space>
Total Net Assets	105	15	\$\$\$\$\$\$\$\$	amount in <u>i</u> instrument If available If this field	ne total net assets (actual l <u>isted currency</u>) for , please submit "NA". is space filled, Nasdaq will e this field as "NA".	No	 Total Net Asset validations: If the Total Net Assets is less than \$ threshold parameter, firm should enter "#" in override field. Total Net Assets cannot be zero.

Field	Offset	Length	Format	Descriptio	'n	Required ⁷	Data Validation
Total Net Assets Override	120	1	Alphanumeric (with special characters)	system vali	the system should ignore idations associated with the sset field. Allowable values:	No	 Field level validations: Total Net Asset format does not match specification. Field level validations: Total Net Assets
				Code # <space></space>	Definition Override On Override Off (Default)		Override value is not defined.
Entry Date	121	8	MMDDYYYY	update is v	e date for which the daily alid. Except for prior day , this field should reflect the 's date.	Yes	 Date validations: Entry date cannot be a future date. Entry date cannot be more than 365 days in the past. Entry date is not a valid calendar date. Symbol was not active on entry date. Field level validations: Entry date does not match specification.
Currency	129	3	Alphanumeric		ne ISO currency code with the NFN price-related	No	Field validations:

Field	Offset	Length	Format	Description	Required ⁷	Data Validation
				fields. For this field, Nasdaq will use ISO4217 currency alphabetic codes.For NFN 0050, if this field is space filled, Nasdaq will populate the value as assigned in the listing.		Currency reported is not a defined value.
CUSIP	132	9	Alphanumeric	Indicates the unique security identifier as assigned by S&P CUSIP Bureau for NFN instrument. If CUSIP is unknown, firm may enter a dummy CUSIP such as "123456789".	Yes	 Offline validations: Nasdaq will compare the CUSIP number reported in this message against the CUSIP number in the NFN system. If the two values do not match, Nasdaq will include the instrument in its mismatched CUSIP report.
Calculation Time	141	6	HHMMSS	 Denotes the calculation time associated with the money market fund record. Calculation time must be stated in military time for the US Eastern Time zone. Examples: 11:00 a.m. Eastern Time should be reported as "110000". 10:00 a.m., Central Time should be reported as "110000". 	Yes	 Field validation: Field must be populated as 6 numeric characters or "NA". Time must be stated in HHMMSS format. HH must be 00 to 23

Field	Offset	Length	Format	Description	Required ⁷	Data Validation
				 4:00 p.m., Eastern Time should be reported as "1600000". If unavailable, enter "NA". 		 MM must be 00 to 59 SS must be 00 to 59
Reserved / Filler	147	31	Space filled	Space fill as needed to meet fixed message length requirement.	No	
End-of-Row Marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)	Yes	

5.5 Distributions Report for All NFN Instruments (NFN 0050)

This message format should be used to report distributions (other than dividends and interest) for all NFN instruments. The file must contain one record for each instrument being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
Row Header	0	3	Alphanumeric	Defines inbound data format. "DST" for distributions.		 Field level validations: Row Header value is not defined. Data format does not match the Row Header value.
Symbol (pka Fund ID)	3	11	Alphanumeric	Defines the NASDAQ assigned ticker symbol for NFN instrument. <u>Note</u> : The NFN processing logic relies on the Symbol field for the NFN Data Service corporate action spin. If the NFN Symbol field needs to be adjusted, Nasdaq recommends that firms cancel and re- enter the distribution record (rather than correcting the record).		 Field level Field level validations: Symbol is not defined in system. Symbol status is not set to active. Symbol is not associated with the supported instrument types. Firm not entitled for Symbol.
Instrument Type (pka Fund Type)	14	2	Alphanumeric	Indicates the type of NFN instrument being priced. Allowable values are:CodeDefinition	Yes	Field level validation:Instrument Type value is not defined.

⁸ Each row in the NFN batch file must be 180 bytes. Firms may not omit fields. If not required, firms may opt to space fill the field.

Field	Offset	Length	Format	Descrip	tion	Required ⁸	Data Validation	
Field	Offset	Length	Format	Descrip MF MM UT SP AN AP EM CT CT MA SA HF	tion Mutual Fund Money Market Fund Unit Investment Trust Structured Product Annuity Alternative Investment Product Exchange Traded Managed Fund Collective Investment Trust Managed Accounts Separate Accounts Hedge Fund	Required ⁸	Data Validation • Instrument Type value reported in record does not match the Instrument Type in the NFN listing data base.	
Short Term Capital Gain	16	13	\$\$\$\$.ddddd	DD Indicates gain that	Demand Deposit Account s the portion of the total capital t is taxed to the shareholder as income. If unavailable, please	Yes	 Price level validations: Short Term Capital Gain validation based on NAV price parameter: If the Short Term Capital Gain as a % of NAV exceeds the NFN system parameter, 	

Field	Offset	Length	Format	Descriptio	n	Required ⁸	Data Validation
							 firm must enter "#" in override field. Short Term Capital Gain cannot be zero. Field level validation: Short Term Capital Gain data format does not match specification.
Short Term Capital Gain Override	29	1	Alphanumeric (with special characters)	system vali	the system should ignore dations associated with the sset field. Allowable values: Definition Override On Override Off (Default)	No	 Field level validations: Short Term Capital Gain Override value is not defined.
Long Term Capital Gain	30	13	\$\$\$\$\$.ddddd	gain that is long-term o	ne portion of the total capital taxed to the shareholder at the capital gains rate. If , please submit "NA".	Yes	 Price level validations: Long Term Capital Gain validation based on NAV price parameter: If the Long Term Capital Gain as a % of NAV exceeds the NFN system parameter, firm must enter "#" in override field.

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
						 Long Term Capital Gain cannot be zero. Field level validation: Long Term Capital Gain data format does not match specification.
Long Term Capital Gain Override	43	1	Alphanumeric (with special characters)	Indicates if the system should ignore system validations associated with the Total Net Asset field. Allowable values: Code Definition # Override On <spac< td=""> Override Off (Default) e> Override Off (Default)</spac<>	No	 Field level validations: Long Term Capital Gain Override value is not defined.
Unallocated Distributions	44	13	\$\$\$\$\$.ddddd	Amount of unassigned term gains. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validation: Unallocated distributions data format does not match specification.
Return of Capital (ROC)	57	13	\$\$\$\$\$.ddddd	Indicates amount of return of capital (ROC) to the instrument shareholders. If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Price level validations: ROC validation based on NAV price parameter: If the ROC as a % of NAV exceeds the NFN

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
						 system parameter, firm must enter "#" in override field. Field level validation: ROC data format does not match specification.
ROC Override	70	1	Alphanumeric (with special characters)	Indicates if the system should ignore system validations associated with the ROC field. Allowable values: Code Definition # Override On <space> Override Off (Default)</space>	No	Field level validations:ROC Override value is not defined.
Payment Date	71	8	MMDDYYYY	Indicates the payment date for an income distribution or a capital distribution. If no payment date, please submit "NA".	Yes	 Date validations: Payment date is not a valid calendar date. Field level validations: Payment date does not match specification.
Record Date	79	8	MMDDYYYY	Indicates the record date for the distribution. Shareholders of the instrument as of this date would receive the distribution.	Yes	 Date validations: Record date is not a valid calendar date.

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
						Field level validations:Record date does not match specification.
Ex Date	87	8	MMDDYYYY	Indicates the ex-date for the distribution. This is the date that NAV should be adjusted. <u>Note</u> : The NFN processing logic relies on the Ex-Date field for the NFN Data Service corporate action spin. If the Ex-Date field needs to be adjusted, Nasdaq recommends that firms cancel and re- enter the distribution record (rather than correcting the record).	Yes	 Date validations: Ex-date date is not a valid calendar date. Field level validations: Ex-date does not match specification.
Reinvest Date	95	8	MMDDYYYY	Indicates the reinvestment date for the distribution. If no reinvestment, please submit "NA".	Yes	 Date validations: Reinvest date is not a valid calendar date. Field level validations: Reinvest date does not match specification.
Action	103	1	Alphanumeric	Indicates if the NFN dividend / distribution report is a new entry or corrected entry. Allowable values are:	Yes	Field level validations:Action value is not defined.
				Code Definition N New entry		 Action value is not correct based on prior entries for the symbol and ex-date. Initial entries must be

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
				C Corrected entry X Canceled distribution		marked as "N". Subsequent / duplicate messages must be marked as "C" or "X".
				Note: Please enter the full record for cancelled and corrected entries. Because the NFN logic is based on the symbol and ex-date fields, Nasdaq highly recommends that firms enter a Symbol or Ex-Date correction as two separate entries: a cancellation for the original entry plus a new entry with the corrected information.		
Entry Date	104	8	MMDDYYYY	Reflects the date on which the distributions were reported to NFN. This field should reflect the current date.	Yes	 Date validations: Entry date cannot be a future date. Entry date cannot be more than 365 days in the past. Entry date is not a valid calendar date. Symbol was not active on entry date. Field level validations: Entry date does not match specification.
Currency	112	3	Alphanumeric	Indicates the ISO currency code associated with the NFN price-related	No	Field validations:

Field	Offset	Length	Format	Description	Required ⁸	Data Validation	
				fields. For this field, Nasdaq will use ISO 4217 currency alphabetic codes.For NFN 0050, if this field is space filled, Nasdaq will populate the value as assigned in the listing.If this field is space filled, Nasdaq will populate with the currency in the instrument listing.		Currency reported is not a defined value.	
CUSIP	115	9	Alphanumeric	Indicates the unique security identifier as assigned by S&P CUSIP Bureau for NFN instrument.	Yes	Offline validation: • Nasdaq will compare the CUSIP number reported in this message against the CUSIP number in the NFN system. If the two values do not match, Nasdaq will include the instrument in its mismatched CUSIP report.	
Reserved / Filler	124	54	Space filled	Space fill as needed to meet fixed message length requirement.			
End-of-Row Marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file.	Yes		
				(Note: Carriage return command is typically stored as a hexadecimal code of			

Field	Offset	Length	Format	Description	Required ⁸	Data Validation
				"0xD" and end of file is typically stored as "0xA".)		

5.6 Dividend / Interest for All NFN Instruments (NFN 0050)

This message format should be used to report dividends and interest payments for all NFN instruments. The file must contain one record for each instrument being updated. The records must be 180 characters long, in the following format:

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
Row Header	0	3	Alphanumeric	Defines inbound data format. "DIV" for dividends and interest.	Yes	 Field level validations: Row Header value is not defined. Data format does not match the Row Header value.
Symbol (pka Fund ID)	3	11	Alphanumeric	Defines the NASDAQ assigned ticker symbol for NFN instrument. <u>Note</u> : The NFN processing logic relies on the Symbol field for the NFN Data Service corporate action spin. If the Symbol field needs to be adjusted, Nasdaq recommends that firms cancel and re-enter the distribution record (rather than correcting the record).	Yes	 Field level validations: Symbol is not defined in system. Symbol status is not set to active.

⁹ Each row in the NFN batch file must be 180 bytes. Firms may not omit fields. If not required, firms may opt to space fill the field.

Field	Offset	Length	Format	Descript	tion	Required ⁹	Data Validation
							 Symbol is not associated with the supported instrument types. Firm not entitled for Symbol.
Instrument Type	14	2	Alphanumeric		the type of NFN instrument being priced. values are:	Yes	Field level validation:
(pka Fund Type)				Code	Definition		 Instrument Type value is not defined.
Type)				MF	Mutual Fund		
				ММ	Money Market Fund		• Instrument Type value
				UT	Unit Investment Trust		reported in record does
				SP	Structured Product		not match the Instrument
				AN	Annuity		Type in the NFN listing
				AP	Alternative Investment Product		data base.
				EM	Exchange Traded Managed Fund		
				СТ	Collective Investment Trust		
				MA	Managed Accounts		
				SA	Separate Accounts		
				HF	Hedge Fund		

Field	Offset	Length	Format	Descriptio	on	Required ⁹	Data Validation
				DD	Demand Deposit Account		
Cash Distribution Type	16	1	Alphanumeric		he type of cash distribution being The allowable values would be:	Yes	Field level validations:
туре				the Action Distribution Cash Distri firms cance	Definition Cash Dividend (Default for Mutual Funds) Interest Income (Default for UITs) Special Cash Dividend Not applicable, no cash distribution being reported (only stock dividend) <u>f the 3rd Quarter 2013, Nasdaq modified processing logic to include the Cash in Type field. If a firm needs to change the ibution Type, Nasdaq recommends that el and re-enter the distribution record an correcting the record). </u>		Cash Distribution Type value is not defined.
Total Cash Distribution	17	13	\$\$\$\$\$.ddddd	distributior Funds may interest dis	e total cash dividend or total interest n being reported for the NFN instrument. r report the breakdown of cash dividends/ stribution in the fields that follow. icable, please submit "NA".	Yes	 Price level validations: Total Cash Distribution validation based on NAV price parameter: If the Total

Field	Offset	Length	Format	Descriptio	n	Required ⁹	Data Validation
							Cash Dividend as a % of NAV exceeds the NFN system parameter, firm must enter "#" in override field. • Total Cash Distribution cannot be zero. Field level validations: • Total Cash Distribution value does not match specification.
Total Cash Distribution Override	30	1	Alphanumeric (with special characters)	validations	the system should ignore system associated with the Total Cash n field. Allowable values:	No	Field level validations: • Total Cash
				Code	Definition		Distribution Override
				#	Override On		value is not defined.
				<space></space>	Override Off (Default)		

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
Non- Qualified Cash Distribution	31	13	\$\$\$\$.ddddd	Reflects the portion of the cash dividend or interest income that is taxed as ordinary income to the shareholder. Please note that this value should be entered as a currency amount (not a percentage). If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Non-Qualified Cash Distribution value cannot exceed Total Cash Distribution value. Non-Qualified Cash Distribution value does not match specification.
Qualified Cash Distribution	44	13	\$\$\$\$.ddddd	Reflects the portion of the cash dividend or interest that is taxed as a qualified dividend to shareholder. Please note that this value should be entered as a currency amount (not a percentage). If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Qualified Cash Distribution value cannot exceed Total Cash Distribution value. Qualified Cash Distribution value does not match specification.

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
Tax-Free Cash Distribution	57	13	\$\$\$\$.ddddd	Reflects the portion of the cash dividend or interest attributable to bonds that is not taxed to the shareholder. Please note that this value should be entered as a currency amount (not a percentage). If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Tax Free Cash Distribution value cannot exceed Total Cash Distribution value. Tax Free Cash Distribution value does not match specification.
Ordinary Foreign Tax Credit	70	13	\$\$\$\$.ddddd	Reflects the portion of the cash dividend or interest from a foreign corporation that is not "qualified" by the IRS. Please note that this value should be entered as a currency amount (not a percentage). If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Ordinary Foreign Tax Credit value cannot exceed Total Cash Distribution value. Ordinary Foreign Tax Credit value does not match specification.

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
Qualified Foreign Tax Credit	83	13	\$\$\$\$.ddddd	Reflects the portion of the cash dividend or interest attributable to qualified foreign corporation as defined by the IRS. Please note that this value should be entered as a currency amount (not a percentage). If unavailable, please submit "NA". If space filled, Nasdaq will populate the field as "NA".	No	 Field level validations: Qualified Foreign Tax Credit value cannot exceed Total Cash Distribution value. Qualified Foreign Tax Credit value does not match specification.
Stock Dividend Ratio	96	11	\$\$\$.ddddd	 Indicates the stock split/dividend ratio. Examples: 2-for-1 stock split should be reported as "0002.000000". 1-for-2 reverse stock split should be reported as "0000.500000". 10% stock dividend would be reported as "0001.100000". If unavailable, please submit "NA". 	Yes	 Field level validations: Stock Dividend cannot be zero. Stock Dividend value does not match specification.

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
				If space filled, Nasdaq will populate the field as "NA".		
Stock Dividend Override	107	1	Alphanumeric	Indicates if the system should ignore validations on the stock dividend fields. Allowable values: Code Definition # Override On <space> Override Off (Default)</space>	No	Field level validations: • Stock Dividend Override value is not defined.
Payment Date	108	8	MMDDYYYY	Indicates the payment date for a dividend or income interest. If no payment date, please submit "NA".	Yes	 Date validations: Payment date is not a valid calendar date. Field level validations: Payment date does not match specification.
Record Date	116	8	MMDDYYYY	Indicates the record date for a dividend or income interest. Indicates the record date for the distribution. Shareholders of the instrument as of this date would receive the distribution.	Yes	 Date validations: Record date is not a valid calendar date. Field level validations:

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
						 Record date does not match specification.
Ex Date	124	8	MMDDYYYY	Indicates the ex date for a dividend or distribution. This is the date that NAV should be adjusted. <u>Note</u> : The NFN processing logic relies on the Ex- Date field for the NFN Data Service corporate action spin. If the Ex-Date field needs to be adjusted, Nasdaq recommends that firms cancel and re-enter the distribution record (rather than correcting the record).	Yes	 Date validations: Ex-date date is not a valid calendar date. Field level validations: Ex date does not match specification.
Reinvest Date	132	8	MMDDYYYY	Indicates the reinvestment date for dividend and / or distribution. If no reinvestment, please submit "NA".	Yes	 Date validations: Reinvest date is not a valid calendar date. Field level validations: Reinvest date does not match specification.

Field	Offset	Length	Format	Descript	ion	Required ⁹	Data Validation
Action	140 1 Alphanumeric		a new en	if the NFN dividend / distribution report is try, corrected entry or cancelled entry. values are:	Yes	Field level validations: • Action value	
				Code N	Definition New entry		is not defined. • Action value
				C X	Corrected entry Cancelled entry		is not correct based on prior entries
Estra Data			<u>Note</u> : Ple corrected Because t distributio recomme Distributi separate entry plus informatio	ase enter the full record for cancelled and entries. the NFN logic is based on the symbol, cash on type and ex-date fields, Nasdaq highly nds that firms enter a Symbol, Cash on Type or Ex-Date correction as two entries: a cancellation for the original s a new entry with the corrected on.	for th symb distri type date comb Initia must mark "N". Subs duplio mess must mark "C" o	for the symbol, cash distribution type and ex- date combination. Initial entries must be marked as "N". Subsequent / duplicate messages must be marked as "C" or "X".	
Entry Date	141	8	MMDDYYYY	interest v	he date on which the dividends and vere reported to NFN. This field should rrent date.	res	 Date validations: Entry date cannot be a future date. Entry date cannot be more than

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
						 365 days in the past. Entry date is not a valid calendar date. Symbol was not active on entry date. Field level validations: Entry date does not match specification.
Currency	149	3	Alphanumeric	Indicates the ISO currency code associated with the NFN price-related fields. For this field, Nasdaq will use <u>ISO 4217 currency alphabetic codes.</u> For NFN 0050, if this field is space filled, Nasdaq will populate the value as assigned in the listing.	No	 Field validations: Currency reported is not a defined value.
CUSIP	152	9	Alphanumeric	Indicates the unique security identifier as assigned by S&P CUSIP Bureau for NFN instrument.	Yes	Offline validation: • Nasdaq will compare the CUSIP number reported in this message against the CUSIP number in the

Field	Offset	Length	Format	Description	Required ⁹	Data Validation
						NFN system. If the two values do not match, Nasdaq will include the instrument in its mismatched CUSIP report.
Reserved / Filler	161	17	Space filled	Space fill as needed to meet fixed message length requirement.		
End-of-Row Marker	178	2	Hexadecimal	Two character row marker to denote the placement of the current message within the file: Carriage return or end of file. (Note: Carriage return command is typically stored as a hexadecimal code of "0xD" and end of file is typically stored as "0xA".)	Yes	

6 Contact Information

Please refer to the <u>NFN Support page</u> on the Nasdaq Trader website for information on how to access the NFN website.

Questions about the NFN batch file format specification should be directed to Nasdaq Mutual Fund Operations at +1 301 978 5307 (Option #6) or <u>NFNOps@nasdaq.com</u>.

7 Appendices

Appendix A – Current validation parameters for the NFN Valuation Module

(Note: This appendix is intended for informational purposes only. Nasdaq reserves the right to modify the validation parameters for the NFN system as market conditions dictate without advance notification.)

Price Validations	Definition	Value	
NFN System Open Time	The NFN Valuation Module open time. (All entries entered before this time will be rejected.)	8:00 a.m., ET	
NFN Close Time	The NFN Valuation Module close time. (All entries entered after this time will be rejected.)	8:00 p.m., ET	
NAV / Redemption Price	The net change percentage parameter for the NAV and Redemption NAV override prompts.	10.0%	
Offer / Market Price	The net change percentage parameter for the offer / market price for override prompt.	10.0%	
NAV vs. Offer/Market	The percent difference between NAV/Redemption NAV and Offer/Market fields for override prompt.	9.5%	
Total Net Assets	The minimum total net asset amount for override prompt.	\$100,000	NFN 0050 only
NAV (Money Market Funds)	The net change percentage parameter for NAV override prompts for money market funds.	10.0%	
Gross 7 Day Yield and Subsidized 7 Day Yield for Money Market Funds	The net change percentage for Subsidized Yield and Gross Yield override prompts.	10.0%	
Total Cash Distribution	The percentage of NAV for override prompt.	10.0%	
Stock Dividend Ratio - Lower Level	The minimum stock dividend ratio before override prompt.	0.10	One-for-ten reverse stock split ratio
Stock Dividend Ratio - Higher Level	The maximum stock dividend ratio before override prompt.	100	100-for-one stock split ratio
Short Term Capital Gains	The percentage of NAV/ Redemption Price for override prompt.	7.5%	
Long Term Capital Gains	The percentage of NAV / Redemption Price for override prompt.	7.5%	

Price Validations	Definition	Value
Return of Capital (ROC)	The percentage of NAV / Redemption Price for override	7.5%
	prompt.	

Appendix B - Documentation Update Log

Posting Date	Summary of Changes
July 1, 2010	Updated NFN Batch File document to include NFN 0050 formats.
September 27,	Updated NFN 0050 release dates.
2010	 Updated seven day yield definitions to match data mapping document.
January 14, 2011	Updated NFN 0050 release dates.
, ,	Fixed definition for the "end of row" to match the current logic.
	• Corrected the values for the Reporting Type field in the Money Market Fund (MMF) message format.
	Added validation logic for the Action field in the Dividend / Interest (DIV) and Capital Distributions
	(DST) message formats in NFN 0050.
	Added Appendix A– System Validation Parameters.
January 25, 2011	 Added D, S and X footnote codes to new NFN money market valuation message format since Nasdaq will allow pricing agents to enter Dividend/Interest and Capital Distributions for all instrument types.
February 11, 2011	Added the following guidance on field formatting for NFN 0050.
	 Numeric values must use the correct decimal placement and zero padding. Example: If a firm wanted to report a NAV of \$10.01 in NFN 0050 format, it would enter "000010.010000". Text values must be left justified and space padded. Example: If a firm wanted to report NA for Offer/Market Price in NFN 0050 format, it would enter "NA " (NA followed by 11 spaces). Dates must be entered in MMDDYYYY format. Example: June 13, 2011 would be entered as "061322011". CUSIP must be entered as 9 alphanumeric characters (with no spaces or special codes).
May 11, 2011	 Clarified the processing logic for the following fields: Daily Dividend Adjustment Indicator in the MFU and MMF formats: Field should only be populated as Y or N if the Daily Dividend Factor field is populated with a numeric value. Please leave field blank if the Daily Dividend Factor field is populated as "NA". Cash Distribution Type in DIV format: Field should be left blank if NFN pricing agent is only reporting a stock dividend. Action in DIV and DST formats: Please enter the full record for cancelled and corrected entries. Because the NFN logic is based on the symbol and ex-date fields, Nasdaq highly recommends that firms enter a Symbol or Ex-Date correction as two separate entries: a cancellation for the original entry plus a new entry with the corrected information.
May 18, 2011	Updated NFN 0050 release dates. New release date is June 13, 2011.

Posting Date	Summary of Changes			
May 19, 2011	Updated the Reporting Type field definition to clarify the processing of prior day corrections.			
July 8, 2011	 Updated Footnote code matrix for NFN 0040 and NFN 0050 valuation messages to denote that the "F" footnote code is available for all instrument types. 			
January 2, 2013	 Extended NFN 0040 conversion deadline to June 30, 2013. Added NFN code changes for Alternative Investment Product (AIP) release on or about March 11, 2013: Added Instrument Type value of "AP" for Alternative Investment Products (AIPs) to the NFN 0050 message formats MFU, DIV and DST. Added Footnote code value of "C" (Revaluation) to the NFN 0050 - MFU message format. (Note: Nasdaq intends to use the footnote code for AIPs and Structured Products only.) Corrected NAV and Redemption Price field level processing notes in NFN 0050 - MFU format for Structured Products. As outlined in the NFN 0050 data mapping document, Structured Products should report NAV (not Redemption Price). 			
May 17, 2013	 <u>Removed outdated references as appropriate.</u> Extended NFN 0040 conversion deadline to December 31, 2013. Updated Daily Dividend Factor field format to denote that the inbound price format will be changed from \$\$\$\$.dddd to \$\$.dddddd in the third quarter of 2013. The Daily Dividend Factor field is included in the NFN 0050 Valuation message formats. Added new Cash Distribution Type of "S" for Special Cash Dividends. The Cash Distribution Type field is included in the NFN 0050 Dividend/Distribution message format. 			
July 5, 2013	 Added implementation date for Dividend and Structured Product release of Monday, September 9, 2013. Removed Instrument Code / Fund Category values for structured products from NFN 0040 message formats. As of September 9th release, NFN pricing agents must use the NFN 0050 message formats to report structured products as well as AIPs. 			
July 31, 2013	 Added note that, as of 3rd Quarter 2013, Action processing will be updated to use a combination of Symbol, Cash Distribution Type and Ex-Date for "DIV" messages. Updated Redemption Price validation logic to match NAV validation logic. 			
April 28, 2014	 Updated NFN release schedule to denote planned test symbol release. Updated NFN specification to reflect NFN standardized field names. Extended NFN 0040 conversion deadline to September 30, 2014. 			
December 15, 2014	Added new NFN footnote codes in NFN 0050 messages for: Code Definition Instrument Type			
	G Redemption Gate In Effect Money Market Fund			

Posting Date	Summary of Changes
	L Liquidity Fee In Effect Money Market Fund
	I Repurchase Offer Period for Mutual Funds Interval Fund
	 Extended NFN 0040 conversion deadline to June 30, 2015. (Note: Nasdaq will not add any new functionality to NFN 0040 during its limited life. Service is supported "as is".)
March 2, 2015	Updated release date for the new NFN Footnote codes and NFN web landing page improvements to April 13, 2015.
March 6, 2015	 Added NextShares Exchanged Traded Managed Fund as supported asset class on NFN system. Added new Instrument Code of "EM" to NFN 0050 Valuation, Dividend and Distribution message formats. Indicated that Nasdaq would use a new NFN symbology standard for NextShares.
May 15, 2015	 Updated NextShares release to reflect final NFN symbology plan. For NFN reporting purposes, Nasdaq will issue 7-character symbols, with the first 5 characters reflecting the Nasdaq exchange trading symbol and the final two characters of "NX". Updated NFN system open time to 8:00 a.m., ET, for the NextShares release.
	 NFN release date for NextShares will be on September 14, 2015. (Note: NextShares official instrument launch date will occur in February 2016.)
March 7, 2016	 Added a new Money Market Fund with Calculation Time (MMC) message format. Please note that calculation time must be stated in military time (to nearest second) for U.S. Eastern Time (ET) zone. Data format will be released on or about July 11, 2016. Updated 0040 money market fund termination date to July 8, 2016.
March 30, 2017	 Removed legacy 0040 money market fund message format as it is no longer supported. Updated 0040 mutual fund and UIT termination date to September 30, 2017. Added notes related to NFN instrument code and CSV file release planned for June 2017. Please note that CSV file formats will initially be posted as a separate document at http://www.nasdaqtrader.com/content/technicalsupport/specifications/dataproducts/NFN-csybatch.pdf.
April 4, 2017	Added footnote with instrument code to instrument type mapping details for Mutual Funds and Alternative Investment Products.
January 12, 2018 May 9, 2018	Addition of new instrument type mapping information for NFN 0050 valuation message format.
June 19, 2018	 Integration of Mutual Fund Quotation Service (MFQS) rebranding to Nasdaq Fund Network (NFN) File Header change from MFQS to DSVF for 0050 message formats Added new instrument type DD – Demand Deposit Account Field name change from MFQS Symbol to Symbol Announcement of retirement of 0040 format for FTP and CTCI.

Posting Date	Summary of Changes
May 5, 2020	Retirement of 0040 for Web Batch Upload file format