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**FIXED INCOME CLEARING
CORPORATION:
MBS EPN MESSAGE LAYOUTS**

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1. INTRODUCTION

This document provides participants with message layouts for processing messages via FICC’s Electronic Pool Notification (EPN) system. The document supplements the information provided in the:

- EPN Implementation Guide
- EaSy Pool Action Guide
- MBS EPN Guidelines and Codes Guide

Terms used in this Document

Throughout this document, certain abbreviations are used to describe the input that must be included or the format of the field. Under the TYPE heading, participants will see either an ‘A’, ‘N’ or both referenced. ‘A’ signifies that input into the field should be alpha format, ‘N’ means that a numeric format is required and if ‘A/N’ is listed, the field will take an alphanumeric input. Fields will be referenced as either ‘M’ or ‘O’. Input into a field designated as ‘M’ is mandatory. Input in a field marked as ‘O’ is optional.

2. ESP MESSAGE RECORD LAYOUT

ESP Message Header

The Header Record contains critical information as it relates to the sender, recipient and general trade terms and must be a comma delimited file (.csv). All input fields containing commas must be enclosed by double-quotes (“ ”) for application to read commas as literal therefore, double-quotes (“ ”) cannot be sent as field contents and be read as literal. All output fields containing commas will be enclosed by double-quotes (“ ”) upon executing “Save As” in application. Be sure that numeric fields do not appear in scientific notation format as ESP cannot process these as such. Notations in the “PIC” column such as “9 (09) V9 (02)” and “9 (03) V9 (09)” mean the field contains an implied decimal. This means the file should NOT contain an actual decimal point. ESP will assume the number of digits following the “V9” will read into the application on the right side of a decimal point.

FIELD NAME	FIELD DESCRIPTION	LENGTH	TYPE	PIC	M/O	EDITS
Date Received	Date message received into application (CCYYMMDD)	8	N	9 (08)	M	Input: Must be blank (a comma) Output: Populated by ESP
Time Received	Time message received into application	6	N	9 (06)	M	Input: Must be blank (a comma) Output: Populated by ESP

T2 Time	T2 Time	6	N	9 (06)	M	Input: Must be blank (a comma) Output: Populated by ESP
Message Type	Indicates message type (ON, DK, CX, CC)	2	A/N	X (02)	M	Must be ON, DK, CX or CC
Sequence Number	Submitter sequence number, used for gap detection	6	N	9 (06)	M	Populated by ESP on Input and Output
Submitter / Local Submitter	Account symbol of message initiator EPN(MBXX)/ Local symbol	4/ 20	A/N	X (04)/ X(20)	M	Input: Submitter or Local Submitter must be entered Output: Populated by ESP
Submitter Name	Name of Submitting Firm	40	A/N	X (40)	O	Input: Will not be edited Output: Populated by ESP
Contra /Local Contra	Account symbol of message recipient EPN(MBXX)/Local Symbol	4/20	A/N	X (04)/ X(20)	M	Validated against a database/ will be convert by ESP is database populated
Contra Name	Name of Contra Firm	40	A/N	X (40)	O	Input: Will not be edited Output: Populated by ESP if populated in database
TBA CUSIP/ Local Security Symbol	product code, agency, coupon , maturity and settlement month (01F082630) – as issued by Standard & Poors.	9/20	A/N	X (9)/ X(20)	M	Input: TBA CUSIP or Local Security Symbol must be entered Output: Populated by ESP
Original Trade Par	Par value of the Original Trade	11	N	9(09) V9(02)	M	Syntactical edit for numeric; must be > zero
Price	Decimal dollar amount paid for the securities	12	N	9(03) V9 (09)	M	Syntactical edit for numeric; must be > zero

Good Delivery Millions	Number of \$MM lots delivered in accordance with standards	4	N	9 (04)	M	Syntactical edit for numeric < SysParm
Trade Date	Date the trade was executed (CCYMMDD)	6/8	N	9 (08)	M	Will not be edited
Settlement Date	Date the trade will settle (CCYMMDD)	8	N	9 (08)	M	Will not be edited for ON, DK and CX messages. For CC messages it must be a valid business/settlement date.
Delivery Date	Date the securities will be delivered (CCYMMDD)	8	N	9 (08)	M	Will not be edited
Internal ID	Unique reference number input by Participant	16	A/N	X (16)	O	Will not be edited
Subaccount/ Local Sub Account	Identifies subaccount associated with an ON/ description of message recipient	4/20	A/N	X(04)/X(20)	O	Input: Subaccount or Local Subaccount must be entered. Output Populated by ESP if field was populated in database
Reason Code	Reason for the action taken (0123)	4	N	9 (04)	O ¹	Validated against a database
Target Message ID	Message ID of the message being acted upon	11	A/N	X (11)	O	Will not be edited
XREF	Tag assigned by Participant	15	A/N	X (15)	O	Will not be edited

¹ Mandatory for DK and CX messages

Special Instructions	Informational only trade terms	30	A/N	X (30)	O	Will not be edited
Number of Pools	Number of pools contained within this message	4	N	9 (04)	O	Validated against actual count of pools in Detail. If the number in this field does not match, it will be modified/changed to match count of pools in Detail. On CC messages the value must equal the number of replacement pools in the message. It will not be modified if it does not match the count, it will be rejected by EPN if it does not match the count in the message.
Pos Dup	Indication that input message may be a duplicate	1	A/N	X (01)	O	see table below ²

Pos Dup Export Table

	Received Message	Imported Sent Msg	Turned Sent Msg	Entered in ESP & Sent
Not Pos Dup	<i>blank</i>	I	T	E
Pos Dup	X	Z	Y	Q

² On export, possible values in this field are as described in the above table.

On Import, Pos Dup value should be X or blank; however values of Y,Z or Q will be associated with X, and values of T, I and E will be associated with blank.

ESP Pool Detail

The Pool Detail Records contain the pool information subordinate to the associated Header Record. Pool Detail records must immediately follow their associated Pool Header record. After the last Pool Detail record, a “dummy” Pool Detail record must follow with “XXXXXX” populated in the “Lot ID” field. The next record will be the next Header record in the file. EPN currently allows for up to 250 Pool Detail Records per message. Any fields containing commas must be enclosed by double-quotes (“ ”) for application to read commas as literal therefore, double-quotes (“ ”) cannot be sent as field contents and be read as literal. Be sure that numeric fields do not appear in scientific notation format as ESP cannot process these as such. Notations in the “PIC” column such as “9 (09) V9 (02)” and “9 (03) V9 (09)” mean the field contains an implied decimal. This means the file should NOT contain an actual decimal point. ESP will assume the number of digits following the “V9” will read into the application on the right side of a decimal point. Neither mandatory nor optional fields are edited. The entire message is rejected only if erroneous data is detected in the Header Record.

FIELD NAME	FIELD DESCRIPTION	LENGTH	TYPE	PIC	M/O	EDITS
Lot-ID	Lot-sequence of GDMM pool(s) (1234AA)	6	A/N	X (06)	O	Will not be edited
Pool Number	Number referencing a pool of mortgages	7	A/N	X (07)	M	Will not be edited
Original Face	Principal amount of MBS at date of issue	9	N	9 (09)	M	Will not be edited
Coupon	Rate of interest recorded on the face of the certificate	6	N	9 (02) V9 (04)	M	Will not be edited
Maturity Date	Maturity date of the mortgage pool (CCYYMMDD)	8	N	9 (08)	O	Will not be edited
New Issue	Identifies a new pool issue (X or blank)	1	A/N	X (01)	O	Will not be edited
Trade Number	Trade number	10	N	9 (10)	O	Will not be edited
Control Number	Individual pool detail reference number assigned by the user	15	A/N	X (15)	O	Will not be edited
Current Face	The outstanding principal of the mortgage	11	N	9 (09) V9 (02)	O	Will not be edited
Factor	Percentage of original principal outstanding	10	N	9 (01) V9 (09)	O	Will not be edited
CUSIP Number	Pool CUSIP Number	9	A/N	X (09)	O	Will not be edited
Issue Date	Date the mortgage pool was issued (CCYYMMDD)	6/8	N	9 (08)	O	Will not be edited
Terminator	Value of GDMMs of preceding lot (Odd-lot=9999)	4	N	9 (04)	M	Will not be edited. See Terminators in the EPN Guidelines and Codes Guide

Principal	The unpaid balance of an obligation exclusive of interest	11	N	9 (09) V9 (02)	O	Will not be edited
Interest	Interest accrued on the balance	11	N	9 (09) V9 (02)	O	Will not be edited
Net Money	Net Money	11	N	9 (09) V9 (02)	O	Will not be edited
Special Instructions	Informational only pool detail terms	30	A/N	X (30)	O	Will not be edited

3. EPN INPUT MESSAGE RECORD LAYOUTS

Message Header

The Header record contains critical information regarding the sender, recipient, and general trade terms. Version 2 message type uses a 4-digit year format. All Mandatory fields are edited for format and, when possible, validated for content. Optional fields are not edited/validated.

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (ON, CC, DK, CX)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, used for gap detection	6	N	9 (06)	M	Must be in ascending order
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	Must be "002"
Subscriber ID	EPN Member ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	EPN Connection ID	4	A/N	X (04)	M	Validated against a database

Submitter	EPN account symbol of message initiator (MBXX)	4	A/N	X (04)	M	Validated against a database
Contra	EPN account symbol of message recipient (MBYY)	4	A/N	X (04)	M	Validated against a database
CUSIP	CUSIP	9	A/N	X (9)	M	Validated against a database
Filler	Filler	1	/	/	/	Must be blank
Original Trade Par	Par value of the Original Trade	11	N	9 (09) V9 (02)	M	Edit for numeric; must be > zero
Filler	Filler	10	/	/	/	Must be blank
Price	Decimal dollar amount paid for the securities	12	N	9 (03) V9 (09)	M	Edit for numeric; must be > zero
Good Delivery Millions	Number of \$MM lots delivered in accordance with standards	4	N	9 (04)	M	Edit for numeric ≤ SysParm
Trade Date	Date the trade was executed (mmddyyyy)	8	N	9 (08)	M	Will not be edited
Settlement Date	Date the trade will settle (mmddyyyy)	8	N	9 (08)	M	Will not be edited ON, DK, CX messages. On CC messages must be valid business date.
Delivery Date	Date the securities will be delivered (mmddyyyy)	8	N	9 (08)	M	Will not be edited
Internal ID	Unique reference number input by Member	16	A/N	X (16)	O	Will not be edited
Subaccount	Identifies subaccount associated with an ON	4	A/N	X (04)	O	Validated against a database
Reason Code	Reason for the action taken (0123)	4	N	9 (04)	O ³	Validated against a database

³ Mandatory for DK and CX messages.

Target Message ID	Message ID of the message being acted upon	11	A/N	X (11)	O	Will not be edited
XREF	Tag assigned by Member	15	A/N	X (15)	O	Will not be edited
Filler	Filler	4	/	/	/	Must be blank
Pos Dup	Indication that input message may be a duplicate	1	A/N	X (01)	O	Must be X or blank
Special Instructions	Informational only trade terms	30	A/N	X (30)	O	Will not be edited
Number of Pools	Number of pools contained within this message	4	N	9 (04)	M/O ⁴	Will not be edited on ON, DK and CX messages. Will be validated on Pool Substitution messages.

⁴ Mandatory input on Pool Substitution messages; must equal the number of substituted pools in the message.

Pool Detail

Pool Detail records contain pool information subordinate to the associated Header record. EPN currently allows for up to 250 Pool Detail records per message.

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Lot-ID	Lot-sequence of GDMM pool(s) (1234AA)	6	A/N	X (06)	O	Will not be edited
Filler	Filler	2	/	/	/	Must be blank
Pool Number	Number referencing a pool of mortgages	7	A/N	X (07)	M	Will not be edited
Original Face	Principal amount of MBS at date of issue	9	N	9 (09)	M	Will not be edited
Coupon	Rate of interest recorded on the face of the certificate	6	N	9 (02) V9 (04)	M	Will not be edited
Maturity Date	Maturity date of the mortgage pool (mmdyyy)	8	N	9 (08)	O	Will not be edited
New Issue	Identifies a new pool issue (X or blank)	1	A/N	X (01)	O	Will not be edited
Trade Number	MBSD trade number	10	N	9 (10)	O	Will not be edited
Control Number	Individual pool detail reference number assigned by the user	15	A/N	X (15)	O	Will not be edited
Filler	Filler	15	/	/	/	Must be blank
Current Face	The outstanding principal of the mortgage	11	N	9 (09) V9 (02)	O	Will not be edited
Factor	Percentage of original principal outstanding	10	N	9 (01) V9 (09)	O	Will not be edited
CUSIP Number	CUSIP Number	9	A/N	X (09)	O	Will not be edited
Filler	Filler	5	/	/	/	Must be blank
Issue Date	Date the mortgage pool was issued (mmdyyy)	8	N	9 (08)	O	Will not be edited
Terminator	Value of GDMMs of preceding lot (Odd-lot=9999)	4	N	9 (04)	M ⁵	Will not be edited
Principal	The unpaid balance of an obligation exclusive of interest	11	N	9 (09) V9 (02)	O	Will not be edited
Interest	Interest accrued on the balance	11	N	9 (09) V9 (02)	O	Will not be edited

⁵ On Pool Substitution messages, the cancel portion begins with a 6 and the substituted with a 7. The sum of the terminators on canceled lot(s) must equal the sum of the terminator on the substituted lot(s) that follow.

Net Money	Net Money	11	N	9 (09) V9 (02)	O	Will not be edited
Special Instructions		30	A/N	X (30)	O	Will not be edited
Filler	Filler	10	/	/	/	Must be blank
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	M ⁶	Must be "Hex 03"

⁶ Mandatory on Last Pool Detail Record within a single message (space character on all other Pool Detail Records).

Status Request

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (SR)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, used for gap detection	6	N	9 (06)	M	Must be in ascending order
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	MBSD assigned current version
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	EPN Connection ID of SR submitter	4	A/N	X (04)	M	Validated against a database
Account ID	Account symbol to correlate with AA messages(MBXX)	4	A/N	X (04)	M	Validated against a database
Original Connection ID	Connection ID of submitter of message(s) on SR	4	A/N	X (04)	M	Validated against a database
From Sequence #	Starting point of Sequence # on Status Request	6	N	9 (06)	M	Must be < "To Sequence #" value
To Sequence #	Ending point of Sequence # on Status Request	6	N	9 (06)	M	Must be > "From Sequence #" value
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	M	Must be "Hex 03"

Retransmission Request

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (RR)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, used for gap detection	6	N	9 (06)	M	Must be in ascending order
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	MBSD assigned current version
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	EPN Connection ID of RR submitter	4	A/N	X (04)	M	Validated against a database
Account ID	Account symbol to correlate with AA messages (MBXX)	4	A/N	X (04)	M	Validated against a database
Original Connection ID	Connection ID from which message(s) originated	4	A/N	X (04)	M	Validated against a database
To Connection ID	Connection ID to which message(s) are to be retransmitted	4	A/N	X (04)	M	Validated against a database
From Sequence #	Starting Sequence # of message(s) to be retransmitted	6	N	9 (06)	M	Must be < "To Sequence #" value
To Sequence #	Ending Sequence # of message(s) to be retransmitted	6	N	9 (06)	M	Must be > "From Sequence #" value
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	M	Must be "Hex 03"

Last Sequence

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (LS)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, gaps are not detected	6	N	9 (06)	M	Will not be edited
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	MBSD assigned current version
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	Submitting EPN Connection ID	4	A/N	X (04)	M	Validated against a database
Account ID	Account symbol	4	A/N	X (04)	M	Validated against a database
Inquiring Connection ID	Inquiry for this EPN Connection ID	4	A/N	X (04)	M	Validated against a database
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)		Must be "Hex 03"

Heartbeat Primary

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (HP)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, gaps are detected	6	N	9 (06)	M	Must be ascending
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	MBSD assigned current version
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	EPN Connection ID	4	A/N	X (04)	M	Validated against a database
Account ID	Account symbol	4	A/N	X (04)	M	Validated against a database
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	M	Must be "Hex 03"

Logon

Field Name	Field Description	Length	Type	PIC	M/O	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	M	Must be "Hex 02"
Message Type	Indicates message type (LO)	2	A/N	X (02)	M	Validated against a database
Sequence Number	Submitter sequence number, gaps are detected	6	N	9 (06)	M	Must be ascending
EPN Version Control	Version control number established by EPN	3	N	9 (03)	M	MBSD assigned current version
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	M	Validated against a database
Connection ID	EPN Connection ID	4	A/N	X (04)	M	Validated against a database
Account ID	Account symbol	4	A/N	X (04)	M	Validated against a database
Connection Authentication	Connection Authentication Password	/	A/N	/	M	/
Connection Type	TCP/IP Input only = I, TCP/IP Output only = O, TCP/IP Both Input and Output = B	1	A	X (01)	M	Must be 'I', 'O', 'B'
Filler	Filler	16	/	/	M	Filler
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	M	Must be "Hex 03"

4. EPN OUTPUT MESSAGES RECORD LAYOUTS

Header

Field Name	Field Description	Length	Type	Picture	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	Output
Message Type	Indicates message type (ON, CC, DK, CX)	2	A/N	X (02)	Output
Sequence Number	EPN generated sequence number, used for gapdetection	6	N	9 (06)	Output
EPN Version Control	Version control number established by EPN	3	N	9 (03)	Output
Subscriber ID	EPN Member ID (0123)	4	A/N	X (04)	Output
Connection ID	EPN Connection ID	4	A/N	X (04)	Output
Message ID	EPN Message ID	11	A/N	X (11)	Output
Submitter	EPN account symbol of message initiator (MBXX)	4	A/N	X (04)	Output
Submitter Name	Name associated with Submitter account symbol	30	A/N	X (30)	Output
Contra	EPN account symbol of message recipient (MBYY)	4	A/N	X (04)	Output
Contra Name	Name associated with Contra account symbol	30	A/N	X (30)	Output
CUSIP	CUSIP	9	A/N	X (9)	Output
Filler	Filler	1	/	/	Output
CUSIP Class Name	Name associated with CUSIP Class Code	30	A/N	X (30)	Output
Original Trade Par	Par value of the Original Trade	11	A/N	X (11)	Output
Filler	Filler	10	/	/	Output
Price	Decimal dollar amount paid for the securities	12	A/N	X (12)	Output
Good Delivery Millions	Number of \$MM lots delivered in accordance with standards	4	A/N	X (04)	Output
Trade Date	Date the trade was executed (mmddyyyy)	8	A/N	X (08)	Output

Settlement Date	Date the trade will settle (mmddyyyy)	8	A/N	X (08)	Output
Delivery Date	Date the securities will be delivered (mmddyyyy)	8	A/N	X (08)	Output
Internal ID	Unique reference number input by Member	16	A/N	X (16)	Output
Subaccount	Subaccount ID used to identify subaccounts at the user side	4	A/N	X (04)	Output
Reason Code	Reason for the action taken (0123)	4	A/N	X (04)	Output
Target Message ID	Message ID of the message being acted upon	11	A/N	X (11)	Output
XREF	Tag assigned by Member	15	A/N	X (15)	Output
Filler	Filler	5	/	/	Output
Special Instructions	Informational trade terms	30	A/N	X (30)	Output
T1	EPN Time-stamp #1 (12:31.45)	6	A/N	X (06)	Output
T2	EPN Time-stamp #2 (12:31.45)	6	A/N	X (06)	Output
T3	EPN Time-stamp #3 (12:31.45)	6	A/N	X (06)	Output
T4	EPN Time-stamp #4 (12:31.45)	6	A/N	X (06)	Output
T5	EPN Time-stamp #5 (12:31.45)	6	A/N	X (06)	Output
Number of Pools	Number of pool detail(s) submitted on message	4	A/N	X (04)	Output
Pos Dup	Indication that output message may be a duplicate (X or blank)	1	A/N	X (01)	Output

Pool Detail

Field Name	Field Description	Length	Type	Picture	Edits
Lot-ID	Lot-sequence of Good Delivery Million pool(s) (1234AA)	6	A/N	X (06)	Output
Filler	Filler	2	/	/	Output
Pool Number	Number referencing a pool of mortgages	7	A/N ⁷	X (07)	Output
Original Face	Principal amount of MBS at date of issue	9	A/N	X (09)	Output
Coupon	Rate of interest recorded on the face of the certificate	6	A/N	X (06)	Output
Maturity Date	Maturity date of the mortgage pool (mmddyyyy)	8	A/N	X (08)	Output
New Issue	Identifies a new pool issue (X or blank)	1	A/N	X (01)	Output
Trade Number	MBSD trade number	10	A/N	X (10)	Output
Control Number	Individual pool detail reference number assigned by the user	15	A/N	X (15)	Output
Filler	Filler	15	/	/	Output
Current Face	The outstanding principal of the mortgage	11	A/N	X (11)	Output
Factor	Percentage of original principal outstanding	10	A/N	X (10)	Output
CUSIP Number	CUSIP Number	9	A/N	X (09)	Output
Filler	Filler	5	/	/	Output
Issue Date	Date the mortgage pool was issued (mmddyyyy)	8	A/N	X (08)	Output

⁷ Field should be right justified and padded on the left with zeroes (contrary to typical A/N fields).

Terminator	Value of the Good Delivery Millions of the preceding lot of pools	4	A/N	X (04)	Output
Principal	The unpaid balance of an obligation exclusive of interest	11	A/N	X (11)	Output
Interest	Interest accrued on the balance	11	A/N	X (11)	Output
Net Money	Net Money	11	A/N	X (11)	Output
Special Instructions	Informational pool detail terms	30	A/N	X (30)	Output
Filler	Filler	10	/	/	Output
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N ⁸	X (01)	Output

⁸ Populated on Last Pool Detail record within a single message (space character on all other Pool Detail Records).

Last Sequence Reply

Field Name	Field Description	Length	Type	Picture	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	Output
Message Type	Indicates message type (LS)	2	A/N	X (02)	Output
Sequence Number	EPN generated sequence number	6	N	9 (06)	Output
EPN Version Control	Version control number established by EPN	3	N	9 (03)	Output
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	Output
Connection ID	Submitting EPN Connection ID	4	A/N	X (04)	Output
Inquiring Connection ID	Inquiry for this EPN Connection ID	4	A/N	X (04)	Output
Inbound Seq Number	Last seq number sent inbound to EPN for this Connection ID	6	A/N	X (06)	Output
Outbound Seq Number	Last seq number sent from EPN to this Connection ID	6	A/N	X (06)	Output
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	Output

Heartbeat Acknowledgement

Field Name	Field Description	Length	Type	Picture	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	Output
Message Type	Indicates message type (HA)	2	A/N	X (02)	Output
Sequence Number	EPN generated sequence number	6	N	9 (06)	Output
EPN Version Control	Version control number established by EPN	3	N	9 (03)	Output
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	Output
Connection ID	Submitting EPN Connection ID	4	A/N	X (04)	Output
Heartbeat Type	Response to HP=1	1	A/N	X (01)	Output
Disaster Flag	Disaster state, 0=normal, 1=disaster declared 2=DR available	1	A/N	X (01)	Output
Original Seq Number	Sequence number of original heartbeat message	6	A/N	X (06)	Output
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	Output

Application Acknowledgment

Field Name	Field Description	Length	Type	Picture	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	Output
Message Type	Indicates message type (AA)	2	A/N	X (02)	Output
Sequence Number	EPN generated sequence number, used for gap detection	6	N	9 (06)	Output
EPN Version Control	Version control number established by EPN	3	N	9 (03)	Output
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	Output
Connection ID	EPN Connection ID	4	A/N	X (04)	Output
Internal ID	Unique reference number input by Participant	16	A/N	X (16)	Output
Message ID	EPN assigned Message ID	11	A/N	X (11)	Output
Acknowledgment Code	Indicates whether message is accepted or rejected (1234)	4	A/N	X (04)	Output
EPN ACK Time-stamp	Key Time-stamp indicating EPN Delivery (12:34.56)	6	A/N	X(06)	Output
Original Sequence #	Playback of User Sequence # used to match ACK	6	N	9 (06)	Output
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	Output

Text Message

Field Name	Field Description	Length	Type	Picture	Edits
Start Message Indicator	Used to indicate start of message ("Hex 02")	1	A/N	X (01)	Output
Message Type	Indicates message type (TX)	2	A/N	X (02)	Output
Sequence Number	EPN generated sequence number, used for gap detection	6	N	9 (06)	Output
EPN Version Control	Version control number established by EPN	3	N	9 (03)	Output
Subscriber ID	EPN Participant ID (0123)	4	A/N	X (04)	Output
Connection ID	EPN Connection ID	4	A/N	X (04)	Output
Text Type	Indicates type of output message (Administrative or Gap Detection)	2	A/N	X (02)	Output
Message Text	Text of the output message if applicable	130	A/N	X (130)	Output
End Message Indicator	Used to indicate end of message ("Hex 03")	1	A/N	X (01)	Output

5. EPN EDIT AND VALIDATION REQUIREMENTS

Header Record Mandatory Data

The Header record contains critical information regarding the buyer, seller, and general trade terms. All mandatory fields are edited for syntax and, in some instances, validated for content. Most optional fields are not edited or validated.

The entire message is rejected if the header record contains invalid mandatory data.

Field	Edit	On-line Edit	Comment
Submitter	Validated against adatabase	Validated against adatabase	Must be an active Account ID. Must NOT be an EPN-only member if contra is anFICC account.
Contra	Validated against adatabase	Validated against adatabase	Must be an active Account ID
TBA CUSIP	Validated against adatabase	Validated against adatabase	Must be a valid TBA CUSIP as published by Standard& Poor's
Message Type	Validated against adatabase	Validated against adatabase	Messages must be one of eight types: Original Notifications (ON), Don't Know (DK), Cancel (CX), PoolSubstitution (CC), Text (TX), Logon (LO), Application Acknowledgment (AA), Status Request (SR) orRetransmission Request (RR) for CTCI only

Original Trade Par	Edits for numeric value Must be greater than zero	Edits for numeric value Must be greater than zero	<p>Necessary to distinguish otherwise identical trades. EPN only validates if an odd lot is included in the ON message, tail PAR portion of this field will be part of the matching term for the targeted TBA position for allocation. If tail portion of this field is not found in member's matching open TBA position, FICC DKs the Odd Lot.</p> <p>For FICC outbound ON message to members, EPN populates it with Original Trade PAR of the targeted TBA Trade, and drop the digits higher from the billionth-place if Original Trade PAR is \$1 billion or higher.</p>
Price	Edits for numeric value Must be greater than zero	Edits for numeric value Must be greater than zero	<p>Necessary to distinguish otherwise identical trades. If FICC and a Trade ID are included in the ON message, FICC will match up to and the 6th decimal point. If FICC and no Trade ID are included in the ON message, FICC will match up to and including the 9th decimal point. For DK and CC messages, price must match to the 6th decimal point of the targeted pool.</p>
Good Delivery Millions	Edits for numeric value May contain a zero value to indicate the allocation of oddlot Must be less than system parameter	Edits for numeric value May contain a zero value to indicate the allocation of oddlot or bad delivery Must be less than system parameter	Necessary due to SIFMA variance

Trade Date	Will not be edited	Valid calendar date	Necessary to distinguish otherwise identical trades
Settlement Date	Will not be edited	Valid calendar date	Necessary to distinguish otherwise identical trades
Delivery Date	Will not be edited	Valid calendar date	Necessary to distinguish otherwise identical trades
Reason Code	Validated against a database	Validated against a database	Required for DKs and CXs to indicate the reason this action is taken
Number of Pools	Will not be edited	Validated against actual number of pool details	EPN verifies on-line entry

Header Record Optional Data

Field	CTCI Edit (if entered)	On-line Edit (if entered)	Comment
Sub-Account	Will not be edited	Will not be edited	Identify a specific customer of the submitter or recipient institution, "ZZZZ" used for unknown sub-account
Target Message ID	Will not be edited	Will not be edited	Used for DKs and Cancels to reference original EPN Message ID
XREF	Will not be edited	Will not be edited	Submitter's in-house trade number (15 characters maximum)
Special Instructions	Will not be edited	Will not be edited	Informational free form field (30 characters maximum). STIP Position must include Trade ID. Generic TBA positions may optionally include Trade ID. Syntax: "TRID=VALUE=", else system DKs the message. TRID's value should be alphanumeric. Participants should see SPECIAL INSTRUCTIONS (MESSAGE HEADER) under the EPN General Guidelines section of the EPN Guidelines and Codes Guide for additional information.
Internal ID	Will not be edited	Will not be edited	Submitter's unique identifier of a message Used to update internal systems when the EPN acknowledgment is received Used to track status of messages submitted to EPNMax. 16 characters

Pool Detail Mandatory Data

The Pool Detail records contain pool information subordinate to the associated Header record.

Input: Neither mandatory nor optional Pool Detail record fields are edited. The message is rejected only if erroneous data is detected in the Header record. Fields not edited by EPN could contain illogical values, (e.g., alpha characters in the Coupon field). Users should anticipate this potentially erroneous data entering their internal systems.

On-line Input: Mandatory fields in the Pool Detail record are edited for format and, in some instances, validated for content. Optional fields are edited for format only. Errors that are detected upon submission are highlighted and must be corrected by the EPN user before the message can be processed.

Field	CTCI Edit (if entered)	On-line Edit (if entered)	Comment
Lot-ID	Will not be edited	Mandatory Valid alpha/numeric	Common method to communicate good delivery millionsto recipient. Common reference point needed to communicate DKs, CC and CXs of pool level details
Pool Number	Will not be edited	Mandatory Valid alpha/numeric	
Original Face	Will not be edited	Mandatory Valid numeric Greater than zero	Used to determine amortized amount
Coupon	Will not be edited	Valid numeric	Used for the possibility of different coupon rates being allocated to the same trade (e.g. COFIs).
Terminator	Will not be edited	Mandatory Valid numeric	Used to distinguish the mid and end of an individual lot of pools. Participants should see the Pool Terminators section of the EPN Guidelines and Codes Guide for additional information.

Pool Detail Optional Data

Field	CTCI Edit (if entered)	On-line Edit (if entered)	Comment
Maturity Date	Will not be edited	Valid calendar date	
New Issue	Will not be edited	Must be "X" or Blank	
Trade Number	Will not be edited	Valid alphanumeric	
Control Number	Will not be edited	Valid alphanumeric	
Current Face	Will not be edited	Valid numeric Greater than zero	
Factor	Will not be edited	Valid numeric Greater or equal to zero and less than or equal to 2	
CUSIP Number	Will not be edited	Valid alpha/numeric	
Issue Date	Will not be edited	Valid calendar date	
Principal	Will not be edited	Valid numeric	

Interest	Will not be edited	Valid numeric	
Net Money	Will not be edited	Valid numeric	
Special Instructions	Will not be edited	Will not be edited	Informational free form field (30 characters maximum). EPNX={...} is an optional field for the submitter to include a pool level reference number to link with Pool Instruct records.