ACCELERATED SETTLEMENT (T+1)

NSCC PRIMARY MARKET CREATE/REDEEM FUNCTIONAL REQUIREMENTS

JANUARY 26, 2023

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INTRODUCTION

The financial services industry, in coordination with its regulators, is planning to shorten the settlement cycle for equities, corporate bonds, municipal bonds, unit investment trusts, and financial instruments comprised of these security types (for example: ADRs, ETFs), from the current cycle of trade date plus two business days (T+2) to trade date plus one business day (T+1). Although the T+1 transition date remains an open issue as of the time this document was written, the document assumes a September 3, 2024, transition date to a T+1 settlement cycle. The T+1 transition date is subject to final regulatory approval. Assuming the above date is agreed upon, the first T+1 trade date will be Tuesday, September 3, 2024.

A copy of this document can be obtained from DTCC at https://www.dtcc.com and from the industry's T +1 site at https://www.dtcc.com/ust1/documentation. For more resources, see Updated Formats and Resource Links.

Based on the considerations published in the initial white paper to the Industry in December 2021 NSCC will develop near real-time reporting for the primary market Create/Redeem service with near real-time output through Universal Trade Capture (UTC).

Below are the original considerations / recommendations published in the T1 white paper:

- Development of a near real-time create/redeem process after 7 P.M. in NSCC's Primary Market service.

- Distribution of Trade Capture messaging through UTC in near real-time for Create/Redeem trade.

- Distribution of ETF Instruction Detail Blotter with settlement details prior to current 9 P.M. cycle.

Processing Create and Redeem orders near real-time and providing near real-time UTC output earlier than the current batch process (8:00 P.M. Create/Redeem and 9:00 P.M. output) will allow ample time for ETF Agents and/or Authorized Participants (APs) to submit CNS exemptions. Based on the near real-time processing start and end times it will also provide a wider window for Create/Redeem orders to make the CNS night cycle and the primary CTS cycle.

FUNCTIONAL REQUIREMENTS: NEAR REAL-TIME CREATE/REDEEM PROCESSING

Primary Cycle Cutoff T+1

The current primary cycle cutoff of 8:00 P.M. Eastern Time (ET) will be **expanded until 8:45 P.M. ET.** The expansion allows as many orders as possible to make the CNS night cycle and the primary distribution of the Consolidated Trade Summary (CTS). The ETF reporting of the ETF Instruction Detail Blotter (02981254 PSE/U, 02261254 Production) continues to be distributed at 9:00 P.M. ET.

For all CTS and CNS cycle changes along with CNS exemption processing rules and cutoff, see the *Accelerated Settlement (T+1) DTC, NSCC, and ITP Functional Changes* document available at: https://www.dtcc.com/-/media/Files/PDFs/T2/T1-Functional-Changes.pdf

The following chart shows ETF reports in scope with the new cutoff and distribution times that will be effective with accelerated settlement T+1.

Report or File Name	Test File	Production File	Input/Output Cycles
Enhanced Create/Redeem Instruction Data Input File (Agents only)	41300	11300	2:00 P.M.-8:45 P.M. Hard Cutoff Primary Cycle
Enhanced ETF Create and Redeem Instruction Output (Blotter) MRO	02981254	02261254	9:00 P.M. (T) (unchanged)
Enhanced Create/Redeem Instruction Detail Print Image Report	02980291	02260291	9:00 P.M. (T) (unchanged)
Enhanced ETF End of Day Create/Redeem Receipt/Reject Report	02980098	02120098	8:45 P.M. (T)
Enhanced ETF Intraday Create/Redeem Receipt/Reject Report	02981954	02261954	Intraday upon receipt.
UTC Fix Output	Fix/MQ	Fix MQ	

With the introduction of T+1 accelerated settlement, NSCC will accelerate its pricing sources and begin processing Create/Redeem instruction files (41300 PSE/U, 11300 Production) in near real-time beginning at approximately 6:30 P.M. ET.

- The primary cycle continues to open at 2:00 P.M. ET, any order files received prior to completion of pricing (approximately 6:30 P.M. ET) generates the ETF Enhanced Intraday Create/Redeem Receipt/Reject Report (02981954 PSE/U, 02261954 Production) in near real-time.

- At completion of pricing, NSCC processes any order instruction files received to that point and continues to process incoming order instruction files in near real-time.

ETF Reporting Through Universal Trade Capture (UTC) Output

The real time processing will generate ETF trades to NSCC's Universal Trade Capture (UTC) system in near real-time with near real-time UTC output detailing the ETF and component trades between the ETF Agent and

Authorized Participant (AP). For the functional requirements for reception of the UTC output, see the **UTC Output Requirements** section.

UTC will capture all critical data elements from the ETF Instruction Detail Blotter that are critical for reconciliation and settlement inclusive of collateral fields for non-CNS eligible underlying components and distribute in near real-time output as well as Machine Readable Output (MRO file: **Production 02081673 / PSE/U 02981673**).

Critical Data Elements From ETF Instruction Detail Blotter

Review the critical fields from the ETF Instruction Detail Blotter that will appear in the UTC near real-time and MRO output. To help illustrate the critical fields along with their placement in UTC near real-time output, see the recent print image blotter figure.

Transaction ID – ETF Agent submitted transaction ID to associate the ETF and Component Trades for each specific Create and Redeem order. Transaction ID will appear on UTC output in the Order ID field,

- When the fix tag 54 Buy Indicator equals **1 (Buy)**, the fix tag 37 Order ID is populated with the Create Transaction ID.

- When fix tag 54 Buy Indicator equals **2 (Sell)**, the fix tag 37 Order ID is populated with Redeem Transaction ID.

FIX Output Fields

FIX Tag No.	Desc	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
54	Buy Indicator	1	A/N	Char	1 = Buy 2 = Sell 3 = Buy minus 4 = Sell plus 5 = Sell short 6 = Sell short exempt B = Buy cover	1 = Buy 2 = Sell (Position 159)
37	Order ID	32	A/N	String	Unique Order ID or Branch Sequence Number	Order ID (Position 281 295) ETF Create/Redeem Transaction ID: • **Create** Transaction ID when the fix tag 54 Buy Indicator = **1 (Buy)**. • **Redeem** Transaction ID when the fix tag 54 Buy Indicator = **2 (Sell)**.

Settlement Location – NSCC indicator to specify CNS versus non-CNS eligible component CUSIPs.

- UTC will populate fix tag 577 = 6 for CNS Eligible ETFs and Components on UTC output.
- UTC will populate fix tag 577 = 4 for non-CNS eligible components on UTC output.

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
577	Netting Indicator (Clearing Instruction)	1	N	Int	1 = Excluded From All Netting (in CTS) 2 = Bi lateral trade date Netting Only (Foreign Securities) 3 = Excluded from Clearing (only trade capture) **4 = Participant Instructed Special Trade (in CTS)** 5 = Multilateral Netting (B/O) **6 = Clear Against Central Counterparty (CNS)**	• B = Trade for Trade (No Netting) or Foreign T+2 and Older • F= Foreign B/O (Bi-lateral Netting) Foreign & T+0 or T+1 • Z = No CTS reporting/ No Netting/NoBalanceOrders " " if Reject • New value for UTC. This was a separate field on legacy MRO • N = B/O (Multi-lateral Netting) Non CNS C = CNS (Netting) (Position 234 – Netting Indicator) (Position 235 – Special Trade Code)

Security Type Code – Generated by NSCC to identify the ETF leg versus the underlying component trades. UTC populates fix tag 460 = 19 Exchange Traded Managed Fund, on the ETF leg of the trade on UTC output.

Note

UTC will only populate Tag 460 = 19 Exchange Traded Managed Fund on the ETF trade that can be used in conjunction with the Transaction ID. This tag is not populated when an ETF is an underlying component.

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
460	Security Type (Product)	2	N	Int	3 = Corporate 5 = Equity 11 = Municipal 12 = Other 14 = UIT 15 = Cal 16 = Put 17 = Future 18 = Narrow-based Future **19 = Exchanged Traded Managed Fund**	ES = Equity Stock C = Bond EU = Equity Unit FD = Future Debt (Bond) FE = Future Equity (Stock) FU = Future Unit M = Municipal Bond OC = Option Call OP = Option Put U = Unit Investment Trust (Position 152 – 157)

- **Settlement Value** – For CNS eligible Components UTC will continue to populate Tags 381 and 118 with Settlement Value.

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
381	Principal Trade Amount (Gross Trade Amt)	17	A/N	Amt	Unit Price x Share Quantity 16 Digits + 1 (period indicating two decimal point offset)	Price x Quantity Two Decimal Positions (Position 185 – 200)
118	Net Settlement Amount (Net Money)	17	A/N	Amt	Net Settlement Money (as provided by market) 16 Digits + 1 (period indicating two decimal point offset)	(Position 250 – 265)

-

The following figure shows a clip from **Print Image Instruction Detail Blotter** to help illustrate critical fields listed above that will be populated on UTC output.

```
NATIONAL SECURITIES CLEARING CORPORATION              CREATE / REDEEM ETF BLOTTER REPORT              PAGE: 5228
                                                      TRADE DATE 10/XX/2022            SETTLEMENT DATE 10/XX/2022

        MEMBER NO  0000XXXX  STATE STREET BANK & TRUST CO./BLACKROCK INSTI
----------------------------------------------------------------------------------------------------------------------
NSCC PORTFOLIO:                          ETF TRADING:
SYMBOL: 8638SIN      ID: 00N997432         SYMBOL: IGIB       ISIN/CUSIP: US4642886380
UNIT SIZE:    50,000                       NAME:   ISHARES TRUST ISHARES 5-10 YEAR INVESTMENT GRADE CORP BD ETF
----------------------------------------------------------------------------------------------------------------------
TRANSACTION ID: 001252420907    CONTRA BROKER: 0000XXXX    EXEC BROKER:          TRANSACTION FEE:      500.00CR
TRANSACTION TIMESTAMP: 04:23:53.000                REVERSAL INDICATOR: NEW C/R INSTRUCTION
ETF UNITS CREATED:              6
TOTAL COMPONENT VALUE DEBITED:         14,284,220.890000
CASH VALUE CREDITED:                        75,777.290000
TOTAL ETF VALUE CREDITED:              14,359,998.180000
----------------------------------------------------------------------------------------------------------------------
                                      ***  ETF COMPONENTS  ***

                                   |    SETT   CUST  COMPONENT SHARES        SHARES                         ACCRUED
SYMBOL          DESCRIPTION   CUSIP/ISIN   LOC REO ADD   RECEIVED     TO BE SETTLED   SETTLING PRICE        INT          SETTLEMENT VALUE

                AES CORP      US00130HCG83 1            45,000          45,000        0.758650          269.50         34,408.750000
                AT&T INC      US00206RKH48 1            25,000          25,000        0.752110          112.50         18,915.250000
                ABBVIE INC    US00287YBX67 1            55,000          55,000        0.871230          694.22         48,611.870000
                AIR LEASE COR US00914AAK88 1            60,000          60,000        0.783760          687.50         47,713.100000
                ALCAN INC     US013716AQ81 1            45,000          45,000        1.121970          253.75         50,742.400000
                ALLIANT ENERG US01882YAD85 2            30,000          30,000        0.850020          126.00         25,626.600000
                AMAZON COM IN US023135BY17 1            35,000          35,000        0.846390          242.23         29,865.880000
```

- **Accrued Interest**

  When a Create or Redeem order includes fixed income components NSCC includes the Accrued Interest amount for each component trade on UTC output. Accrued Interest will be populated in Tag 137 on UTC output and also on UTC MRO as shown in this section.
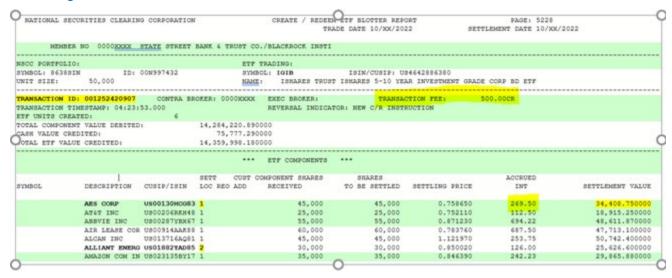
- **Transaction Fee**

  The ETF Agent transaction fee that NSCC passes through on the Instruction Detail Blotter and is sent to DTC Settlement as Code 54 Standard or Code 55 Custom will be populated in Tag 137 Commission / Explicit Fee.

UTC Fix Output

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
139	MiscFeeType	2	A/N	Char	2 = Tax	N/A – New field in UTC.
137	Accrued Interest Amount	10	A/N	Amt	Accrued Interest Amount 9 Digits + 1 (period indicating two decimal point offset)	Position 241 - 249 **Corporate and Municipal Bond Interest from ETF Create/Redeem Order.**

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
136	NoMiscFees	1	N	NumInGroup	4	N/A – New field in UTC.
137	Commission / Explicit Fee	9	A/N	Amt	Total Explicit Fee or Commission Amount 8 Digits + 1 (period indicating two decimal point offset)	Position 339 – 346 **ETF Agent Transaction Fee.** • **Code 54 Standard** • **Code 55 Custom**

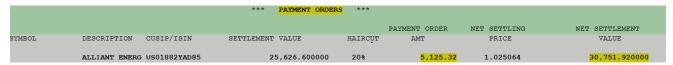## Print Image Instruction Detail Blotter

Additional Collateral Related Fields

See also the Instruction Detail Blotter screen print.

Payment Order Amount – The payment order amount for non-CNS eligible components will be reported in Fix Tag 884 ETF TFT Collateral on UTC output.

From the Instructional Detail Blotter for the Alliant Energ component, the payment order amount reported in Fix Tag 884 ETF TFT Collateral is $5,125.32.

			***	PAYMENT ORDERS	***		
					PAYMENT ORDER	NET SETTLING	NET SETTLEMENT
SYMBOL	DESCRIPTION	CUSIP/ISIN	SETTLEMENT VALUE	HAIRCUT	AMT	PRICE	VALUE
	ALLIANT ENERG	US01882YAD85	25,626.600000	20%	5,125.32	1.025064	30,751.920000

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
884	ETF TFT Collateral	17	A/N	Amt	Collateral Value for Non-CNS Components Total Collateral Amount Per Create/Redeem Order 16 Digits + 1 (period indicating two decimal point offset)	N/A - New field in UTC.

Net Settlement Value – The Component Settlement Value plus or minus the collateral payment order (Redeem or Create) continues to be reported in Fix Tags 381 and 118 Gross and Net Amount, Example $30,751.92. This is the amount ETF Agents and APs will make DVP/RVP, which effectively reclaims the collateral posted.

FIX Tag No.	Description	Length (MAX)	Type	FIX Type	UTC FIX Values	Legacy MRO Values
381	Principal Trade Amount (Gross Trade Amt)	17	A/N	Amt	Unit Price x Share Quantity 16 Digits + 1 (period indicating two decimal point offset)	Price x Quantity Two Decimal Positions (Position 185 – 200)
118	Net Settlement Amount (Net Money)	17	A/N	Amt	Net Settlement Money (as provided by market) 16 Digits + 1 (period indicating two decimal point offset)	(Position 250 – 265)

Total Payment Order Amount – This is the total collateral for all non-CNS eligible components on a Create or Redeem Order. This amount will be reported in Fix Tag 884 ETF TFT Collateral on UTC output on the ETF leg of a Create or Redeem Order only. This amount represents the total collateral per order that is sent to Inventory Management System (IMS) at DTC Settlement which is collected through an Special Payment Order (SPO). **NOTE:** As detailed above individual payment order amounts per each component are reported in the same FIX Tag 884 ETF TFT Collateral on component trades only. The sum of all Payment Order Amounts for trades with the same Transaction ID will be equal to the Total Payment Order Amount on the ETF leg of the UTC trades.

Important Notes:

- As illustrated in the Print Version Instructional Detail Blotter, Total Component Settlement Value plus or minus the Cash Amount is always the Value reported for Settlement of the ETF Creation Units. In the example shown, the amount $14, 359,998.18 continues to be reported as the ETF Creation Unit Settlement Value in Fix Tags 381 and 118 Gross and Net on UTC output.
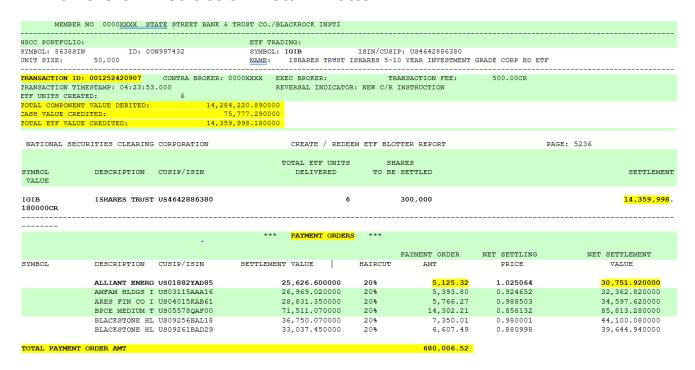
```
TOTAL COMPONENT VALUE DEBITED:          14,284,220.890000
CASH VALUE CREDITED:                        75,777.290000
TOTAL ETF VALUE CREDITED:               14,359,998.180000
```

- UTC output will now provide the Transaction ID and the Security Type =19 on the ETF leg of UTC trades, allowing participants to differentiate the Total Payment Order Amount on the ETF trade versus the individual Payment Order Amount on the component trades.

- In cases when underlying components are 100% CNS eligible, no collateral needs to be reported. In this scenario, the Fix Tag 884 ETF TFT Collateral is not reported on UTC output.

Print Version Instruction Detail Blotter

```
        MEMBER NO  0000XXXX   STATE STREET BANK & TRUST CO./BLACKROCK INSTI
---------------------------------------------------------------------------------------------------------------------
NSCC PORTFOLIO:                          ETF TRADING:
SYMBOL: 8638SIN        ID: 00N997432     SYMBOL: IGIB         ISIN/CUSIP: US4642886380
UNIT SIZE:     50,000                    NAME:     ISHARES TRUST ISHARES 5-10 YEAR INVESTMENT GRADE CORP BD ETF
---------------------------------------------------------------------------------------------------------------------
TRANSACTION ID: 001252420907   CONTRA BROKER: 0000XXXX  EXEC BROKER:        TRANSACTION FEE:     500.00CR
TRANSACTION TIMESTAMP: 04:23:53.000     REVERSAL INDICATOR: NEW C/R INSTRUCTION
ETF UNITS CREATED:          6
TOTAL COMPONENT VALUE DEBITED:      14,284,220.890000
CASH VALUE CREDITED:                    75,777.290000
TOTAL ETF VALUE CREDITED:           14,359,998.180000

 NATIONAL SECURITIES CLEARING CORPORATION              CREATE / REDEEM ETF BLOTTER REPORT              PAGE: 5236

                                          TOTAL ETF UNITS       SHARES
SYMBOL                                       DELIVERED       TO BE SETTLED                               SETTLEMENT
VALUE       DESCRIPTION    CUSIP/ISIN

IGIB        ISHARES TRUST  US4642886380               6         300,000                                 14,359,998.
180000CR
---------------------------------------------------------------------------------------------------------------------
--------
                                   ***    PAYMENT ORDERS    ***

                                                          PAYMENT ORDER     NET SETTLING        NET SETTLEMENT
SYMBOL      DESCRIPTION    CUSIP/ISIN     SETTLEMENT VALUE  |  HAIRCUT    AMT             PRICE               VALUE

            ALLIANT ENERG  US01882YAD85      25,626.600000     20%    5,125.32          1.025064         30,751.920000
            AMFAM HLDGS I  US03115AAA16      26,969.020000     20%    5,393.80          0.924652         32,362.820000
            ARES FIN CO I  US04015KAB61      28,831.350000     20%    5,766.27          0.988503         34,597.620000
            BPCE MEDIUM T  US05578QAF00      71,511.070000     20%   14,302.21          0.858132         85,813.280000
            BLACKSTONE HL  US09256BAL18      36,750.070000     20%    7,350.01          0.980001         44,100.080000
            BLACKSTONE HL  US09261BAD29      33,037.450000     20%    6,607.49          0.880998         39,644.940000

TOTAL PAYMENT ORDER AMT                                             680,006.52
```

Machine Readable Output (MRO) AutoRoute File (Production 02081673/PSE/U 02981673)

All data elements described above that will be reported on UTC near real-time output is also available through Machine Readable Output (MRO) file, in hourly cycles. While this may seem to be an easier development, the

final Cycle 13 that makes the CNS Night Cycle and primary CTS cycle will not be distributed until approximately 9:05 P.M. ET with the prior cycle at 8:00 P.M. ET.

UTC Output Requirements

UTC near real-time output is available through Message Queue (MQ) or Fix Engine. Fix Engine is typically used by exchanges and firms who also submit either Qualified Special Representative (QSR) or CORR trades to UTC. Since ETF reporting through UTC only requires UTC output, it is recommended that ETF Agents and APs interested in this option choose an MQ set up.

Firms that choose the near real-time UTC Fix output option should contact NSCCIntegration@DTCC.com to establish connectivity to an MQ server. When NSCC launch UTC in 2017, firms receiving output only were not required to set up an MQ channel in PSE/U test region. As soon as connectivity was complete, their subscriptions were activated in Production. Since this is a new option for T+1, it is highly recommended that firms establish both a test and production MQ channel. The NSCC Integration team fully coordinates onboarding, connectivity, and testing for firms choosing this option. Firms considering UTC Fix output through MQ should contact NSCC Integration as soon as possible to start the onboarding and connectivity process to shorten lead time for completion.

Subscriptions

After the MQ channel connectivity is complete, NSCCIntegration@DTCC.com arranges for the UTC output subscriptions (UTCO for output, ETFUTCO included ETF Market 920 on output).

Create and Redeem Secondary Cycle

As detailed above, the Primary Cycle Create and Redeem cutoff time will be expanded until 8:45 P.M. ET for T+1. The Secondary Cycle will begin at approximately 9:05 P.M. ET after distribution of the Primary Cycle Instruction Detail Blotter. Any Create and Redeem files received after the 8:45 P.M. ET primary cycle cutoff will be held and processed at the start of the secondary cycle.

- Create and Redeem Order Instruction files that miss the 8:45 P.M. ET Primary Cutoff will be held and processed at the beginning of the Secondary cycle at approximately 9:05 P.M. ET.

- All files received after 9:05 P.M. ET will be processed in near real-time and sent to UTC and generate UTC output in near real-time. UTC output in the Secondary cycle will include all fields from ETF Instruction Detail Blotter, as detailed above in the Primary Cycle processing section.

- The secondary cycle submission cutoff for Create and Redeem order instructions remains at 11:00 P.M. ET, with distribution of the ETF Instruction Detail Blotter at 11:15 P.M. ET.

- Create and Redeem orders processed in the Secondary cycle will not make the CNS night cycle or the Primary CTS cycle. These orders are processed in the day cycle on Settlement date.

Settlement Date Assignment Rules

- NSCC will implement coding changes to its ETF Create/Redeem application to update the rules this system uses to assign the settlement date to transactions.

- The following changes will apply to all trades submitted for the ETF Create and Redeem process using the **Enhanced ETF Create and Redeem Instruction Input MRO**: DATATRAK Production 11300 / PSE/U 41300). Members are reminded that these changes will also be reflected in any ETF output that is distributed to them.

  o Transactions submitted with a value = spaces (Regular Way) or a value = 1 (Next Day) in the Settlement Code field (Position 58) of the DATATRAK 11300 layout will be updated to be assigned a regular way settlement date of one business day after trade date.

o   Transactions submitted with a value = 2, 3, 4, or 5 in the Settlement Code Field (Position 58) will be for extended settlement. The actual value submitted in that field will equal the numbers of days in the extended settlement.

o   Similar to UTC processing of *As Of* regular way trades, the ETF Create/Redeem process will have rules to support the conversion process based on the submitted trade date. For *As Of* trades received on **XX-XX-XXXX or later with a T = XX-XX-XXXX or earlier,** NSCC internal code will assign regular way settlement with the pre-conversion rules where the settlement date is **X** business days after the submitted trade date. The internal code will only apply post conversion date settlement assignment rules (specified above) for trades with a **T = XX-XX-XXXX and later.**

DATATRAK Production 11300/PSE 41300 Type 2–Instruction Record Record length=300 Required for all instructions.						
Seq	Description	Length	Start	Type	Comments	Required or Optional Field
10	Settlement Code (previously called Shortened Settlement Code)	1	58	A/N	• Space = Default for Regular Way **(Next day settlement = regular way)** • **1 = Next Day Regular Way** • **2 = Extended Two Day Settlement** • 3 = Three Day Settlement • 4 = Four Day Settlement • 5 = Five Day Settlement	Required
11	Cash Only Indicator	1	59	A/N	• Y = Cash only (no components settled) • space = not cash only	Required

For conversion processing of Regular Way and As Of Regular Way trades over the conversion launch period, tentatively scheduled for September 3, 2024 that is awaiting regulatory approval, see the T+1 functional document available from the T+1 site at: https://www.dtcc.com/ust1/documentation

Updated Formats and Resource Links

This document includes relevant sections of input and output formats.

• For the Shortening the US Equities Settlement Cycle (T+1) documentation, see UST1. This site also includes the *Accelerated Settlement (T+1) DTC, NSCC, and ITP Functional Changes* document.

• For the **full updated formats**, see the ETF Release section of the DTCC Learning Center.

• For the **current** ETF and UTC formats, see ETF Technical Resources and UTC Technical Resources.