



# CHES replacement

## Business Design Document Settlement Design

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DRAFT



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## Change Log

Version Date	Changes
26 June 2024	Draft version provided to BDWG members for review and comment.
5 July 2024	<ul style="list-style-type: none"><li>Updated consideration 3.2.3.1 to include additional wording '<i>or be placed on hold requiring the Participant to release the transaction</i>' prior to being scheduled for settlement.</li><li>Removed consideration 3.3.4 for clarity as functionality is specified in consideration 3.3.5.</li></ul>
19 August 2024	Revised format and wording changes.

## Overview

This Business Design Document is intended to complement and inform the corresponding proposals set out in the document titled 'Consultation on the Scope and Implementation of CHES replacement Release 2 (Settlement and Subregister)' (**Consultation Paper 2**), published on 2 August 2024. With a view to obtaining industry views on a range of additional scope items for CHES replacement, ASX established the [Business Design Working Group \(BDWG\)](#), which commenced in December 2023.

In a BDWG meeting held on 29 May 2024, the agenda specifically focused on settlement design for the CHES replacement system. This document provides an overview of the discussion points and proposed industry design considerations for new or changed functionality relating to settlement design for the CHES replacement system but does not represent an actual solution design. The industry design considerations set out in this document may provide context to proposals on the topic contained in Consultation Paper 2 and are subject to further analysis, consultation and change. We make no commitment to design the CHES replacement system in accordance with the information set out in this document.

## CHES replacement background

ASX is committed to contributing to the modernisation of Australia's cash market through the CHES replacement project, to support the market's dynamic nature and respond to evolving needs for scalability, flexibility and innovation.

ASX has proposed that the CHES replacement system will be implemented in two releases:

- **Release 1** will replace the clearing component of CHES and introduce Financial Information eXchange (FIX) messaging for trade registration for all Approved Market Operators (AMOs). ASX on Release 1 and published its on 28 June 2024. ASX is targeting the implementation of Release 1 between mid-March to end-April 2026.
- **Release 2** will replace the settlement and subregister functionality, deliver improved corporate action functionality and make further enhancements to clearing. Release 2 will also introduce global standard ISO 20022 messaging interfaces for Participants, Share Registries and Payment Providers.

This document relates to items proposed to be delivered in **Release 2**.

## Document Scope

This document outlines the proposed industry design considerations for implementing the target state settlement service functionality for Release 2 of the CHES replacement system.

This document considers the following business and system processes relating to the following settlement functionality:

- Holding transfers and settlement instructions including bilateral matching
- Batch settlement
- Payment processes
- Non-batch delivery vs payment (DvP) settlement.

The scheduling of market trade obligations for settlement is covered in the Clearing Design BDD.

Aspects of settlement design that are intended to be discussed in more detail in future BDWGs include:

- Market claims and diary adjustments;
- Cum Entitlement Balance (CEB) transfers;
- Transaction basis usage;
- Universal Transaction Identifier (UTI);
- ETF creation and redemption workflows; and
- Settlement instruction linking and pooling.

## 1. Settlement design considerations for CHES replacement

### 1.1. Holding transfer and settlement instruction types

For Release 2 of CHES replacement, ASX proposes to continue to support transaction types within the system, which allow for the movement of securities between accounts (HINs) and are currently used by Participants in CHES. ASX intends to align these transaction types to international standards and provide enhancements that leverage the benefits of the TCS BaNCS MI product.

The transaction types ASX proposes to support are outlined in the following table:

Transaction type within TCS BaNCS	Transaction type used for	When the transfer is performed	Current CHES equivalent EIS message
Account (Holding) Transfers	Unilateral Free of Payment (FoP) transfer of securities between accounts (HINs)	<ul style="list-style-type: none"> <li>• On Demand; or</li> <li>• Scheduled for the start of a future business date (new)</li> </ul>	001
Settlement Instruction	Unilateral or Bilateral FoP, DvP, or Payment Free of Delivery <sup>1</sup> (PFoD) settlement	<ul style="list-style-type: none"> <li>• Batch settlement;</li> <li>• FoP on Demand;</li> <li>• DvP/PFoD on Demand (new); or</li> <li>• Scheduled for the start of a future business date (new)</li> </ul>	003, 005, 101, 105, and 107  <i>New use cases include:</i> <ul style="list-style-type: none"> <li>• <i>Non-batch DvP/PFoD; and</i></li> <li>• <i>Scheduled 107 settlements within a related Participant group</i></li> </ul>
Portfolio Transfer	Unilateral or Bilateral Free of Payment (FoP) transfer of all holdings from an account	<ul style="list-style-type: none"> <li>• Scheduled for overnight processing</li> </ul>	<i>New use case</i>

<sup>1</sup> PFoD settlement are not intended to support miscellaneous payments but to support payments related to other uses cases such as corporate action elections for which ASX sought industry stakeholder input in the Corporate Actions BDWG, held in July 2024.

(HIN) to another account  
(HIN)

The following table outlines the industry design considerations for the enhancements in the CHES replacement system that ASX is considering for holding transfers and settlement instructions:

ID	Industry design considerations	Scope
SETT_1.1	The CHES replacement system should support the ability for the FoP transfer of securities between two accounts (HINs) controlled by the <u>same</u> Participant scheduled for the start of a future business date	Release 2
SETT_1.2	The CHES replacement system should support the ability for the FoP transfer of securities between two accounts (HINs) controlled by <u>different</u> Participants scheduled for the start of a future business date <u>where matching transactions are received</u>	Release 2
SETT_1.3	The CHES replacement system should support the ability for the FoP transfer of securities between two accounts (HINs) controlled by <u>different</u> Participants scheduled for the start of a future business date <u>where the Participants are in a related group</u>	Release 2
SETT_1.4	The CHES replacement system should support the ability for the FoP transfer of securities between two accounts (HINs) controlled by <u>different</u> Participants scheduled for a future batch settlement cycle <u>where the Participants are in a related group</u>	Release 2
SETT_1.5	The CHES replacement system should support the ability for the on demand DvP transfer of securities between two accounts (HINs) controlled by <u>different</u> Participants <u>where matching transactions are received</u>	Release 2
SETT_1.6	The CHES replacement system should support the ability for the FoP transfer of <u>all</u> securities between two accounts (HINs) controlled by the <u>same</u> Participant scheduled for a future end of day processing cycle.	Release 2
SETT_1.7	The CHES replacement system should support the ability for the FoP transfer of <u>all</u> securities between two accounts (HINs) controlled by the <u>different</u> Participants scheduled for a future end of day processing cycle <u>where matching transactions are received</u>	Release 2
SETT_1.8	The CHES replacement system should support the ability for a PFoD transaction to support the transfer of funds between Participants on demand for non-miscellaneous use cases (e.g. corporate action election payments)	Release 2
SETT_1.9	ASX should consider increased system operational hours for Participants to submit their holding transfer and settlement instruction transactions	Release 2

## 1.2. Bilateral matching improvements

### 1.2.1 Bilateral matching criteria

For Release 2, ASX proposes supporting enhancements to the existing bilateral matching criteria ensuring flexibility and accuracy in the matching process. The types of matching criteria available in the TCS BaNCS MI product includes:

- **Mandatory matching fields:** Both parties must provide matching values for these attributes
- **Additional matching fields:** Where a party provides a value for an attribute, the counterparty must provide the same value for the attribute
- **Optional matching fields:** Where a party provides a value for an attribute, the counterparty can either provide the same value for the attribute or no value

- **Non-matching fields (public/private):** Fields that do not need to match and can differ on both sides of the transaction, and are either communicated to the counterparty or held privately.

The criteria is configurable within the TCS BaNCS MI product with the option of configuring different matching criteria for different transaction bases (e.g. securities lending and on-market transactions may be configured to have different matching criteria) and other applicable criteria (e.g. FoP versus DvP transfer and on-demand vs batch settlement transfer).

The TCS BaNCS MI product expands on the number of settlement instruction fields currently available in CHES. Additional fields that could be considered for matching in CHES replacement include:

- **Universal Transaction Identifier (UTI) or other common transaction reference** – this could be allocated by an upstream system (e.g. on a matching platform) and used to direct matching;
- **Multiple additional party details** – this could be used to identify end clients and other parties involved in the transaction; and
- Other attributes which are generally available within the ISO 20022<sup>2</sup> “Securities Settlement Transaction Instruction” (sese.023) message.

ASX will continue to work with industry stakeholders to understand the transaction details available upstream or in the TCS BaNCS MI product and to determine the matching criteria to be configured for Release 2 go-live.

As a result of feedback received, ASX is considering the following industry design considerations that enhance the bilateral transaction matching process currently supported in CHES.

ID	Industry design considerations	Scope
SETT_1.2.1.1	<p>The CHES replacement system should support the ability to configure matching criteria for bilateral transactions by configuring matching fields that are:</p> <ul style="list-style-type: none"> <li>• Mandatory matching fields;</li> <li>• Additional matching fields;</li> <li>• Optional matching fields; or</li> <li>• Non-matching fields</li> </ul>	Release 2
SETT_1.2.1.2	<p>The CHES replacement system should support the ability to configure separate matching criteria for bilateral transactions based on details of the transaction such as:</p> <ul style="list-style-type: none"> <li>• The reason the transaction is being used (e.g. transaction basis);</li> <li>• Whether the transaction is with or without value (i.e. FoP vs DvP); or</li> <li>• Whether the transfer is effected on-demand or in batch settlement</li> </ul>	Release 2
SETT_1.2.1.3	<p>The CHES replacement system should support the capability of adding fields to the matching criteria such as:</p> <ul style="list-style-type: none"> <li>• Universal Transaction Identifier (UTI) or other common transaction;</li> <li>• End Client and/or other party details; and</li> <li>• Other attributes generally defined in the ISO20022 sese.023 message</li> </ul>	Release 2
SETT_1.2.1.4	<p>ASX should work with industry to determine the matching criteria that should be configured for the go-live of Release 2 of CHES replacement</p>	Release 2
SETT_1.2.1.5	<p>ASX should explore the possibility for Participants to configure their own settlement amount matching tolerance for bilateral matching where they are a party in the transaction</p>	Release 2

<sup>2</sup> Refer to the securities business domain catalogue under the catalogue of messages specified in <https://www.iso20022.org/>.

ID	Industry design considerations	Scope
SETT_1.2.1.6	<p>ASX should explore the possibility of using an alternative mechanism to transaction basis to determine if a transaction is on or off market (e.g. consider using the trade date field to determine this)</p> <p><i>Note: Transaction basis would still be required for transactions such as primary market facility, securities lending, and settlement facilitation service related settlement instructions</i></p>	Release 2
SETT_1.2.1.7	ASX should consider increased system operational hours to perform bilateral matching	Release 2

### 1.2.2 Participant initiated hold and release

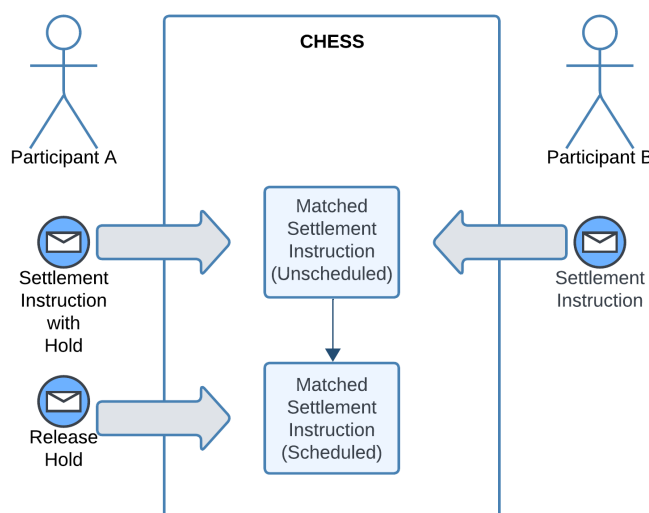


Diagram 1.0 – Example flow of a Participant initiated hold and release

For Release 2, ASX intends to provide Participants with greater flexibility and control over their settlement processes, allowing them to manage the timing and coordination of their transactions more effectively, with the option to submit settlement instructions with a "hold" indicator. This would allow Participants to enter and match their transactions earlier and reduce the operational uncertainty associated with unmatched transactions. Allowing for the match to take place without automatically scheduling for settlement provides Participants more control over the timing of the settlement.

One or both Participants have the option of submitting the "hold" indicator. For the instruction to be scheduled for settlement, all holds placed on the instruction, whether on one or both sides of the transaction, would need to be released.

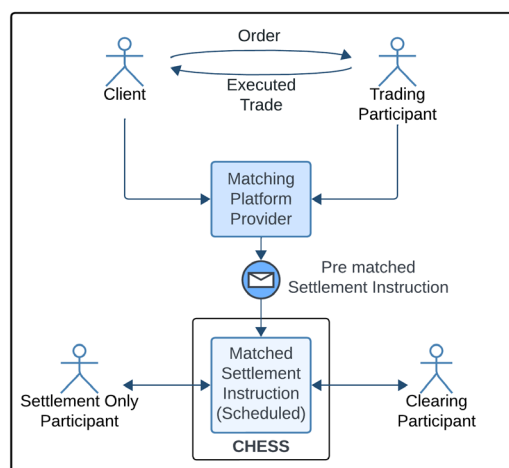
As a result of feedback received, ASX is considering the following industry design considerations for the Participant initiated "hold and release" functionality.

ID	Industry design considerations	Scope
SETT_1.2.2.1	The CHES replacement system should support the ability for Participants to optionally submit a settlement instruction with a "hold" indicator and reason code allowing the instruction to be immediately eligible for bilateral matching when submitted to the system but the instruction is not immediately scheduled for settlement upon matching	Release 2
SETT_1.2.2.2	The CHES replacement system should support the ability for Participant to remove the "hold" indicator from their side of the settlement instruction on a per instruction basis	Release 2



ID	Industry design considerations	Scope
SETT_1.2.2.3	ASX should explore the possibility for Participants to remove the “hold” indicator from their side of settlement instructions in bulk	Release 2
SETT_1.2.2.4	The CHES replacement system should automatically schedule a matched settlement instruction for settlement where the “hold” indicator is removed/does not exist on both sides of the instruction	Release 2
SETT_1.2.2.5	The CHES replacement system should notify the counterpart when a Participant submits a settlement instruction with a “hold” indicator and when the hold is released	Release 2
SETT_1.2.2.6	The CHES replacement system should automatically change the settlement date to the next business date of a settlement instruction that remains held and the batch settlement cycle it was targeting has commenced	Release 2
SETT_1.2.2.7	ASX should explore the possibility of adding criteria (such as reason codes, elapsed time held, or trigger from an authorised third party e.g. pre-matching system) that allows for matched settlement instruction with a “hold” indicator to be automatically scheduled for settlement and/or removed from the system (housekept)	Release 2
SETT_1.2.2.8	ASX should explore the possibility of redirecting fail fees to Participants holding instructions from being scheduled for settlement where the hold contributes to a failure in another Participant to deliver	Release 2

### 1.2.3 Pre-matched bilateral transactions



*Diagram 2.0 – Example flow of a pre-matching flow*

The TCS BaNCS MI product is capable of accepting pre-matched settlement instructions such as those matched on a third party matching platform provider. ASX understands (from the BDWG) that this process may not take into consideration the requirements of all Participants. Some Participants remain supportive of a proposed solution that either accepts an instruction to be scheduled for settlement automatically or require validation and affirmation by the Participant prior to scheduling for settlement. ASX will continue to work with industry stakeholders to further understand any additional considerations for this process that would help meet the needs of Participants in both the current operating model and in a future state, should the Australian cash market move to a shorter settlement cycle.

As a result of feedback received, ASX is considering the following industry design considerations for the pre matched settlement instruction functionality.

ID	Industry design considerations	Scope
SETT_1.2.3.1	ASX should explore the ability for pre-matched settlement instructions to be accepted from a third-party matching provider where authorised by a Participant, which should either be automatically scheduled upon matching or be placed on hold requiring the Participant to release the transaction prior to being scheduled for settlement	Release 2
SETT_1.2.3.2	ASX intends to work with industry stakeholders to better understand the additional considerations that would help meet Participant requirements for allowing the CHES Replacement system to accept pre-matched settlement instructions from a matching platform provider	Release 2

### 1.3. Other holding transfer and settlement instruction enhancements

The TCS BaNCS MI product offers additional holding transfers and settlement instructions functionality to the functionality currently supported in CHES. This includes:

- **Auto-hold pending securities** – Automatically holds settlement instructions and transfers pending availability of securities. The transaction is released by the system once securities become available, instead of rejecting the transaction request up front
- **Reserving securities for settlement** – Allows securities to be reserved on an account (HIN) for the purpose of fulfilling delivery of a settlement instruction or holding transfer. As part of our rules on client asset protections, reserving units for settlement instructions delivering from the accumulation entrepot accounts to settlement entrepot accounts will be mandatory
- **Pooling or linking settlement instructions** – Provides the capability to link two or more settlement instructions together for the purposes of settlement, adhering to ISO 20022 linking conventions (before/after/with/info) and the capability to link settlement instructions within settlement pools to manage to settle groups of instructions collectively. This ensures that the assets required to fulfil a settlement instruction are available and cannot be used for other purposes, allowing Participants to manage complex settlement scenarios and dependencies more effectively.

For Release 2 of CHES replacement, we intend to leverage these enhancements and outline them as industry design considerations in the table below, which we expect will provide operational benefits to industry stakeholders.

As a result of feedback received, ASX is considering the following industry design considerations for the holding transfer functionality.

ID	Industry design considerations	Scope
SETT_1.3.1	The CHES replacement system should support the option for holding transfers and settlement instructions (for on-demand settlement) to be held by the system where securities are not available in the delivering account (HIN) to complete the transaction instead of the transaction request being rejected upfront	Release 2
SETT_1.3.2	The CHES replacement system should complete holding transfers and settlement instructions (for on-demand settlement) held by the system due to securities not available, once securities become available in the delivering account (HIN)	Release 2
SETT_1.3.3	The CHES replacement system should allow securities to be reserved for the purpose of fulfilling a delivering settlement instruction or holding transfer either on an optional basis or mandatory basis where required (e.g. for settlement instructions delivering from the Accumulation Entrepot accounts to Settlement Entrepot accounts)	Release 2

ID	Industry design considerations	Scope
SETT_1.3.4	<p>The CHES replacement system should allow Participants to reserve securities for a settlement instruction or holding transfer (on an optional basis), either:</p> <ul style="list-style-type: none"> <li>• When the settlement instruction or holding transfer is requested;</li> <li>• When the settlement instruction is matched (as applicable); or</li> <li>• After the settlement instruction or holding transfer is requested and prior to completion</li> </ul>	Release 2
SETT_1.3.6	The CHES replacement system should allow Participants the option to release securities reserved on an optional basis for a settlement instruction or holding transfer prior to its completion	Release 2
SETT_1.3.7	The CHES replacement system should allow Participants the option to link or pool two or more settlement instructions for information purposes or for settlement to be contingent on each other	Release 2
SETT_1.3.8	<p>The CHES replacement system should allow settlement instructions to be linked contingent for settlement with the following link types:</p> <ul style="list-style-type: none"> <li>• <b>After</b> – settlement instruction to settle after or at the same time as the linked settlement instructions;</li> <li>• <b>Before</b> – settlement instruction to settle before or at the same time as the linked settlement instructions; or</li> <li>• <b>With</b> – settlement instruction to settle at the same time as the linked settlement instructions</li> </ul>	Release 2
SETT_1.3.9	The CHES Replacement system should allow Participants the option to link or pool two or more settlement instructions when the settlement instruction is requested	Release 2
SETT_1.3.10	The CHES Replacement system should allow Participants the option to pool, link or unlink settlement instructions after the settlement instructions have been requested and prior to their completion	Release 2

#### 1.4. Settlement processes

For Release 2, ASX proposes (as requested by industry stakeholders in the BDWG) that the CHES replacement system continues to run a single daily batch settlement process that settles gross and netted market obligations and settlement instructions (scheduled for batch settlement) with securities and funds transferred on a net basis.

ASX proposes that the batch settlement in the CHES replacement system mirror the key process steps of the current system. This includes:

Process step	Description
<b>Eligibility Check</b>	Verifies that all transactions meet the necessary criteria for settlement
<b>Sufficient Unit Check and Unit Fail Algorithm</b>	Ensures that there are sufficient units available for settlement and applies an algorithm to select the obligations to settle (in full or in part) or to reschedule where there is a shortfall of securities available for settlement
<b>Payment Authorisation and Back-out (if necessary)</b>	Paying net funds obligations are authorised by Payment Providers. Settlement obligations are reversed from the settlement cycle if payment authorisation fails
<b>RITS ESA Funds Movements</b>	Funds are transferred across the Exchange Settlement Accounts (ESA) of the payment providers in the RBA's Information and Transfer System (RITS)

<b>Movements of Units and Notifications</b>	Execute the transfer of units between accounts (HINs) and sending notifications to Participants about the net transfer of funds and units and the settlement status of each obligation and relevant details.
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The TCS BaNCS MI product includes functionality which has the potential to enhance the batch settlement process, including:

- Allowing certain operations, such as trade registration, matching, and account management, to occur during the batch settlement cycle. Transactions impacting holdings will remain restricted to ensure integrity and accuracy of the batch.
- Providing consolidated notifications for each settlement obligation, indicating whether it fully settles, part settles, or fully fails. This differs from the previous solution design that notified failed, rescheduled and part-settled components separately. The previous solution design did not provide notifications for fully settled obligations.

Industry stakeholders in the BDWG indicated the following key items be considered for their settlement related processes, in summary:

#### Failure to settle due to unit shortfalls

- No longer applying a standard settlement price (SSP) to failed netted obligations
- Allocating fail fees for a delivery failure to the counterparty that has not provided their securities
- Allowing for the buyer of securities, where the seller failed to deliver, to buy the securities from a third-party and request any additional cost from the original seller (i.e. “buy-in”)

#### Settlement cycle

- Supporting only one batch settlement cycle. Rather than running multiple batches, Participants should have the capability to settle DvP on demand on a gross basis (i.e. non-batch DvP)
- Supporting a predictive/simulated batch settlement cycles to provide Participants early visibility of the expected securities movement.

ASX is considering the following industry design considerations that enhance the settlement and related payment processes currently supported in CHES:

ID	Industry design considerations	Scope
SETT_1.4.1	The CHES replacement system should continue to run a single daily batch settlement cycle (as per current CHES) that performs DvP Model 3 <sup>3</sup> settlement of gross and netted market obligations and settlement instructions (scheduled for settlement in the batch)	Release 2
SETT_1.4.2	The CHES replacement system should allow core functions (such as trade registration, account management, and matching) to continue processing during the batch settlement cycle  <i>Note: Transactions that impact holdings will remain restricted during batch settlement to ensure integrity and accuracy of the process</i>	Release 2
SETT_1.4.3	The CHES replacement system should allow consolidated notifications for each settlement obligation, indicating whether it fully settles, partially settles, or fully fails (in contrast to the solution design <sup>4</sup> prior to the project pause)	Release 2
SETT_1.4.4	ASX should consider the possibility of no longer applying the standard settlement prices to netted obligations that fully or partly fail settlement due to a delivery failure	Release 2

<sup>3</sup> The settlement of securities and funds occurs on a net basis.

<sup>4</sup> Outlined in the consultation “CHES Replacement: Proposed changes to netting and settlement workflow” published 18 February 2021.

ID	Industry design considerations	Scope
SETT_6.5	ASX should consider the possibility of allocating fail fees to the appropriate Participant in a delivery failure e.g. allocating the fail fee incurred by a Participant failing to deliver to its counterparty that fails to provide the securities it required for settlement	Release 2
SETT_6.6	ASX should explore the possibility of introducing a “buy-in” process to resolve delivery failures	Post Release 2 consideration
SETT_6.7	ASX should explore the possibility of running predictive/simulated batch settlement cycles to provide Participants early visibility of the expected net securities movement	Post Release 2 consideration
SETT_6.8	The CHES replacement system should allow for settlement of DvP settlement instructions on a gross basis outside of batch settlement (i.e. non-batch DvP)	Release 2

### 1.5. Payment processes

The TCS BaNCS MI product provides functionality that has the potential to improve payment processes, including automating Payment Provider authorisations through supporting configuration, and maintenance of pre-approved payment limits for each payment facility. Payment Provider authorisations would only be required when the net funds obligation for the payment facility exceeds the configured pre-approved limit. The TCS BaNCS MI product also provides dashboards and alerts relating to the projected utilisation/breaches of pre-approved limits.

In the BDWG, industry stakeholders indicated the following key items be considered for their payment related processes in the CHES replacement system:

- Supporting a predictive/simulated batch settlement cycles to provide Participants early visibility of the expected net funds movement
- Configuring alerts regarding utilisation of pre-approved payment limits so that Participant operational processes (e.g. scheduling all paying obligations prior to all receiving obligations) do not trigger unnecessary alerts.

ASX is considering the following industry design considerations that enhance the payment processes currently supported in CHES:

ID	Industry design considerations	Scope
SETT_1.5.1	ASX should explore the possibility of running predictive/simulated batch settlement cycles to provide Participants early visibility of the expected net funds movement	Release 2
SETT_1.5.2	The CHES replacement system should support payments for non-batch DvP through a real-time RITS payment channel.	Release 2
SETT_1.5.3	The CHES replacement system should support the set-up of pre-approved payment limits for payment facilities	Release 2
SETT_1.5.4	The CHES replacement system batch and non-batch DvP settlement processes to require Payment Provider authorisation only when paying funds obligations which exceed the pre-approved payment limits for payment facilities	Release 2
SETT_1.5.5	The CHES replacement system should support Payment Providers increasing or decreasing pre-approved payment limits for payment facilities	Release 2

ID	Industry design considerations	Scope
SETT_1.5.6	The CHES replacement system should support dashboards and/or message-based reports to provide predicted funds obligations for payment facilities to Participants and Payment Providers and could in the future consider supporting APIs.	Release 2
SETT_1.5.7	The CHES replacement system should support configurable monitoring and alerting to Participants and Payment Providers regarding utilisation and breaches of pre-approved payment limits.	Release 2