

Agenda

Business Committee

Date	19 September 2019	Time	12:00pm – 2:00pm
Location	ASX offices – Level 1, 20 Bridge Street, Sydney		
1. Service Performance			12:00pm-12:10pm
a) Cash Market Clearing and Settlement - Operating Performance			
– Outtakes from RBA RITS Outage - 30 August 2018			
2. Service Enhancements			12:10pm-12:30pm
a) Update on the Corporate Action STP Phase 2 project			
b) Digitisation of CHESS statements (CHESS e-Statements)			
3. CHESS Replacement Project			12:30pm-12:50pm
a) CHESS Replacement			
– Application			
– Infrastructure and ledger			
– Integration and reporting			
– Rules and regulatory engagement			
– Stakeholder engagement			
– Transition, cutover and system accreditation			
b) ISO 20022 Technical Committee report and minutes			
4. Regulatory Expectations			12:50pm-1:05pm
a) Annual Cash Equities Clearing and Settlement Reports			
– Report on cash equities clearing and settlement services development			
– External audit of ASX compliance with regulatory expectations			
5. Administration			1:05pm-1:25pm
a) Minutes from the 18 July 2019 Business Committee Meeting			
b) Forward work program			
c) Other matters			
6. Next Meeting - 27 November 2019			

Industry innovation using DLT (no paper)

Following closure of the formal meeting, members are invited to stay for a presentation by the Executive General Manager, Equity Post Trade Services on the type of innovations and associated industry benefits that can flow from the use of Distributed Ledger Technology (DLT).

Business Committee Members

Company	Name	Job Title	Apologies
ABN AMRO Clearing	Matt McMahon	Head of Operations	Barry Parker
AFMA	David Lynch	Chief Executive Officer	
ASX	Peter Hiom	Business Committee Chair, Deputy CEO	
AIRA	Ian Matheson	Chief Executive Officer	
ACSA	Rob Brown	Chief Executive Officer	
ASA	Fiona Balzer	Policy & Advocacy Manager	
Automic	Astrid Raetze	Executive Director	
BAML	Rhys Cahill	Global Markets COO	
Bell Potter Securities	Rodd Kingham	Head of Operations - Transformation	
BNP Paribas	Mark Wootton	Head of Custody Product Australia & New Zealand	
Chi-X Australia	Mike Aikins	Chief Operating Officer	
Citi	Miles O'Connor	Director, Direct Custody & Clearing Securities & Funds Services	
CMC	Andrew Rogers	Director of Broking Business	
CBA	Sheridan Thompson	Head of Strategic Development, CommSec	
Computershare	Greg Dooley	Managing Director	
Credit Suisse	Winston Loke	Australia Equities COO	
Deutsche Bank AG	Geoffrey Plaisted	Chief Operating Officer, Equities	
Goldman Sachs	Yen Le	Executive Director	
GIA	Megan Motto	Chief Executive Officer	
HSBC	Nichole Alexander	Manager, Aust Market Advocacy and Development	Peter Snodgrass
J.P. Morgan	Steve Hackers	Head of Markets & Treasury Services	Jonathan Evans
Macquarie Group	James Indge	Cash Equities Business Manager	
Morgan Stanley	Rebecca Hill	Chief Operating Officer	
Morgans	Peter Chisholm	Manager, Transactional Services & Settlement Systems	
NAB	Greg Bowrey	GM, Self-Directed Wealth & Markets	Greg Bowrey
NSX	John Williams	Head of Admissions	Matthew Loughnan
Pershing Securities	Leigh Conder	Chief Operating Officer	
SAFAA	Judith Fox	Chief Executive Officer	
Sydney Stock Exchange	Antony Tolfts	Listings Director	
UBS	Scott Hanlon	Head of Operations, Aust & NZ	Conor Foley

ASX Management

Name	Job Title	Apologies
Tim Hogben	Chief Operating Officer	Tim Hogben
Daniel Moran	General Counsel	
Hamish Treleaven	Chief Risk Officer	
Cliff Richards	Executive General Manager, Equity Post Trade Services	
Dan Chesterman	Chief Information Officer	
Val Mathews	Executive General Manager, Operations	
Sally Palmer	Deputy General Counsel	
Katie McDermott	General Manager, Equity Post Trade Services	
Diane Lewis	Senior Manager, Regulatory and Public Policy	
Karen Webb	Senior Manager, Equity Post Trade Services	
Keith Purdie	Senior Manager, Equity Post Trade Services	
Giri Tenneti	Senior Manager, Issuer Services	
Con Korkofigas	Senior Legal Counsel	
Gary Hobourn	Senior Economic Analyst, Regulatory and Public Policy	

Observers

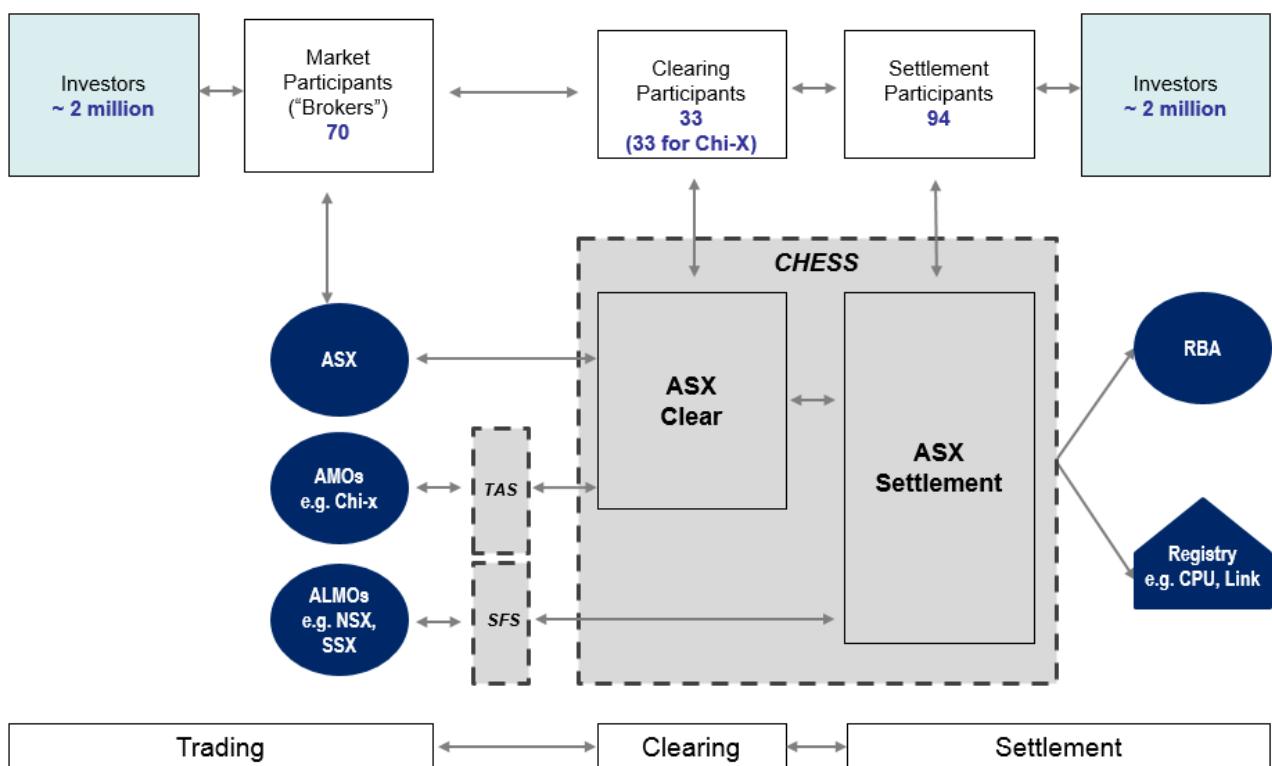
Name	Job Title	Apologies
Nathan Bourne	Senior Executive Leader, Market Infrastructure (ASIC)	
Dodie Green	Senior Manager, Market Infrastructure, (ASIC)	

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 1

Topic	Cash market clearing and settlement services - Operational performance
Date	19 September 2019
Purpose of this paper	To report on key performance metrics for ASX's clearing and settlement services.

OVERVIEW

Market Structure Overview



The clearing and settlement of equities performs a critical role in the operation of Australia's financial markets, helping to reduce counterparty and systemic risk, and provide transaction efficiency and certainty for end investors.

Core processes that provide these benefits include novation, netting and settlement.

Novation

Through a contractual process known as novation, ASX Clear becomes the seller to every buyer and the buyer to every seller, making it liable for completing all cleared transactions on the relevant market. Novation performs two important functions:

- it replaces the clearing participants' credit exposures to other clearing participants by substituting the clearing house as the central counterparty; and
- it maximises capital efficiency for clearing participants by permitting a single net exposure to be calculated and collateralised between the clearing house and each clearing participant.

Through novation, ASX Clear provides protection to non-defaulting clearing participants (and, indirectly, their clients) from the inability of a defaulting clearing participant to meet its obligations.

A key metric for monitoring novation is the percentage of on and off market trading that is novated.

Trades submitted for clearing and settlement by any market operator are verified prior to registration by ASX Clear. If the verification conditions are not satisfied then trades are rejected. Once a trade is registered it is novated. Novation is deemed to be effective from the matching of bid/offer (on market trades) or recording of the trade (reported trades) for all trade execution venues.

Netting

ASX Clear is approved as a 'netting market', and ASX Settlement is an 'approved netting arrangement', for the purposes of the Payment Systems and Netting Act. This gives legal certainty to the netting of settlement obligations. Settlement on a multilateral net basis maximises market efficiency by reducing participant transaction and funding costs.

A key metric for monitoring netting is the percentage by which novated value is netted down for settlement. This metric is termed "netting efficiency".

Settlement

ASX's model for settlement maximises efficiency, while minimising the risk of settlement failure. It does this by simultaneously transferring the legal ownership of shares and facilitating the transfer of money for those shares. This is done through a Model 3 multilateral net batch settlement mechanism with irrevocable settlement finality at the end of the processing cycle. The transfer of money occurs across the Exchange Settlement Accounts of payment providers in the RBA's Information and Transfer System (RITS).

A key metric for monitoring settlement is the percentage of scheduled settlement that successfully settles (i.e. the opposite of the "fail rate"). This metric is termed "settlement efficiency".

Service availability

ASX's critical processes of novation, netting and settlement and are supported in ASX's core system CHESS. It is critical for market operations, that CHESS remains stable and available for processing. A key metric for monitoring systems availability is the percentage of systems uptime as measured against target availability times. The service availability target for CHESS is 99.80%.

For the September 2019 quarter¹, the average monthly system availability was 100% for CHESS. The average monthly availability of CHESS has been 99.99% between November 2011 and August 2019.

Trade Acceptance Service

ASX Clear and ASX Settlement's Trade Acceptance Service (TAS) provides a mechanism for Chi-X to submit trades into CHESS. The CHESS system performs the clearing and settlement functions.

The Trade Acceptance Service availability target for TAS is 99.80% (the same as CHESS).

For the September 2019 quarter², the average monthly system availability was 100.00% for the TAS. The average monthly availability of the TAS has been 99.99% between November 2011 and August 2019 (which is the same as CHESS).

¹ Up to 30 August 2019

² Up to 30 August 2019

Reporting on clearing and settlement service performance

The key metrics noted above on novation, netting efficiency and settlement efficiency for the September 2019 quarter³ are reported in Attachment A. They are also supported by charts demonstrating a longer reporting period in Attachment B

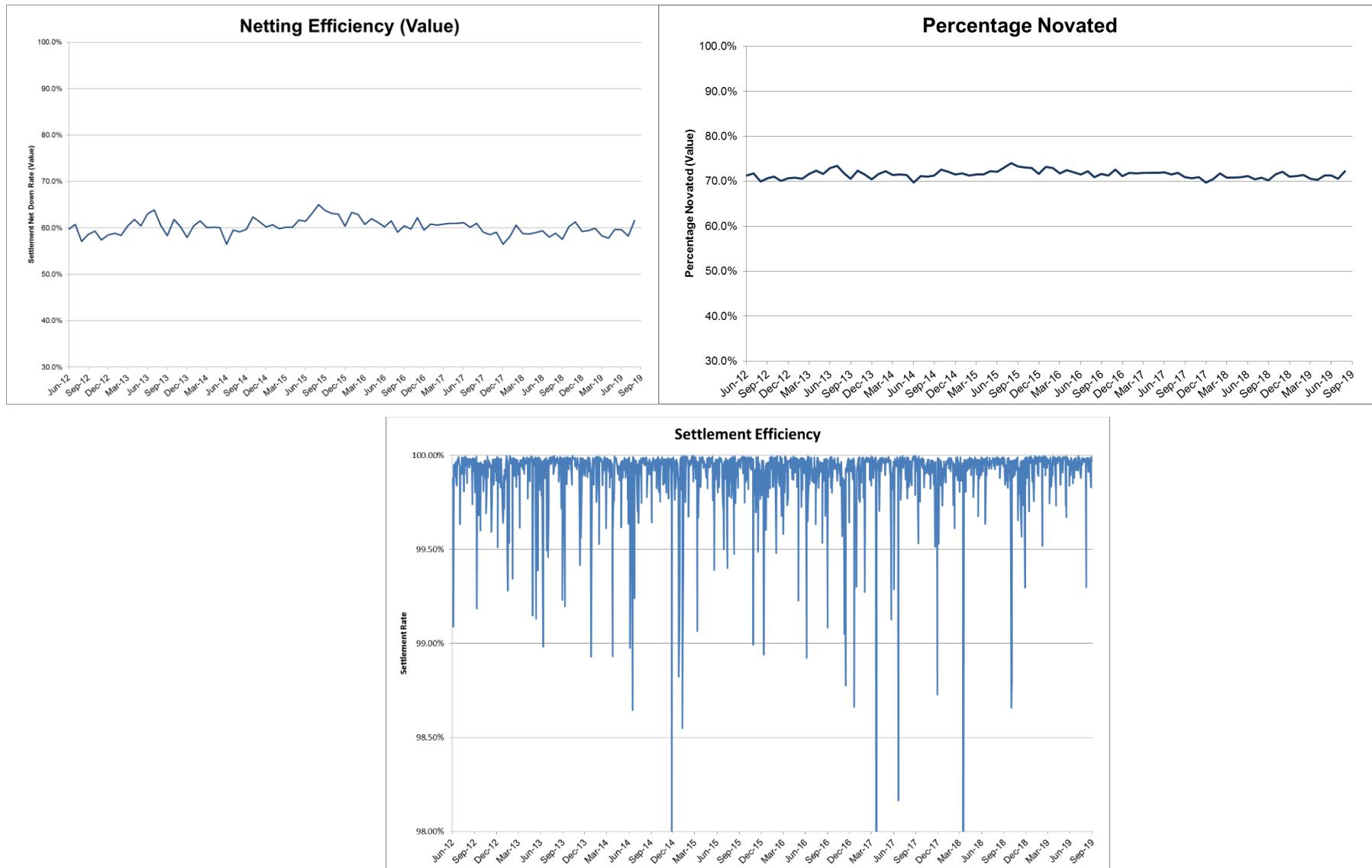
³ Up to 30 August 2019

ATTACHMENT A – SUMMARY METRICS RELATING TO THE PERFORMANCE OF ASX'S CLEARING AND SETTLEMENT SERVICES

	September 2019 Quarter ⁴	June 2019 Quarter	March 2019 Quarter
System Availability (CHESS)	100%	100%	100%
System Availability (TAS)	100%	100%	100%
Total Trades Accepted (ASX)	77,489,625	97,937,232	92,472,062
Total Trades Rejected (ASX)	0	0	0
Total Trades Accepted (Chi-X)	27,115,156	35,025,795	33,680,077
Total Trades Rejected (Chi-X)	0	0	0
Total Settlements (SSX)	0	0	0
Total Value of Settlements (SSX)	\$0	\$0	\$0
Total Settlements (NSX)	140	189	215
Total Value of Settlements (NSX)	\$145,327.13	\$514,305.70	\$762,626.87
Daily Average Traded Value (On and Off Market)	\$7.5 billion	\$7.5 billion	\$6.8 billion
Daily Average Cleared Value	\$5.3 billion	\$5.3 billion	\$4.83 billion
Percentage Novated	71.4%	70.94%	71.03%
Daily Average Cleared Value Post-Netting	\$2.14 billion	\$2.17 billion	\$1.97 billion
Netting Efficiency (Value)	59.9%	59.0%	59.2%
Netting Efficiency (Volume)	99.04%	99.03%	99.01%
Daily Average Settled Value (Including Non-Novated)	\$10.8 billion	\$10.9 billion	\$10.2 billion
Settlement Efficiency	99.94%	99.94%	99.95%

⁴ Up to 30 August 2019

ATTACHMENT B – PERFORMANCE OF ASX'S CLEARING AND SETTLEMENT SERVICES FROM JUNE 2011 TO August 2019





BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2A

Topic	Corporate Actions STP Phase 2 project
Date	19 September 2019
Purpose of this paper	To provide Business Committee members with an update on progress of the Corporate Actions STP Phase 2 project.

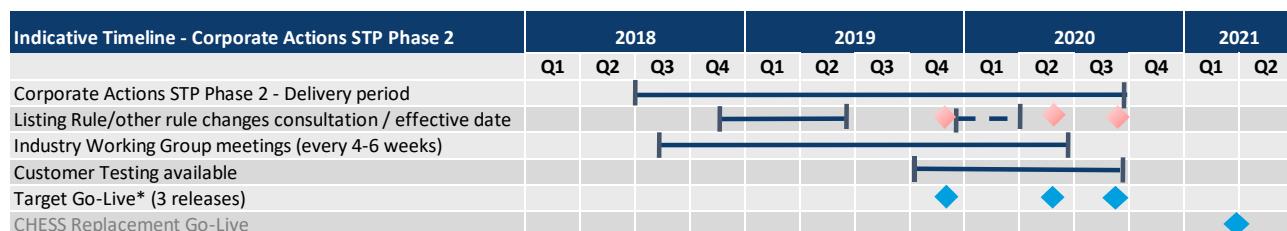
UPDATE ON PROJECT PROGRESS

The project team is progressing detailed work on the project with activities during the last two months focused on finalisation of the requirements and scope for development and test for the first release on 30 November, effective 1 December 2019. Additionally, the team continues work on the update to existing ISO 20022 corporate action notification messages and definition of additional messages that will be part of the second release in Q2 2020.

Delivery timeline

The project delivery timeline remains unchanged – the first release in December 2019, the second in Q2 2020 and the third in Q3 2020. ASX is however considering whether an additional release may be possible early in 2020 for release of online forms.

ASX will communicate to industry in due course the contents of the subsequent releases, covering the remaining scope of the project.



*1st release dependent on effective date for Listing Rule changes

Scope for first release effective 1 December 2019:

The first release is tied to the target effective date for the proposed ASX listing rule changes, given a number of the rule changes affect the online forms and associated events already in production (Phase 1), and introduces four new forms across capital change notifications, in replacement of the current Appendix 3B. ASIC have confirmed they are currently on track to meet ASX's timeframes.

Subject to regulatory approval, ASX expects to release its final marked up listing rule changes and consultation response in October 2019. The consultation response will also provide an overview of the arrangements for transition between the existing Appendix 3B and issuer usage of the four new forms. During October ASX will also provide issuers with access to the updated and new online forms and/or word form equivalents in a test environment (a copy of the current ASX Online training environment), with associated training and guidance material.

The scope for the first release will include:

- Updates to the Phase 1 event online forms for the announcement of dividend, interest payment, consolidation, split and cash return of capital events, including
 - alignment with particular changes included in the listing rule changes

- updates to some feature and validation changes for the benefit of issuers and ASX Operations, and associated database changes.
- Availability of the forms to replace the current Appendix 3B. Refer to Appendix 1 for an overview of the purpose and scope for each of the forms.
- Appendix 3B (notification of proposed issue of securities) – online form with pre-population and validation functions. Full STP will be available in a later release.
- Appendix 2A (application for quotation of securities) will initially be available as a word form. While the development of the online form is near complete with full STP functionality, ASX has determined to hold back its release until the Appendix 3B is available with full STP functionality. The two forms are linked in their functional and pre-population/validation design.
- Appendix 3G (notification of issue, conversion or payment up of equities securities) – this form was not included in the original consultation but will be introduced by ASX to ensure full coverage of all possible capital change notifications. The form is focused on unquoted security changes. The form will initially be available as a word form, with online form to be introduced as soon as possible. This form will function in a similar way to the Appendix 2A.
- Appendix 4A (statement of CDIs on issue) – online form with full STP functionality.
- Improvements to the PDF document automatically created from all online forms, including styling and inclusion of the issuer logo, where it is available.
- Updates to Market Announcement Report type classifications to include the four new forms. These Report types are particularly used in the ComNews service. A Market Notice will be issued to advise of this change.
- Upgrade to relevant system software that supports the STP solution.
- Set up of additional ASX Online Training Environment for issuers, including availability of the first release changes ahead of the production release.
- Appropriate functional, user and end to end testing across the full STP solution and adjacent systems and services.

ISO 20022 corporate action notification service:

The updated and new ISO 20022 corporate action notification messages are targeted for release in Q2 2020. However, the team is cognisant of ASX internal development and testing timeframes, as well as those of our customers, so is working to have message specifications and test samples available as soon as possible this year.

The project team have continued to progress the detailed review and updates to the Phase 1 event ISO 20022 messages including adopting a recent version of the ISO 20022 base message, and additional data changes where relevant. Eleven updated usage guidelines have now been published in SWIFT MyStandards for review by the members of the industry working group. Members were advised of their availability on Monday 2 September, and provided with an updated ReferencePoint ISO 20022 Intra-Day Corporate Actions Manual incorporating key changes for that message set. In a similar manner to the review process used by the ISO 20022 Technical Committee, ASX has asked for member review and comment via MyStandards, with a set review period.

Work is also well underway in forming detailed requirements and message specifications for the remaining Phase 2 corporate action events, working closely with the CHESS Replacement project team. ASX will publish these usage guidelines in SWIFT MyStandards during September and October for member review.

ASX expects to have message test availability in a dedicated SWIFT test environment from October 2019.

Stakeholder engagement

The Corporate Actions STP Phase 2 industry working group has continued to meet regularly with meetings held on 1 August and 12 September 2019. The next meeting is planned for October 2019.

The key discussion points during the meetings have included an update on progress of the proposed ASX listing rule changes, continued discussion on distribution elements (including tax), and a detailed overview of the message catalogue to cover all corporate action events and key changes to ISO 20022 message specifications. The changes include alignment with a number of the concepts and models used in the CHESS Replacement message set and updates to include additional information consumed by CHESS (for CHESS Replacement consumption) such as Adjustments. ASX has also provided an update on its work to progress certain business requirements that came out of the CHESS Replacement working groups in 2017, including the incorporation of an ISIN to represent the entitlement in a non-renounceable issue. ASX has noted its ongoing liaison with the Association of National Numbering Agencies to ensure this ISIN is compliant with ISO standards and guidelines.

A number of discussion points have arisen particularly from those members that are also involved in the CHESS Replacement corporate action focus groups, and the coverage of the complimentary work being addressed by each project. The Corporate Actions STP Phase 2 industry working group includes corporate action and ISO 20022 subject matter experts from the CHESS Replacement project team.

Appendix 1 – Capital change forms to be introduced effective 1 December 2019

Four forms replacing the current Appendix 3B

	Appendix 3G	Appendix 3B	Appendix 2A	Appendix 4A
Purpose of form	Notification of issue, conversion or payment up of equity securities	Proposed issue of securities LR3.10.3 LR7.11, Appendix 7A	Application for quotation of securities LR2.7, 2.8	Statement of CDIs on issue LR4.11
Timing of announcement:	Per notifications rules	Announcement by issuer at the time the issue is proposed	per quotation rules; on issue date for offer events per Appendix 7A	monthly, regardless of any change, some exceptions on issuer type
Types of issues:	Issue, but quotation not being sought: <ul style="list-style-type: none"> • Employee incentive scheme (e.g. new) (LR3.10.3A) • Conversions (e.g. unquoted to unquoted) (LR3.10.3B) • Part paid to fully paid (e.g. unquoted to unquoted) (LR3.10.3C) 	Proposed issues: <ul style="list-style-type: none"> • Entitlement offers (pro-rata) • Security Purchase Plan • Non-Pro rata offer • Placement or other type of issue 	Quotation of issues advised via Appendix 3B PLUS <ul style="list-style-type: none"> • DRP (LR3.10.3) • Employee (LR3.10.3A) • Conversion (LR3.10.3B) • Part paid to fully paid (unquoted to quoted only) (LR3.10.3C); otherwise Call form (quoted to quoted) 	n/a



BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2B

Topic	Digitisation of CHESS statements (CHESS e-Statements)
Date	19 September 2019
Purpose of this paper	To update Business Committee members on ASX's plans to introduce CHESS e-Statements

BACKGROUND

CHESS Statements

ASX Settlement issues CHESS Holding Statements at the end of each month in which a transaction has occurred for a particular holding on the CHESS Subregister (i.e. a participant sponsored holding). A CHESS Holding Statement shows the opening and closing holding balances of the holding for the statement period as well as listing any movements into or out of the holding that occurred in the period.

Statements are issued to holders by ASX Settlement. Separate statements are issued for each security. A statement is only issued when there has been a transaction during the month.

ASX Settlement also sends notices to holders to inform of any changes to registration details or other changes to holdings that are not covered by the routine holding statements. Some of these types of notices include:

- Change of registered investor name or address;
- Change of sponsoring participant;
- Application of a lock to a holding;
- Takeover offer acceptance;
- Buyback offer acceptance; and,
- Collateral reservations.

What is the purpose of a CHESS Statement?

The provision of CHESS holding statements to holders by ASX Settlement is an important investor protection measure to identify potential fraud or error. It provides an independent notification of changes to holdings or related information of an investor, an important validation function.

Transactions on a CHESS holding can only be effected by the sponsoring participant. By law a sponsoring participant may only effect transfers from a CHESS holding when authorised by the registered holder (investor) to do so.

Stakeholder feedback

CHESS Statements were developed as a security measure in a pre-internet era and while some people wish to retain a paper based CHESS Statement, many would prefer a digital alternative.

In response to feedback from stakeholders inclusive of investors, issuers, share registries and participants, ASX has already committed to introduce an electronic CHESS "e-Statement" option as a part of the CHESS Replacement project. Notwithstanding this commitment, in response to additional recent requests to accelerate a CHESS e-Statement solution prior to the CHESS Replacement project going live, ASX is bringing forward the analysis and planning to assess interim solution options.

Solution Objective

The primary e-Statement solution objective is to develop a technical solution for the delivery of an electronic CHESS statement solution alternative to a paper based CHESS Statement. Success of an e-Statement solution is one that preserves the investor protections outlined above, is regulatory compliant, is user friendly and lowers costs primarily for issuers and participants.

SOLUTIONS

Technical solution options

There are three technical solution options currently being considered for ASX Settlement to offer a CHESS e-Statement alternative. These are:

1. Send an email with an attachment

Producing and sending an e-Statement via email to the registered holder's email address containing a tamper-proof PDF (portable document format) attachment.

2. Send an email with a link

Sending an email to the registered holder's email address with a hyperlink to an ASX URL (website) to access their CHESS holding statement through a secure access mechanism via a secure multi-factor authentication capability. For example a User ID, password, PIN or similar.

3. Send a text message with a link

Sending a text message to the registered holder's mobile phone number with a hyperlink to a www.asx.com.au/CHESSeStatement (or similar) URL to access their CHESS holding statement through a secure access mechanism (including a secure multi-factor authentication capability – User ID, password, PIN, etc.).

4. A combination of the options detailed above.

These technical solutions are largely similar to the digital user experiences of banks and their customers' bank statements, utility providers and their electricity/gas/phone bills and those of issuers/share registries for dividend payment advices.

Maximising solution benefits

In order to maximise issuer and participant cost savings and the user-experience benefits of an e-Statement solution, one main factor needs to be addressed. This is access to a secure, current repository(s) of registered holders' electronic destination addresses - primarily email addresses.

Beyond just the access to current email addresses the ongoing maintenance of these is important. Where possible the e-Statement solution will attempt to leverage existing registration details maintenance via sponsoring participants.

Stakeholder impacts and considerations

Given the technical solution options and desire to maximise e-Statement uptake by investors via accelerating the number of email addresses consented to receive an electronic alternative to a paper based CHESS statement, the project team are developing plans, inclusive of required consultations, to address the following issues.

Participants' system readiness

1. At least 40% of clearing and settlement participants are using systems that do not include the capacity to transmit email addresses to CHESS.
2. Many other participants will need to modify their proprietary or third party back-office vendor systems to develop functionality between their CRM (customer relationship management) system and their CHESS interfaces.

3. For those participant systems that do store email addresses, many store multiple addresses. In these situations an investor will need to instruct their sponsoring participant which email address is to be used for CHESS e-Statement recipient.
4. Any participant system development done before CHESS replacement, will have to use the existing CHESS EIS (external interface specification) message standard. This standard is being replaced with the ISO 20022 global standard as a part of CHESS replacement in 2021. This would mean that any system development work done pre-cutover would be a largely short term write-off investment.

Investor / Registered Holder consent and Privacy Law

5. Given the primary investor protection objectives of CHESS Statements, ASX is testing its view that registered holders will need to opt-in to receiving e-Statements and provide an email address for this purpose.
6. Participants will need to determine whether their current customer agreements support them passing their clients' email addresses to ASX for the purpose of receiving e-Statements (or whether further consent is required from clients to do so). Brokers consulted to date are willing to undertake this assessment and action accordingly.
7. Depending on the solution developed, further consideration will also be given to whether any ASX Settlement Operating Rule amendments are required to support e-Statements.

Operational support

The e-Statement option must be well supported and the support model(s) are likely to include multiple parties including ASX Settlement, ASX Operations, participants, issuers and their share registries. Support considerations include:

8. Email address maintenance capabilities will be required to capture and update email address. The ability for an investor to delete an email address or opt-out of e-Statements will be required.
9. An agreed mechanism to deal with undeliverable emails that "bounce" due to the email address no longer existing or due to a recipients email inbox being full and the requirement to revert to a paper CHESS statement sent to the registered address is required.

SOLUTION PLAN AND NEXT STEPS

ASX has developed a pre-CHESS Replacement e-Statement plan to consult and evaluate the viability of an interim solution. This plan includes these activities:

- a) Consultation with market users on the objectives, analysis considerations and solution options
- b) Working Group creation of a CHESS e-Statement Industry Working Group and a forward schedule of solution topics and meetings to realise the benefits outlined above
- c) Communication with market users of any pre-CHESS Replacement e-Statement solutions and/or related activities
- d) Focus Group creation of key stakeholders to focus in on the target solution.

The plan is detailed below.

e-Statement project 2019 milestones	Sept	Oct	Nov	Dec
Consultation with market users	■	—		
Convene and run industry working group		■	—	◆
Communication with the market if a pre-CHESS replacement solution proposed			—	
CHESS Replacement e-statement focus group			—	—

◆ decision on e-statements prior to CHESS replacement



BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3A

Topic	CHESS Replacement – Program Update
Date	19 September 2019
Purpose of this paper	Members will be provided with a program update including stakeholder engagement activities.

OVERVIEW

The project team continues to meet its milestones in publishing technical documentation and delivering software code into the Customer Development Environment (CDE) in alternating months, including releasing the third drop of software into CDE at the end of August. The fifth tranche of technical documentation continues to be on track for publication at the end of September.

There are now 28 users in various stages of connecting to and using the CDE to test and interact with the third drop of software. This includes all key third party back office system vendors.

On 3 September, ASX provided an update on the indicative pricing to access the CHESS replacement system. This included pricing not only for clearing and settlement participants but also other users such as issuers, investors, share registries and service providers e.g. back office system vendors. The information contained in the letter was in keeping with the information presented to Business Committee members at the 18 July meeting. The letter was sent to all relevant users (including all Business Committee members) and a copy can be found [here](#).

On 26 August, ASX announced it has signed a three-party memorandum of understanding (MOU) with Digital Asset (DA) and VMWare to work on DLT initiatives in Australia and New Zealand.

With regards to two business requirements identified through the CHESS replacement consultation process being implemented through ASX BAU processes prior to go-live of the new system; (i) ASX has released its response to the feedback received from the July 2018 consultation paper on Transfers to the CHESS Subregister; (ii) in relation to takeover offer processing enhancements, ASX has formally lodged amendments to the ASX Settlement Operating Rules.

Application Design, Build & Test

The application design, build and test continues to track to plan including the progressive testing in CDE of the three connectivity channels – Ledger API, SWIFT and AMQP. We now have 28 users in various stages of connecting to and using the CDE.

DA continue to meet its software delivery milestones, including the delivery of the third tranche of software to customers in CDE on 30 August. The third drop of code included relevant features to allow share registries to commence testing (as well as clearing and settlement participants), including: Account and Holder Creation; Netting and Reversal; Participant to / from Issuer Sponsored Transfer; Participant to / from Issuer Sponsored Conversion; and SRN Enquiry.

We released the fourth tranche of technical documentation on 31 July (for CDE 4 drop in October 2019). It included new documentation for: Batch Settlement; Settlement Instruction Management; and Change of Controlling Participant. It also included updated documentation for Corporate Actions. The fifth tranche of technical documentation continues to be on track for publication at the end of September.

Delivery timelines for DA's functional build and ASX's testing of the software remain on track for the fourth tranche of software to be delivered to customers in CDE at the end of October which will contain features for AMOs and payment providers to commence testing.

Work has commenced on the delivery of the browser, which can be used by stakeholders as an interface for the CHESS Replacement application, particularly for low transaction value and volume users.

The final solution design released to CDE is detailed in Attachment A – CDE Function Availability. This includes functionality to be made available in CDE 6, February 2020 and CDE 7, May 2020.

The ISO 20022 work on 'to-be' message mapping state is in progress. See agenda item 3b for further details.

Infrastructure and Ledger

ASX issued a [press release](#) on 26 August, announcing that ASX, Digital Asset and VMware (a New York Stock-Exchange-listed server virtualisation and cloud computing software provider) are joining forces on DLT. A three-party memorandum of understanding (MOU) was signed to work together on DLT initiatives in Australia and New Zealand. This is a positive development and further enhances our ability to support the financial services industry and to create new services and innovations beyond the replacement of CHESS. This announcement does not in any way impact the CHESS Replacement program plan, which remains on-schedule, nor is there any need for re-work on the existing integration created by software vendors or other users.

Integration and Reporting

This stream of work addresses the integration of the application and ledger into the ASX environments including compliance with internal requirements which are inclusive of Principles of Financial Market Infrastructure (PFMI) and Financial Stability Standards (FSS) principals and associated reporting.

Analysis work has now commenced for reporting. Further details, including demand reporting is a topic for the November Connectivity & Integration working group.

Rules & Regulatory Engagement

ASX has been engaging with regulators in relation to the rules and other relevant regulatory aspects that need to be addressed to support any new or changed services and functionality, including our indicative timeline.

Attachment A is a rule development timeline setting out key dates for regulatory and public consultation processes for the rule amendments required for CHESS Replacement.

The timeline covers rule amendments required for Day 1 changes in the new system, including new business requirements, re-engineering of solutions for existing CHESS functionality and the decommissioning of existing CHESS functionality.

The timeline also covers rule amendments that address new business requirements generated through industry consultation but which are not dependant on the new system and are being progressed through ASX Business as Usual (BAU) processes or the Corporate Actions STP Phase 2 Project. These will be delivered prior to the replacement system going live.

Stakeholder Engagement

Connectivity and Integration Working Group

Since the last Business Committee meeting on 18 July, ASX has held a further two Connectivity & Integration working groups.

The working group held on 7 August was primarily focused on CDE release 3, particularly the new functionality and testing tools that were made available at the end of August. This session also provided an update on technical documentation, connectivity options (specifically ISO 20022 message signing and JAVA classes including underlying protocol buffers) and provided working group members an update on indicative system access fees.

The working group held on 4 September was specific to Product Issuer Settlement Participants (PISPs). The purpose was to bring this cohort up to speed on the different connectivity options, CDE and technical documentation as well as provide a forum to answer questions.

The next working group meeting will focus on security and Ledger API updates. Future topics for the remainder of this year have been published to the stakeholder engagement calendar of events on the CHESS replacement website.

All Connectivity and Integration working group materials continue to be made available through the CHESS replacement website. The presentation materials to the more recent working group meetings can be found here:

7 August 2019 https://www.asx.com.au/images/about/ASX_CI_Working_Group_7th_August_2019_Final.pdf

4 September 2019 https://www.asx.com.au/images/about/ASX_CI_Working_Group_4th_Sept_2019_Final.pdf

Implementation & Transition Working Group

ASX is working on scheduling the next Implementation & Transition working group. This meeting will be via webinar. Invitations to all relevant stakeholders will follow in due course as well as publishing details on CHESS replacement website and the monthly project newsletter.

Focus Groups

Focus Groups continue to be held on a regular basis with an appropriate cross section of industry participants.

Since the last Business Committee meeting on 18 July, ASX have held a further five Focus Groups.

The Focus Group held on 13 August was the third in a series on corporate actions related topics. Three additional focus groups were then subsequently scheduled on corporate actions to follow up on the differing views across member cohorts related to workflows as follows: (i) retail brokers on 26 August; (ii) share registries on 6 September and (iii) other industry members including industry associations also on 6 September. A follow up discussion specific to custodians will be managed through ASX presenting to the ACSA working group on 18 September.

The Focus Group held on 27 August was with the payment providers as part of ASX's engagement with the Equity Settlement Payment Providers Sub Committee (ESPPSC). Payment providers were provided with an update on CDE, functionality for batch settlement, as well as connectivity options and technical documentation. However, the primary focus was to provide estimates of projected line-by-line settlement volumes related to bilateral demand settlements, corporate actions and mFund. Follow-up bilateral meetings with each payment provider have since been scheduled to ensure alignment to project requirements.

Newsletter

The team also published its third monthly project newsletter to ~1,200 individuals. It includes an update on all recent stakeholder engagement forums and other related project news.

Issuer Engagement

The CHESS Replacement Stakeholder Engagement team are working with Issuer Services to enhance our engagement strategy with issuers and investors, including engaging with the relevant industry associations (Governance Institute of Australia (GIA), Australasian Investor Relations Association and Australian Shareholders' Association) and outlining a timetable for key events.

Transition, Cutover & Accreditation

ASX is finalising its cutover and transition strategy and will be shared with the market in the next Implementation & Transition working group. This will include further details on industry wide testing (IWT) and dress rehearsals.

The current IWT and Go-Live milestone dates remain intact.

ATTACHMENTS

Attachment A – CDE Function Availability

Attachment B – Rule Development Timeline

Attachment C – Calendar of events for stakeholder engagement

ATTACHMENT A – CDE Function Availability

Legend

	Code Available		Planned Code Release
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Capabilities / Features	Code Availability by Release							Technical Documentation Available
	Release 1	Release 2	Release 3	Release 4	Release 5	Release 6	Release 7	
Foundation Set-up/On-boarding								N/A
Unilateral Demand Transfers								December 2018
Bilateral Demand Transfers								December 2018
Bilateral Demand Settlement Instructions								December 2018
Trade Capture, Trade Registration, Trade Confirmation and Novation								March 2019
Batch Settlement - Part 1 of 3 <ul style="list-style-type: none"> • Payment Facilities 								March 2019
Account Management - Part 1 of 2 <ul style="list-style-type: none"> • Account and Holder: Creation; • Account and Holder: Modification 								May 2019

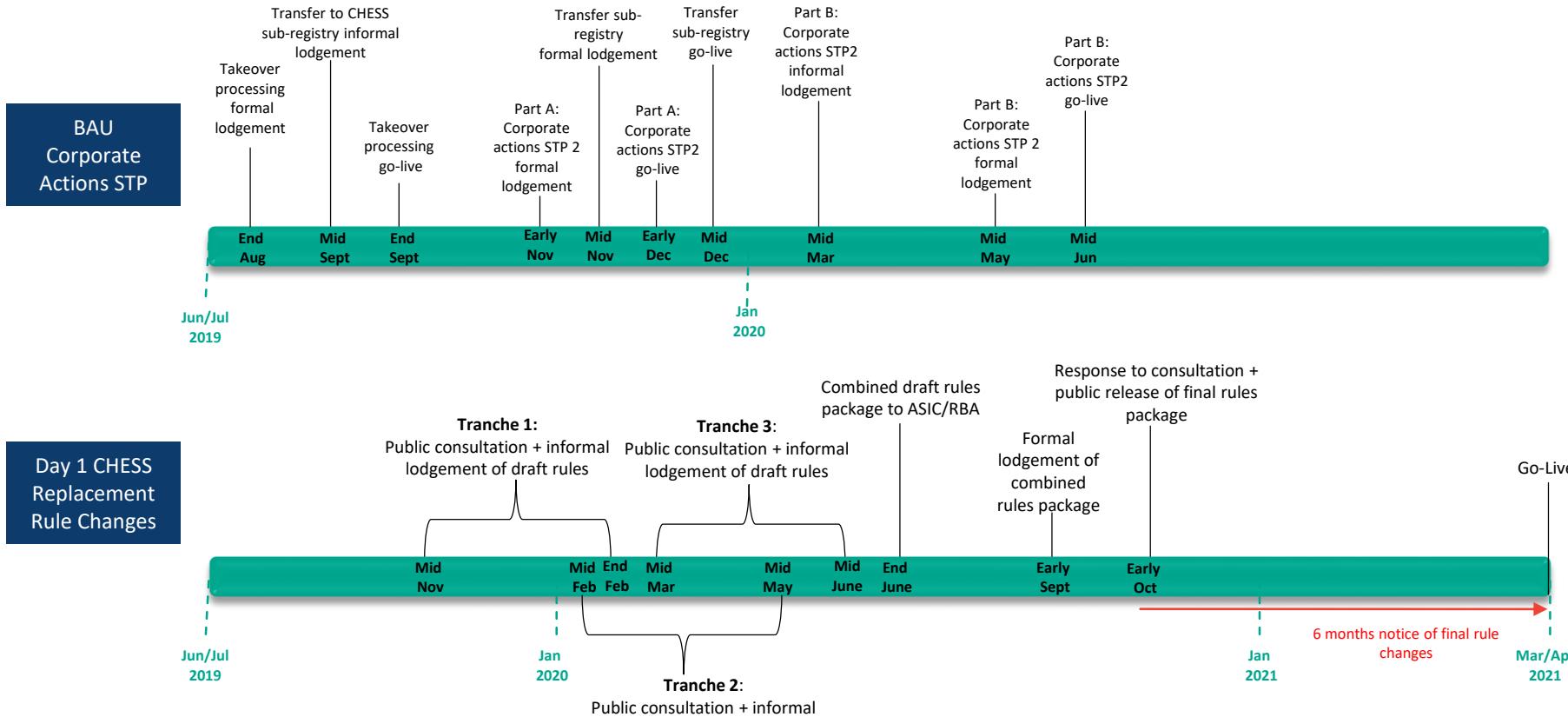
	Code Availability by Release							
	Release 1	Release 2	Release 3	Release 4	Release 5	Release 6	Release 7	
Capabilities / Features	April 2019	June 2019	August 2019	October 2019	December 2019	February 2020	May 2020	Technical Documentation Available
Netting & Netting Reversal			✓					May 2019
Transfers / Conversions Between Sub-registers			✓					June 2019
SRN Enquiry			✓					June 2019
AMO End of Day Price				✓				May 2019
Batch Settlement - Part 2 of 3 <ul style="list-style-type: none"> Funds Obligation Movement of Units Settlement Confirmation & Completion Cancellation of Batch Settlement 				✓				July 2019
Corporate Actions - Part 1 of 3 <ul style="list-style-type: none"> Ex-Period; Basis of Movement; Security Sub-register Status Notification 				✓				July 2019
Unilateral Settlement Instructions				✓				December 2018
Bilateral Settlement Instructions				✓				December 2018
Change of Controlling Participant					✓			July 2019

	Code Availability by Release							
	Release 1	Release 2	Release 3	Release 4	Release 5	Release 6	Release 7	
Capabilities / Features	April 2019	June 2019	August 2019	October 2019	December 2019	February 2020	May 2020	Technical Documentation Available
Settlement Locks on HIN Holdings					✓			December 2018
Issuer's Agent Transfer (Warrants)					✓			October 2019
Give-ups/Take-ups						✓		October 2019
Corporate Actions - Part 2 of 3 <ul style="list-style-type: none"> • Takeovers & Buy-backs; • Reconstructions; • Holding Adjustments; • Schemes of Arrangement 						✓		September 2019 <ul style="list-style-type: none"> • Takeovers and Buy-backs • Reconstructions • Holding Adjustments • Schemes of Arrangement October 2019 <ul style="list-style-type: none"> • Reconstructions November 2019 <ul style="list-style-type: none"> • Holding Adjustments • Schemes of Arrangement
Collateral Management (ETO & CMM)						✓		September 2019
Batch Settlement - Part 3 of 3 <ul style="list-style-type: none"> • Unit Fails 						✓		November 2019
Primary Market Facility: Placements						✓		November 2019
Real-Time Settlement: Payment Facilities						✓		November 2019
mFund - Part 1 of 2 <ul style="list-style-type: none"> • Foundation Set-up/On-boarding 						✓		November 2019

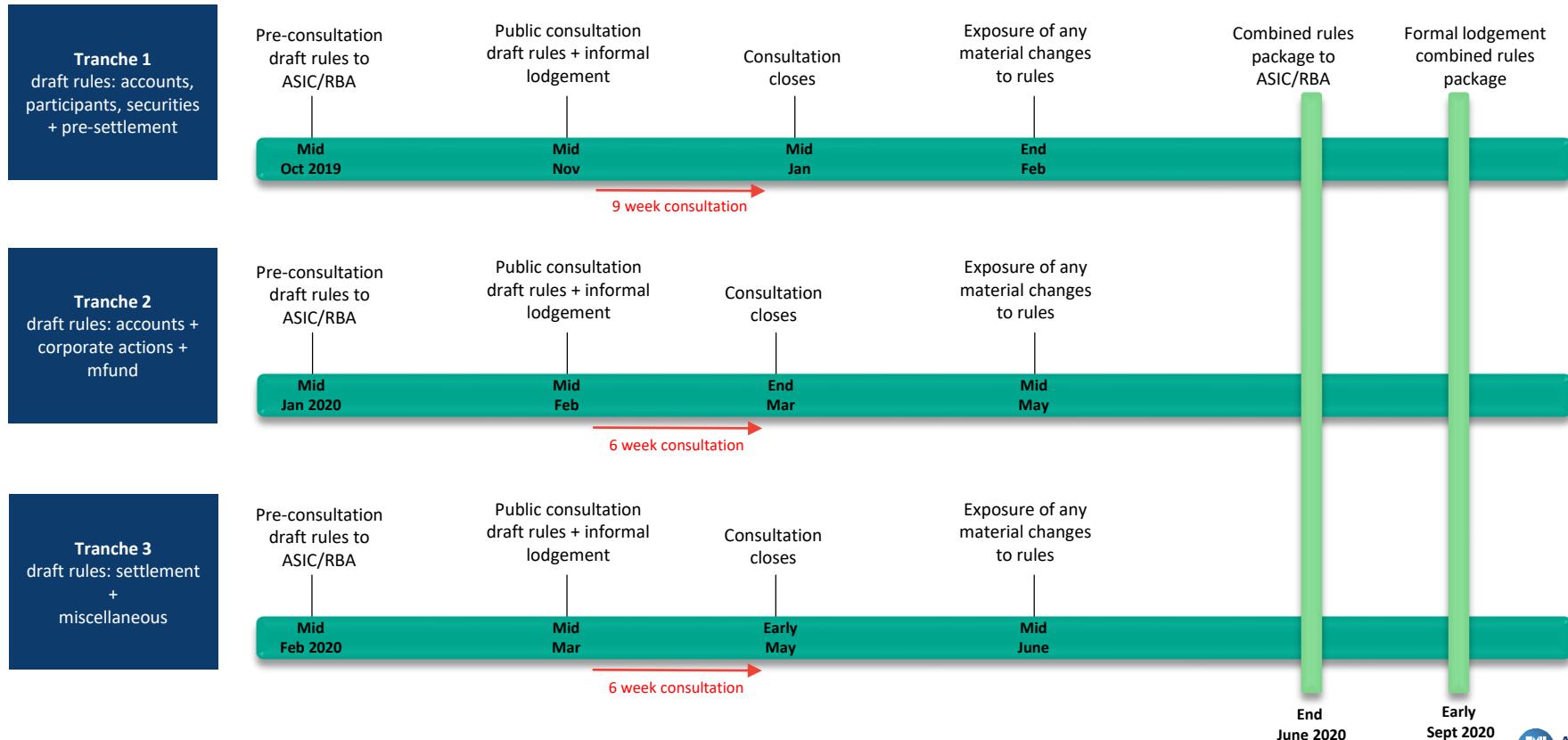
	Code Availability by Release							
	Release 1	Release 2	Release 3	Release 4	Release 5	Release 6	Release 7	
Capabilities / Features	April 2019	June 2019	August 2019	October 2019	December 2019	February 2020	May 2020	Technical Documentation Available
✓ Account Management - Part 2 of 2 <ul style="list-style-type: none"> • Account and Holder: Cancellation; • Account and Holder: Locking and Unlocking; • Account and Holder: Investor Data 							✓	May 2019 <ul style="list-style-type: none"> • Account and Holder: Locking and Unlocking February 2020 <ul style="list-style-type: none"> • Account and Holder: Cancellation • Account and Holder: Investor Data
✓ Corporate Actions - Part 3 of 3 <ul style="list-style-type: none"> • Code Change; • Class Merger; • Diary Adjustments; • DRP Elections; • Election & Payment for Exercises (excluding RTGS Interface) 							✓	February 2020
✓ mFund - Part 2 of 2 <ul style="list-style-type: none"> • Applications; • Redemption; • Transfers 							✓	February 2020
Early Settlement							✓	February 2020
Demand Reporting							✓	February 2020

ATTACHMENT B – Rule Development Timeline (2019 -2020)

New Post Trade System Rule Development Timeline: Key Dates (2019-20)



Day 1 CHESS Replacement: Detailed Rule Development Timeline (2019-20)



ATTACHMENT C – Calendar of events for stakeholder engagement

	2019												2020		2021	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan - Dec	Jan - Dec	Dates TBC	Dates TBC
Business Committee				4/4			18/7		19/9		28/11				Dates TBC	Dates TBC
ISO 20022 Technical Committee		8/2: Transfers & conversions – Participant to Issuer	26/3: Standardised registration details		7/5: Transfers & conversions; SRN enquiry	28/5: Change of controlling participant, holding adj, warrants	25/6: Batch settlement	23/7: Takeovers and collateral creation	27/8: ISO 20022 mapping feedback, Collateral removal, Transfer of Novated Equities Transactions (Give-Ups) & Focus Group outcomes		1/10: ISO 20022 mapping feedback & Focus Group outcomes	1/11: ISO 20022 mapping feedback & Focus Group outcomes	10/12: ISO 20022 mapping feedback & Focus Group outcomes		Dates TBC	n/a
Connectivity & Integration Working Group		5/2: ASX Net & ISO message signing	6/3: CDE overview and application process	3/4: Accreditation and Attestation	1/5: Direct Connectivity – ISO to DAML	5/6: CDE updates, multichannel support and general Q&A	3/7 & 11/7: AMQP design patterns	7/8: CDE 3 Testing	4/9: Product Issuer Settlement Participants (PISPs)	9/10: Security & Ledger API updates TBD: AMO Connectivity	6/11: Demand Reporting	4/12: Browser		Dates TBC		
Implementation & Transition Working Group			20/3: Kick-off						September TBC Topic TBD	October Topic TBD	November Topic TBD	December Topic TBD		Dates TBC		
									Future topics include: (i) planning & preparation; (ii) communication & documentation; (iii) testing & rehearsals and (iv) cutover & post cutover							
Focus Groups	29/1: Trade registration and AMO connectivity	14/2: Transfers & conversions (follow up to 8 Feb Technical Committee)	12/3: Payment provider workflows/connectivity	19/3 & 26/3: Accounts & std registration details	10/4: Transfers & conversions, SRN enquiry	7/5: Transfer of novated equity transactions between Clearing Participants	18/6: Electronic elections for DRPs and BSP	9/7: Electronic acceptance of entitlement offers & holding adjustments	13/8: Corporate actions	6/9: Corporate Actions follow up (Registries)	15/10: Investor information	12/11: Optional early settlement	10/12: Electronic statements	Dates TBC		
Technical documentation			28/3: Drop 2		30/5: Drop 3	28/6: Drop 3 Part II	31/7: Drop 4		26/9: Drop 5		28/11: Drop 6		Feb - Drop 7			
Drops of code				30/4: Drop 1		28/6: Drop 2		30/8: Drop 3		31/10: Drop 4		12/12: Drop 5	Feb - Drop 6; May - Drop 7			
Customer Dev Environment (CDE)				Available									Available	Available until go-live		
Industry Wide Testing													July 2020 onwards	Until go-live		
Accreditation & operational readiness, migration rehearsals													Q3 2020 onwards	Until go-live		
Target go-live													Mar/Apr			

NB: all meetings, including dates and sequencing of topics, are subject to change. This includes further topics and/or additional meetings based on stakeholder feedback and requirements.



BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3B

Topic	ISO 20022 Technical Committee Report and Minutes
Date	19 September 2019
Purpose of this paper	To provide Business Committee members with a copy of the report and minutes from recent meetings of the ISO 20022 Technical Committee

OVERVIEW

The ISO 20022 Technical Committee met on 23 July and 27 August 2019. The Technical Committee's report for these meetings is provided in Attachment A.

The minutes from the meetings held on 25 June and 23 July 2019 are available through the CHESS Replacement website.

- 25 June https://www.asx.com.au/documents/settlement/ISO20022_Technical_Committee_Meeting_25Jun2019_Minutes.pdf
23 July https://www.asx.com.au/documents/settlement/ISO20022_Technical_Committee_Meeting_23Jul2019_Minutes.pdf

The Forward Work Plan for the ISO 20022 Technical Committee is provided in Attachment B.

ATTACHMENTS

Attachment A – ISO 20022 Technical Committee Report – 23 July and 27 August 2019 meetings

Attachment B - Forward Work Plan for the ISO 20022 Technical Committee

ISO 20022 Technical Committee Report to the Business Committee

This report provides an overview of the ISO 20022 Technical Committee meetings held on 23 July and 27 August 2019 (Sydney and via webinar).

MEETING AGENDA (NON STANDARD ITEMS) – Business and Technical Matters for Consideration

23 JULY 2019	27 AUGUST 2019
a) Focus Group update – Corporate actions b) Review of member feedback on published ‘to-be’ messages c) Takeover and buyback d) Collateral creation e) ‘To-be’ messages for review	a) Focus Group update – Corporate actions b) Review of member feedback on published ‘to-be’ messages c) Collateral removal d) Transfer of novated equities transactions (Give-Ups) e) ‘To-be’ messages for review

ACTION ITEMS

- Six additional action items were raised in the 23 July meeting, and one additional action item at the 27 August meeting.
- At the conclusion of the 27 August meeting, three action items remain open, while ninety-one actions have been closed (ten of these actions closed at the 23 July and 27 August meetings).

KEY ISSUES DISCUSSED

- At each meeting committee members were provided with a general update on the CHESS Replacement project.
- At the 23 July meeting committee members were provided with an update from the 18 July Business Committee meeting.
- At both meetings, ASX provided an **overview of the topics** presented at the most recently held **Focus Group meetings**, continuing the topic of corporate actions. Where feedback had already been provided by Focus Group members to ASX, key themes were also shared with Technical Committee members.
- ASX advised it had commenced providing in its Technical Documentation a summary of the feedback received from the Focus Groups and Technical Committee on specific functional topics, and ASX’s responses and outcomes.



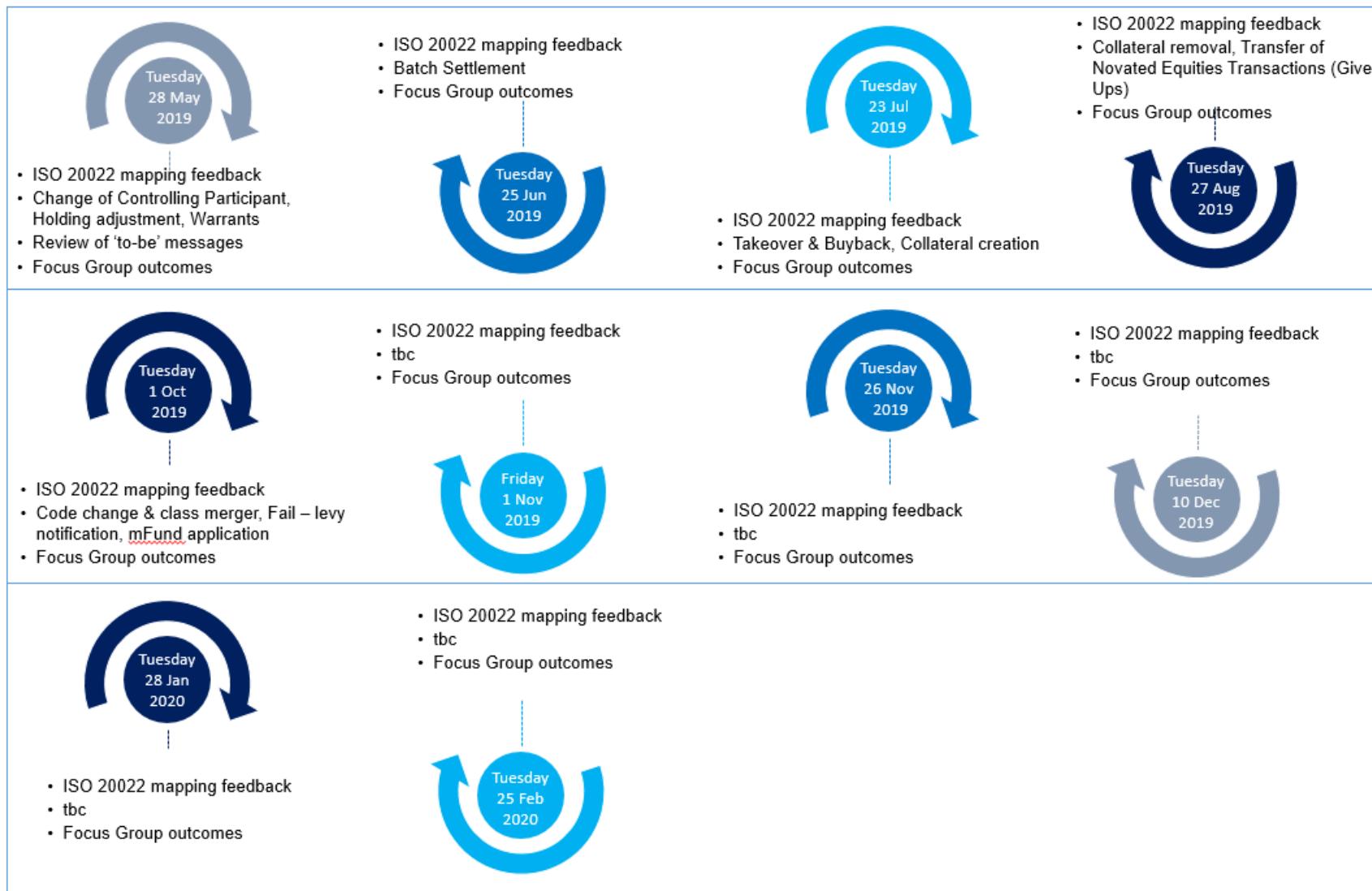
Agenda Item 3B – Attachment A

- In response to an open action item, ASX provided an update at the 27 August meeting on progress with a business requirement being progressed outside of the CHESS Replacement project – rule changes related to enhancement of takeover offer processing.
- ASX provided an overview of **key functional areas and associated message sets** at the meetings:
 - 23 July meeting:
 - An overview of **takeovers and buyback** solution design and message flows. Discussion occurred around the change of the takeover code to a concatenation of corporate action event ID plus option type number plus option type, and how the code and other event information would be made available to the market. Members also provided suggestions for a change to code usage within an element of one message and a change to the base message mapping of another message, to more accurately reflect the intention of the element/message.
 - An overview of the **collateral creation** solution design and message flows, for both Exchange Traded Options (ETOs) positions and Cash Market Margins (CMM).
 - 27 August meeting:
 - An overview of the **collateral removal** solution design and message flows, for both Exchange Traded Options (ETOs) positions and Cash Market Margins (CMM). Substantial message consolidation had been achieved across collateral creation and collateral removal with 46 unique EIS messages consolidated into 6 ISO messages.
 - The solution design and message flows for a new function **Transfer of novated equities transactions (give-ups)** were discussed. ASX noted the 4 ISO 20022 messages supporting this function had been developed as new ISO 20022 messages with SWIFT standards support. Questions and clarifications around timing and the rationale for a give-up were discussed.

ASX noted it had also updated its forward plan for the committee, adding an additional 3 meetings in December 2019, and in January and February 2020.

The status of ISO 20022 messages published as part of Technical Documentation or additionally in draft with the Technical Committee is presented in the table below (as at end August 2019). ASX shares draft ISO 20022 messages with the Technical Committee for review ahead of release as finalised messages in Technical Documentation.

@end August 2019		Technical Documentation (releases 1,2,3 and 4)		Additional drafts shared with Technical Committee (TC) ahead of future Technical Documentation drops		Total Technical Documentation and TC	
ISO 20022 Business Area	Total # CHESS messages in scope	# CHESS messages mapped	Equivalent # ISO 20022 messages finalised	# CHESS messages mapped	Equivalent # ISO 20022 messages drafted	# CHESS messages mapped	Equivalent # ISO 20022 messages
Account management (acct)	53	10	6			10	6
Operations Admin (admn)	11	1	1			1	1
Common (comm)	2	2	3	1	1	3	4
RTGS (gset)	60						
Holding movement (hold)	37	65	20	10	4	75	24
mFund Service (mfnd)	85						
Pledge and Lodge Management (pldg)	85			39	5	39	5
Reporting (rptg)	36						
Settlement (sett)	51	36	29			36	29
Corporate Actions (evnt)				14	4	14	4
Total	420	114	59	64	14	178	73
% equivalent CHESS messages delivered		27%		15%		42%	





BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 4

Topic	Annual Cash Equities Clearing and Settlement Reports
Date	19 September 2019
Purpose of this paper	To provide the Business Committee with ASX's annual compliance reports pursuant to the Regulatory Expectations.

COMPLIANCE REPORTS

The Regulatory Expectations for Conduct in Operating Cash Equity Clearing and Settlement Services in Australia (Regulatory Expectations) and ASX's Code of Practice, require ASX to publish annually:

- a cash equities clearing and settlement service developments report; and
- a report prepared by an external auditor on ASX's compliance with the Regulatory Expectations.

Annual Cash Equities Clearing and Settlement Service Development Report

In the Code of Practice, ASX committed to report annually on the cash equities clearing and settlement service developments and investment projects progressed during the year, and how the views of users were taken into consideration.

This is the third report published since the Council of Financial Regulators released the Regulatory Expectations. While the report is largely focused on ASX's consultation with industry as part of the CHESS Replacement Project the report also sets out other service enhancements enacted in FY19.

The annual cash equities clearing and settlement service developments report is provided in Attachment A.

Annual External Regulatory Expectations Audit

In the Regulatory Expectations, there is a requirement for ASX to commission an annual external audit by an independent assurance firm of its governance, pricing and access arrangements benchmarked against the Regulatory Expectations. PWC has conducted the third audit of ASX's compliance with the Regulatory Expectations. The assurance report concluded that:

In our opinion, ASX has complied, in all material respects, with the Regulatory Expectations as represented in the Compliance Framework for the year ended 30 June 2019.

PWC presents its reasonable assurance assessment to ASX's Boards. The audit report will circulated to Business Committee members once it has been reviewed by the Boards and provided to regulators.

As a result of the audit process, including the interviews with Business Committee members, PWC made three recommendations to ASX about possible enhancements to processes as part of its reasonable assurance report on compliance with the Regulatory Expectations.

Recommendation	ASX response
1) Include an explicit request, in the email sent to members with the draft meeting agenda, for suggested agenda items.	<ul style="list-style-type: none"> In addition to the general request made at the end of each meeting, ASX will include an invitation for suggested agenda items in the email sending out the draft agenda.
2) Where queries are raised or recommendations made at Business Committee meetings these are captured within the minutes as action items.	<ul style="list-style-type: none"> The process for identifying action items in the minutes will include all questions and recommendations raised in, but not formally addressed during, the meeting.
3) Provide increased transparency over pricing to enable AMOs to determine if they are offering the equivalent access and services to their customers as ASX.	<ul style="list-style-type: none"> ASX to engage directly with AMOs to better understand the nature of the specific concern.

Other feedback received during interviews

In addition to feedback that goes directly to the conduct of the audit, PWC made note of some other insights provided during the interviews with Business Committee members. These are outlined below, including actions that ASX is undertaking that may address areas where questions or concerns were raised by respondents.

Feedback	ASX actions
User input to Governance	
<ul style="list-style-type: none"> Confidentiality is carefully managed in a pragmatic way Treatment of larger market participants appears to be more favourable. There is need to provide a minimum level of service to all that is not seen to disadvantage other smaller participants. 	<ul style="list-style-type: none"> N/A <ul style="list-style-type: none"> Ensure the views of small and medium participants continue to be represented at the Business Committee Incorporate feedback into the action plan from the recently completed Annual customer survey
Transparent, non-discriminatory and fair and reasonable pricing	
<ul style="list-style-type: none"> Fees are published on the website which is very transparent More transparency needed on the timeframe and impacts/pricing options for the CHESS replacement project. 	<ul style="list-style-type: none"> N/A <ul style="list-style-type: none"> Customer letter sent - new system access pricing (3 Sept) Full forward plan for functional code release published Draft implementation and transition timeline to be released.
<ul style="list-style-type: none"> Issue with CHESS statements being issued in hard copy and firms having to pay for them. 	<ul style="list-style-type: none"> ASX commitment to an electronic CHESS holding statement solution Currently identifying solution options Industry working group to discuss solution options and ways of collecting investor email addresses.
Commercial, transparent and non-discriminatory access to CS services	
<ul style="list-style-type: none"> Interactions are positive and ASX is responsive to queries from members. Impression from AMOs that mFund is getting preferential access to the testing environment for CHESS replacement. 	<ul style="list-style-type: none"> N/A <ul style="list-style-type: none"> ASX to engage directly with AMOs to better understand the nature of the specific concern.

ATTACHMENT

Attachment A – Cash Equity Clearing and Settlement Services Developments



Cash Equity Clearing & Settlement Services Developments

Annual Report

September 2019



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Cash Equity Clearing & Settlement Service Developments Annual Report

September 2019

Executive Summary

This annual report has been prepared to explain the service developments and investment projects ASX has undertaken during the 12 month period to 30 June 2019 for cash equity clearing and settlement services.

The most significant investment project – and the sustained focus of ASX over the past 12 months – has been the project to replace the CHESS system using distributed ledger technology (DLT), addressed in Chapter 1 of this report. The Business Committee was briefed on developments with the project at each meeting over the 12 month period.

In parallel, a number of smaller but important service enhancements to core cash equity clearing and settlement services have been delivered during the period. These enhancements are outlined in Chapter 2, along with planned future enhancements summarised in Chapter 3.

1. CHESS Replacement project

The successful delivery of the CHESS Replacement project, currently targeted for March/April 2021 requires ASX to complete several large streams of work. Key streams of work which commenced, concluded or were ongoing in the reporting period involving direct customer interaction include:

- 1. Stakeholder engagement:**
 - 1.1 In September 2018 ASX concluded its comprehensive consultation with users on the Day 1 functionality, system architecture, connectivity options, the draft plan for implementation of the new features, and the testing and transition arrangements, with the publication of its ["Response to Consultation Feedback – confirmed Day 1 Scope & Implementation Plan"](#) paper.
 - 1.2 Ongoing engagement forums include the Connectivity & Integration working group, Implementation & Transition Working Group, Focus groups on new business requirements, ISO 20022 Technical Committee, and the Business Committee.
 - 1.3 Bilateral meetings with customers, attendance at industry forums and demonstrations of the replacement technology.
 - 1.4 Comprehensive information about the project is also provided and regularly updated on the [CHESS Replacement website](#).
- 2. Documentation of detailed functional and non-functional requirements for, and the development of, the replacement system.** The ASX CHESS Replacement technical documentation site went live in December 2018. The technical documentation is made available in tranches at least three months prior to each incremental software drop into the customer development and test environment (CDE). The technical documentation includes the specification of the business processes, content and format of the global standard ISO 20022 messages to replace proprietary CHESS messages, as well as connectivity information.
- 3. Delivery of code/functionality in CDE** for each of the software drops. The delivery of technical documentation and subsequent software drops will continue through to 2020.



2. Other service enhancements

During the reporting period ASX has progressed a number of incremental enhancements to CHESS or associated processes and reports. The key enhancements related to core clearing and settlement services¹ are summarised below.

2.1 Enhancement 1 - Removal of Registered Holder Collateral Cover Authorisation (RHCCA) Form for client accounts from the ASX Clear Operating Rules Procedures

Amendments to facilitate third party security interest over collateral and excess cash

On 3 April 2018, ASX released a consultation paper, “ASX Clear: Removal of Registered Holder Collateral Cover Authorisation Form”. The paper sought feedback from Participants on ASX’s proposals to:

- remove the Registered Holder Collateral Cover Authorisation form for client accounts (RHCCA form) from the ASX Clear Operating Rules Procedures. ASX intends to replace the RHCCA form with amendments to the ASX Settlement Operating Rules and ASX Clear Operating Rules and Procedures that preserve ASX Clear’s interest in, and rights to use and dispose of, CHESS securities lodged as collateral for clients trading options market contracts. Market feedback has indicated that the current process is inefficient; and
- enable a third party to take a security interest over collateral and excess cash where the parties to the security interest agree between themselves in writing that ASX Clear’s security interest has priority. This will be facilitated via minor amendments to the ASX Clear Operating Rules and Procedures.

ASX received six (6) submissions, five (5) of which were supportive of the proposed amendments. In response to feedback received, ASX made minor amendments to its proposed rules framework. On 6 September 2018, ASX formally lodged the rule amendments with ASIC and shortly thereafter released its response to the consultation paper. The effective date of the final rule and procedure amendments was 1 March 2019.

2.2 Enhancement 2 – Enhancements to transition process to reduce migration risks

ASX worked to enhance controls to ensure a large participant change during the period occurred with no impact to the market. ASX facilitated production-like end-to-end testing with the participants and their vendor ahead of the migration. Improvements to documentation designed for future use included a ‘Migration Approach Plan’ which outlines ASX and participant roles and responsibilities, a detailed test plan with clear success criteria, and a step-by-step schedule for the migration weekend itself including a detailed communications plan. Readiness, internal milestone, and risk and issue tracking were also enhanced significantly.

2.3 Enhancement 3 – National Stock Exchange of Australia (NSX) use of Trade Acceptance Service (TAS)

The TAS was developed in 2010 by ASX to allow trades executed on non-ASX affiliated Approved Market Operator’s (AMOs) trading platforms to be cleared and settled by ASX on the same basis as trades executed on ASX’s cash equity market. In July 2018 ASX received an application from NSX for access to the TAS for clearing and settlement of trades executed on the NSX cash equity market. The basis on which clearing services will be provided to any market operator going forward is still being worked through with the regulators.

2.4 Enhancement 4 – Clearing and Settlement of Chi-X Unsponsored Depository Receipt product

In November 2018 ASX commenced the clearing and settlement of Chi-X’s own listed Unsponsored Depository Receipt products (TraCRs). ASX introduced a new security type (security type 8 – Transferable Custody Receipts) specifically to identify this type of product. This change, alongside the usual operational readiness checks for a new product were comprehensively reviewed and tested to ensure readiness of the service. ASX also delivered appropriate notifications to the market regarding the new security type.

¹ Excluding the ASX mFund service.



2.5 Enhancement 5 – Clarification of point of novation

In order to provide greater clarity to market users on how novation works under the ASX Clear Operating Rules, on 15 February 2019 ASX published on its public website a [document](#) summarising aspects relevant to how and when novation of transactions occur and also when a transaction may cease to be novated.

ASX also published a [market notice](#) in relation to the novation description document on 21 February 2019.

The novation description applies to Cash Market Transactions or Derivatives Market Contracts entered into on or reported to the market of an Approved Market Operator (currently ASX Limited and Chi-X Australia Pty Limited) as well as Derivatives Market Contracts entered into over the counter. Included in that document is also information on the novation requirement that ASX Clear receives notification of the transaction.

This would ordinarily occur by the relevant market operator notifying the trade to CHESS or DCS (as applicable) however in the event of a technical outage preventing such notification this could also occur by alternative means if agreed to by ASX Clear. ASX Clear intends to notify participants by way of market notice as to the approach being taken by ASX Clear in the event of such technical outage, including if trades occurring on an affected market were not being novated. Affected market operator(s) could also take action to shut their market in such circumstance and exercise any cancellation powers under their operating rules in respect of any transactions that are not novated.

2.6 Other enhancements

During the report period ASX has delivered a number of enhancements internal to ASX to improve its own operational and regulatory processes and reporting capabilities.

3. Future planned enhancements

ASX publishes a quarterly Market Notice to advise of technology upgrade releases planned for the next 6 to 12 months across the various customer facing platforms, including CHESS. The known future enhancements planned for core clearing and settlement functionality in CHESS², including material rule amendments being considered by ASX that will affect processes for core cash equity clearing and settlement services, are outlined below.

3.1 CHESS Replacement business requirements being progressed as business-as-usual service enhancements

Two business requirements identified by the CHESS Replacement Business Requirements Working Groups (captured in ASX's Consultation Paper "[CHESS Replacement: New Scope and Implementation Plan](#)" released April 2018) are being progressed by ASX outside of the CHESS Replacement project, as Business-As-Usual processes, as neither are dependent on the new system. Subject to the necessary regulatory clearances, both business requirements are sought to be delivered prior to go-live of the CHESS Replacement system. An update on the two enhancements is outlined below.

3.1.1 Transfers to the CHESS Subregister

On 13 July 2018, ASX released its Consultation Paper "Transfers to the CHESS Subregister" seeking feedback on its proposal to remove the requirement under the ASX Settlement Operating Rules for settlement participants that are not ASX trading participants ("settlement-only participants"), to receive and provide to the issuer a transfer document signed by, or on behalf of, the holder (registerable transfer document) for the transfer of an issuer sponsored holding to a CHESS holding controlled by the settlement participant. The consultation paper also sought feedback on whether it was considered that the proposed amendments would adversely impact on holder protections and any additional issues not identified in the paper that should be considered by ASX.

On 31 August 2019, ASX released its [response to submissions](#) on its July 2018 Consultation Paper which details the operation of the proposed rule amendments. This includes the introduction of qualifying criteria for when settlement-

² Excluding the ASX mFund service.



only participants can process such transfers to the CHESS Subregister without the provision to issuers of paper transfer documents. This would in effect create a sub-class of settlement-only participant to which automated processing of transfers could proceed in the same way as for settlement participants that are also ASX trading participants. This sub-class will be limited to those settlement-only participants who provide custodial or depository services under a relevant AFSL or exemption and also meet certain financial requirements.

Settlement-only participants that do not meet such qualifying criteria would need to continue to provide a paper transfer document to issuers in order to effect a transfer of an issuer sponsored holding to a CHESS holding, with issuers to validate name (and in some cases address) on the transfer document against holder details on the issuer sponsored subregister prior to processing the transfer.

Subject to regulatory clearance, ASX intends to implement the proposed amendments to the ASX Settlement Operating Rules and Procedures outlined in the response to consultation on or around Q4 2019.

For Day 1 of the new system, ASX intends to also seek regulatory clearance for removal of the paper-based validation requirement for those settlement-only participants that do not qualify under the BAU changes referred to above. This is because SRN and registration details for a transferor will need to be included in a message from a participant seeking the transfer of securities from the issuer sponsored subregister to the CHESS subregister, to be validated by issuers against holder details on the issuer sponsored subregister prior to processing the transfer. This would align the treatment of all settlement participants.

3.1.2 Corporate actions – takeover offer

On 31 August 2019, ASX formally lodged with ASIC rule amendments to enhance the existing process for acceptance of an off-market takeover offer (in respect of CHESS holdings) where a holder's takeover acceptance instructions are sent directly to the bidder, not the sponsoring participant for the CHESS holding and reduce the risk of an entitled holder missing the takeover offer.

The amendments will provide for an indemnity to the bidder and holder against losses resulting from the sponsoring participant neither accepting or rejecting a participant bidder initiated message within 1 business day (which has the same outcome as a rejection, for which an indemnity currently exists).

Subject to regulatory clearance, these rule amendments will become effective on Monday, 30 September 2019.

These amendment do not address another aspect of this business requirement which would have imposed an additional obligation on sponsoring participants to seek the relevant holder's instructions when they receive a participant bidder initiated message, so as to be able to respond within 1 business day of receipt of that message on the basis of those instructions. ASX is not proceeding with this aspect at this time following feedback that this could create additional uncertainty, delay the processing of participant bidder initiated messages and lead to a higher rejection rate. Such an outcome would be contrary to the rationale for this business requirement of enhancing the existing process for acceptance of an off-market takeover offer and reducing the risk of an entitled holder missing a takeover offer.

Further information on the amendments are set out in [ASX's market notice](#) released on 31 August 2019.



BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 5A

Topic	Minutes from 18 July 2019 Business Committee Meeting
Date	19 September 2019
Purpose of this paper	To provide Business Committee members with the minutes and Business Committee report to the ASX Boards from the 18 July 2019 meeting.

OVERVIEW

Draft minutes and the draft report to the Boards of ASX Clear and ASX Settlement from the 18 July 2019 Business Committee meeting were emailed to all members of the Business Committee on 21 August 2019 for comment. The Secretariat did not receive any comments from members.

The Business Committee report and minutes will be formally presented to the next meeting of the ASX Clear and ASX Settlement Boards.

ATTACHMENTS

Attachment A – Business Committee Report and Minutes from the 18 July 2019 Meeting.

Business Committee Report to the Boards of ASX Clear and ASX Settlement Business Committee Meeting

At its 18 July 2019 meeting, the Business Committee was updated on the:

- operating performance of CHESS for the June Quarter 2019;
- CHESS replacement and Corporate Action STP Phase 2 projects, including an indicative pricing framework for connectivity to the new system and for clearing and settlement services;
- ISO 20022 Technical Committee's progress in developing the new message standards; and
- upcoming external audit of ASX's compliance with the Regulatory Expectations.

KEY ISSUES DISCUSSED

Five new members joined the Committee since the last meeting: the Governance Institute of the Australia; Australian Shareholders' Association; Australasian Investors Relations Association; Computershare; and Automic Group. The Australian Securities and Investments Commission (ASIC) also attended the meeting as an observer.

The Committee was updated on recent CHESS replacement activities including the release of the third drop of technical documentation and the opening of the customer development environment (CDE) for the testing of the new software in May 2019. There are over 20 requests for connectivity to the CDE (with a number of active users), including system vendors who have begun testing the available functionality. The forward plan for upcoming documentation releases to the end of 2019 has been published and ASX will soon extend this to an indicative plan covering the release of the remaining functionality.

Members asked about: the progress of the project and if this has affected future timing; the engagement of system vendors in the CDE and any implications this has for future readiness; and whether ASX would be commissioning third-party validation of the software.

There was discussion on pricing of services once the new system is implemented. ASX outlined the:

- two options being analysed for pricing of settlement services (transaction-based or tiered pricing model) and two others considered but not currently being pursued (ad valorem and subscription model); and
- approaches to pricing of different connectivity options to the new system: message based connection (via AMQP or SWIFT) and direct node connection (via three different services, a standard, dedicated, or service provider node)

PWC's external audit of ASX's compliance with the Regulatory Expectations has commenced and the auditors will be approaching a selection of Business Committee members to ask them a series of questions to assist in that process.

Agreed Actions

ASX committed to:

- update the next meeting on: the implications of work ASX has been doing with the RBA following last year's RITS outage; and a working group established to examine the digitising of CHESS holding statements; and
- pass through to PWC, member's views on the process for the external audit including: the opportunity to self-nominate to be included in the direct interviews; and views about the nature of the questions to be asked and the final audit report.

Minutes from the meeting are attached.

Minutes

Business Committee Meeting

Date	18 July 2019	Time	12:00pm – 2:00pm
Location	ASX Offices – Level 1, 20 Bridge Street, Sydney		

Service Performance

Cash Market Clearing and Settlement - Operating Performance

Corporate Action STP

Update on the Corporate Action STP Phase 2 project

CHESS Replacement Project

- a) CHESS Replacement
 - Software development update
 - Customer engagement activities
- b) Access pricing and clearing and settlement fee update (verbal update)
- c) ISO 20022 Technical Committee report and minutes

Market innovation opportunities in DLT (no paper)

A presentation on the nature of innovations and associated industry benefits that can flow from the application of Distributed Ledger Technology (DLT).

Regulatory Expectations - External Audit

Members will be updated on the upcoming external audit of ASX's compliance with the regulatory expectations

Administration

- a) Minutes from the 4 April 2019 Business Committee Meeting
- b) Forward work program
- c) Other matters

Next Meeting - 19 September 2019

Business Committee Members

Company	Name	Job Title	Apologies
ABN AMRO Clearing	Barry Parker	Chief Executive Officer	
ACSA	Rob Brown	Chief Executive Officer	
AFMA	David Lynch	Chief Executive Officer	
AIRA	Ian Matheson	Managing Director	Ian Matheson
ASX	Peter Hiom	Business Committee Chair, Deputy CEO	
ASA	Fiona Balzer	Policy & Advocacy Manager	
Automic Group	Astrid Raetze	Executive Director	
BAML	Rhys Cahill	Global Markets COO	
Bell Potter Securities	Rodd Kingham	Head of Operations – Transformation	
BNP Paribas	Mark Wootton	Head of Custody Product Aust & NZ	
Chi-X Australia	Mike Aikins	Chief Operating Officer	
Citi	Miles O'Connor	Director, Direct Custody & Clearing Securities & Funds Services	
CMC Markets	Andrew Rogers	Director Broking business	
Commonwealth Bank of Australia	Sheridan Thompson	Head of Strategic Development, CommSec	
Computershare	Scott Hudson (delegate)	Head of Intermediary Services	Greg Dooley
Credit Suisse	Winston Loke	Australia Equities COO	
Deutsche Bank AG	Geoffrey Plaisted	COO, Equities	
Goldman Sachs	Yen Le	Executive Director	
GIA	Megan Motto	Chief Executive Officer	
HSBC	Peter Snodgrass	Head of Direct Custody and Clearing	
J.P. Morgan	Jonathan Evans	Head of Custody & Markets Operations	
Macquarie Group	James Indge	Cash Equities Business Manager	
Morgan Stanley	Rebecca Hill	Chief Operating Officer for MSAS/MSWMA	
Morgans	Daniel Spoke (delegate)	Associate Director, Clearing & Settlement Manager	Peter Chisholm
National Australia Bank	Greg Bowrey	GM, Self-Directed Wealth & Markets	Greg Bowrey
NSX	Matthew Loughnan	Acting CEO	
Pershing Securities	Leigh Conder	Chief Operating Officer	
SAFAA	Andrew Green	Chief Executive Officer	
Sydney Stock Exchange	Antony Tolfts	Listings Director	
UBS	Conor Foley	Chief Operating Officer	

ASX Management

Name	Job Title	Apologies
Tim Hogben	Chief Operating Officer	
Daniel Moran	General Counsel	Daniel Moran
Hamish Treleaven	Chief Risk Officer	
Cliff Richards	Executive General Manager, Equity Post Trade Services	
Dan Chesterman	Chief Information Officer	
Val Mathews	Executive General Manager, Operations	
Katie McDermott	General Manager, Equity Post Trade Services	
Diane Lewis	Senior Manager, Regulatory and Public Policy	
Keith Purdie	Senior Manager, Equity Post Trade Services	

Observers

Name	Job Title	Apologies
Greg Yanco	Executive Director, Markets (ASIC)	
Dodie Green	Senior Manager, Market Infrastructure, (ASIC)	

INTRODUCTION

The Chair welcomed members and delegates to the second meeting of the year. He welcomed a number of new Business Committee members, three industry associations and two share registries:

- Megan Motto (Governance Institute of Australia);
- Fiona Balzer (Australian Shareholders Association);
- Astrid Raetze (Automic);
- Ian Matheson (Australasian Investor Relations Association) an apology for this meeting; and
- Greg Dooley (Computershare) also an apology but was represented by Scott Hudson.

The Chair noted Greg Bowrey (NAB), was also an apology for the meeting. In addition there were two other delegates for members, Daniel Spokes for Peter Chisholm (Morgans) and Nichole Alexander for Peter Snodgress (HSBC)

Two members dialled in to the meeting: Yen Le (Goldman Sachs) and Rhys Cahill (BAML).

The Chair noted that ASIC (Greg Yanco, Dodie Green) was attending the meeting as observers.

He also acknowledged it was Andrew Green's last Business Committee meeting and took the opportunity to thank him for his contribution to the Committee's work.

The Chair updated members on the two action items from the April meeting:

- There no been no requests from members for a standalone presentation on the Corporate Action STP Phase 2 project (the presentation will be made to this meeting).
- The requested change to the Business Committee charter had been completed and the new charter is available on the Code of Practice section of the ASX website.

AGENDA ITEM 1: SERVICE PERFORMANCE

The ASX Chief Operating Officer (COO) spoke to the performance report, noting:

- CHESS availability was 100% for the June quarter.
- Total trades accepted through CHESS rose in the June quarter.
- Average traded value was \$7.5 billion a day up 9% on the March quarter with a similar rise in cleared value to \$5.3 billion a day.
- The percentage of novated transactions remains stable at around 70-71% of trades with the balance being trade reports.
- Netting down of trades is about 99.94% and about 60% on value.
- Fail rates, 0.185%, were the lowest for a quarter on record, equivalent to 175 failures in an average batch of 95,000 settlements.
- mFund funds under management at the end of June was \$937m in 219 funds, which is about 8% higher than March.

It was also noted that the Telstra network outage on 11 July 2019 caused significant industry impact, not just to ASX systems (CHESS and MAP announcements) but also to the payments system and retail banking. It happened after the daily settlement batch so ASX's remedial work focused on ensuring the following day's settlement was not affected.

The services were restored, but the event highlighted the criticality of the role some vendors play in the market. ASX is engaged at high levels with Telstra to understand the root cause of the problem and to put in place better communication and recovery processes.

A member commented that the big four banks have experienced a number of payment outages lately. The ASX COO responded acknowledging the importance of the banking system in the equity post trade system and noting that ASX regularly engages with payment providers when issues arise.

In addition, the ASX COO noted the:

- RBA RITS outage last August and that ASX has been involved in a number of work streams with the RBA examining possible scenarios involving CHESS and Austraclear. He committed to reporting back to next Business Committee meeting to outline what work is being done; and
- Microsoft bug reported in May (aka Bluekeep) put all organisations on notice running Microsoft environments Windows 7 and earlier, ASX patched any vulnerable operating servers in a timely manner.

There were no questions from members.

AGENDA ITEM 2: CORPORATE ACTION STP

The General Manager, Equity Post Trade Services provided members with: an overview on the project objectives and solution design, as well as a brief project update.

At the start of the project back in 2011 it was identified that the existing processes managing corporate actions were inefficient and that a STP process, involving a mandated, structured and standardised announcements, automated data capture, and leveraging smart forms could deliver significant efficiencies in validating data.

Data subscribers, intermediaries and investors will benefit from improved timeliness of data and the ability to STP their own internal back-office processes based on the global ISO standards.

With regards to the STP solution, ASX-listed entities will submit information through an improved portal and new smart forms. The system will automatically create an equivalent PDF announcement and proprietary XML file ready to be sent to the market announcements platform and released to the market. The XML file is received by ASX's internal systems (e.g. CHESS) that manage the capture of issuer, securities and event information.

The data will be available for dissemination to users through reference point corporate action products in the existing proprietary format or through global standard ISO 20022 formatted XML messages. The data would be delivered in 5-10 seconds from the release of the announcement by the market announcements office.

This process provides improved timeliness, accuracy and validation of data, eliminates most manual processing and, for the consumer, delivers data in standardised format that allows further STP in their own organisations.

She confirmed that the target effective date for the ASX listing rules changes for four new online forms is 1 December 2019, subject to regulatory approval.

The first phase of the delivery of the project will also be targeted for 1 December 2019. The updated new and ISO 20022 messages are targeted for release in Q2 2020. ASX will communicate further with the market on the timing and scope of the second and third releases. Working group meetings were held on 11 April, 9 May and 20 June with the next one planned for the 1 August. There was also a sub-working meeting held on the distribution elements on 4 July.

A member asked if the efficiencies will enable ASX to monetise the data and would it share this revenue with those providing the data. The Executive General Manager, Equity Post Trade Services noted that the STP of the events is a subscription data service with the information also available via existing reference point channels. To date there has been low take-up rates on the current STP offering, because it doesn't have full coverage of all corporate action events. At the end of stage 2 of the project it will be clearer what the uptake of STP will be. With regard to a data sharing dividend he indicated this had not been considered.

There will be ongoing engagement with members through the course of the project, particularly those high users and those that stand to get the greatest benefit from the completion of this project, particularly the custodial community.

AGENDA ITEM 3: CHESS REPLACEMENT PROJECT

a) CHESS Replacement

The General Manager, Equity Post Trade Services advised members that the CHESS replacement project remains on track. Key milestones on software delivery from Digital Asset (DA) have been met. The second code drop into CDE was successfully deployed at the end of June



There have been over 20 requests that are being processed for connectivity to the CDE environment and a number of users are active across both node and message based connections, including all the major clearing and settlement technology vendors. Current functionality available in the CDE includes: unilateral and bilateral demand transfers; bilateral demand settlement instructions; settlement locks; payment facilities; trade capture; trade registration and novation. ASX has also indicated what functionality will be delivered up to the 5th drop of code in December, dependent on there being no substantial feedback from focus groups in the intervening period which requires change.

ASX is currently developing an indicative timeline of when particular functionality will be available for the remainder of the project. This will be published as soon as possible. The target remains to commence industry wide testing from July 2020 and go live of the new system in March/April 2021.

She also informed members that DA continues to expand the available ledger technology that their programming language (DAML) can operate on. In June it announced the integration of DAML on the R3 and Fabric platforms in addition to VMware blockchain as well as a non-DLT database (Aurora, the cloud storage engine on Amazon web services).

The Executive General Manager, Equity Post Trade Services added that this development should help address any concerns that had been previously expressed about DAML working only on a single platform. Now not only is the DAML code open-sourced, it will now operate on multiple distributed ledgers and traditional databases. This will assist any firms considering availing themselves of the DLT option and building DAML based applications.

A member asked for confirmation that the commencement of industry-wide testing (IWT) from July 2020 remains subject to change, taking into account feedback from users. The Executive General Manager, Equity Post Trade Services indicated that the timing is largely dependent on ASX's readiness and the technology build. He noted participants had previously expressed concerns about their vendors' readiness by the time the IWT opens but it has been encouraging that the vendors have been the earliest to submit their requests to join the CDE and all but one have commenced testing.

This provides some comfort about progress to date but ASX will continue to monitor the progress of participants, payment providers, and share registries including ongoing engagement to see they have the information they require. A member commented that that the engagement with participants has been very useful.

A member asked if it was expected there would be three code drops between the end of December and the start of industry wide testing. He noted some concerns that have been raised around how much functionality is released towards the end of the timeline as this will add to the testing burden, complexity and risk.

The Executive General Manager, Equity Post Trade Services confirmed that this was the current plan. He acknowledged user feedback around the incremental software drops and the issues this causes around not having all the software available now. To try and mitigate some of the concerns ASX has been providing forward views on specifications and functional capability, and will extend this to a best estimate of the timing of all the remaining functionality.

The General Manager, Equity Post Trade Services noted that the focus groups assessing solution design will run until the end of the year and feedback gained through the process may affect the order of functionality being added to the CDE. However, with that caveat, ASX will try and publish an indicative timetable for the release of the remaining functionality in the next few weeks.

The Executive General Manager, Equity Post Trade Services noted that ASX has front-loaded the build of the critical CHESS replacement functionality of both ASX Clear and ASX Settle including: account set up; netting; the back-out algorithms; DVPs; etc.

Another member asked whether ASX would be commissioning a third party validation of the software to minimise and mitigate the risks. The Executive General Manager, Equity Post Trade Services reminded members of the two earlier independent third parties assessments of DA's software. There will be additional third party testing of the non-functional system characteristics including: security; reliability; recovery etc. This will occur after the complete



functionality is built. The testing of the functional characteristics is being carried out via the test environments by ASX and users.

A member asked when the end to end testing environment would be available to test trade capture and trade registration. The General Manager Equity Post Trade Services noted ASX is targeting to get AMOs connected for CDE 4, but end to end testing won't be available until the IWT environment opens.

The Chair asked members to provide any feedback on experiences with the CDE as they have experience with it, as that feedback will assist ASX to identify changes that could make the user experience better. A member commented that the experience in the CDE had been good so far.

The Senior Manager, Equity Post Trade Services updated members on recent stakeholder engagement activities and the forward work plan for the remainder of this year. He noted the third tranche of technical documentation was released at the end of June, including transfers, conversions and SRN enquiries. The fourth tranche, targeted for release at the end of July, will include batch settlement amongst other things. There are now around 600 registered users that receive technical documents.

The connectivity and integration working group continues to meet on a monthly basis. There have been four meetings since the last Business Committee meeting. Topics covered included ledger API services, multichannel access, and AMQP design patterns. The next one in early August will focus on testing for CDE 3. Around 60 to 70 people are participating in these working groups meetings.

There have been five more focus group meetings in the last three months. The focus group on transfers and conversions was reconvened to allow ASX to present changes to the proposed solution design after taking into account earlier stakeholder feedback. There have also been focus groups on new functionalities relating to obligations under novated equity transactions to be transferred between clearing participants (ie give-ups) and another with payment providers about moving forward with RTGS payments. There have also been a couple of focus group sessions on corporate actions, including electronic elections for DRPs and bonus share plans. Given the heightened interest in corporate actions, the number of attendees has increased to around 30 people.

ASX has begun publishing the forward work plan for all the remaining focus groups out to the end of the year. In addition, a summary on the key points raised during the focus group and technical committee meetings and ASX's response to feedback is now also available on the technical documentation portal.

ASX has also begun publishing a monthly newsletter that is available to people that have registered to keep up to date on project progress (currently approx. 1,100 people). The monthly newsletter consolidates the latest project news and announcements, updates on all the various working groups and focus groups, and highlights some upcoming activities and milestones.

Further to the forward work plan for CHESS replacement (as outlined in the papers) ASX is also looking to deepen its engagement with issuers through a series of bilateral engagements and potential roadshows in Melbourne, Perth and Sydney in the fourth quarter of this year.

While the provision of electronic CHESS holding statement is in scope for day one for CHESS replacement, some stakeholders have asked if it was possible to put in place an earlier solution. ASX will be establishing an industry working group to look at what can be done in advance of the CHESS replacement system going live.

A member, noting that there are currently around 20 firms in the CDE, asked whether this was in line with ASX's expectations at this stage of the project. The Executive General Manager Equity Post Trade Services responded that amongst the 21 CDE applications, this includes a number of vendors so participant coverage is actually broader. The vendors have not only connected to the CDE but are already testing some early functionality using both message-based and direct connectivity. At this point in time ASX is monitoring take-up but there are no timeframes around when participants should commence engaging with CDE although ASX is encouraged with the take-up and applications from participants.

A member commented that at least some vendors have indicated they would delay sharing what they have been doing with their participant customers until all the code has been deployed in the test environment. He thought this



raises a concern that the time for participants to respond to these changes prior to the April 2021 go live date will be compressed.

The Executive General Manager, Equity Post Trade Services noted that a couple of vendors have indicated to ASX that they are not going to wait until after CDE 7 but are matching, with a delay, the cadence with which they release their software to their clients to progressively expose the CHESS replacement functionality. Each vendor will make their own decisions on timing. However, this is one of the risks that ASX needs to monitor and manage.

The Chair noted that ASX will continue to actively monitor readiness and will initiate conversations with service providers if issues arise.

The Executive General Manager Equity Post Trade Services informed members that one of the new functionalities requested through the consultation process and to be delivered as a business as usual project was transfers to the CHESS sub-register without paper transfer documents. ASIC recently advised ASX that it could progress the proposal. This change will be limited to the few settlement participants who provide custodial or depositary services under a relevant AFSL or exemption and that meet certain financial requirements.

The next step is for ASX to finalise and release its response to feedback received to the July 2018 consultation paper and to finalise the rule amendments and informally lodge these with ASIC. For day one of the new clearing and settlement system, ASX intends to remove paper transfer documents for other settlement participants, as messages to transfer securities to the CHESS sub register will need to include the SRN and registration details for the transferor, to be validated by issuers against holder details on the issuer sponsored registers prior to processing the transfer.

A member noted that this was good news and asked if their custodial vehicles automatically qualify for the interim relief on paper transfer documents and, if not, what they need to do. The Executive General Manager, Equity Post Trade Services responded he would need to follow up with an answer for that question and come back to the member.

b) Access pricing and clearing and settlement fee update (verbal update)

The Executive General Manager Equity Post Trade Services provided an update on two areas with regard to pricing.

The first element relates to analysis of a different basis for settlement pricing (the approach to the pricing of clearing services is unchanged).

Settlement services are currently charged on a transaction basis which typically maps to a message, some which have fees attached. The new system will continue to support existing message-based interactions although the number and substance of each message will change with the move to ISO 20022 messages.

Users can optionally choose to connect to the replacement of CHESS via the distributed ledger. This requires a reassessment of the existing pricing methodology. It can also have implications for the charging regime, particularly where part of the value proposition for taking a node goes beyond clearing and settlement services.

Once the analysis is done ASX will discuss this with the market, particularly to determine if a change to the pricing model will have any unintended consequences or adverse outcomes for participants.

There were four different options that were initially analysed: the existing transaction-based fee; an ad valorem fee; a subscription model; and a tiering model (as a firm's activity rise and it moves up into a new tier the marginal fee reduces).

The preliminary analysis indicated that two options (ad valorem and subscription) were problematic and more analysis is currently being undertaken on the other two options. This is a complex piece of work and the default solution is no change, that is the transaction based settlement fees will continue unless a better outcome can be designed that meets the multiple objectives of encouraging use of the new system without having adverse outcomes.

A member asked if it was likely that all new ISO 20022 messages would have a fee attached. In reply it was noted that it will be likely be a subset of messages as there will be some transactions/messages that are have marginal value.



A member asked if ASX had considered a model similar to the ASIC industry levy, where costs are recovered (and the unit price calculated) based on the overall level of activity. It was noted this model has not been analysed.

The second element of the pricing framework relates to the different connectivity options. There has been generally positive feedback from users to the pricing framework previously released for the message-based connectivity options (AMQP and SWIFTNet). Users had raised some issues around the prospect of receiving two different invoices if they used the SWIFT-based connectivity option. ASX has been exploring with SWIFT whether the requirement for a pass through of infrastructure uplift costs could be eliminated and a single invoice created.

On the pricing framework for node API access, users had questioned what the price paid would be if it was not being discounted to free for three years for participants to access clearing and settlement services.

The Executive General Manager Equity Post Trade Services advised that while the precise nature of the access pricing framework is still being developed, indicative pricing for the different connectivity options would be:

- ISO 20022 messages via AMQP - \$495 per session per month
- ISO 20022 messages via SWIFT – costs set by SWIFT
- Standard node access – still to be determined but likely to be comparable to the price for AMQP access
- Dedicated node access – depends on the performance of the application and its usage of the infrastructure
- Services node access – price comparable to the number of standard nodes the aggregated service would replace.

The indicative pricing is being provided at this time to assist firms in making a choice around the access options they want to explore, but final pricing will be determined closer to the go live once all the necessary inputs are available. Finalised node access pricing is partially dependent on the completion and the testing of the replacement system, which will inform ASX of the resource demands of the infrastructure and any other necessary variables.

ASX will be writing to users to set out the broad pricing parameters in a few weeks. ASX expects to be in a position to provide the detailed pricing schedules after the commencement of IWT and definitely before go live.

A member asked if ASX would be sharing the analysis that underpins the final decisions on pricing to help them understand how they were determined. The ASX Executive General Manager Equity Post Trade Services noted that a challenge with access pricing is determining a commercial model for a DLT service that doesn't exist elsewhere and which comprises both access to perform regulated clearing and settlement services and other completed unrelated contestable services.

A member asked if ASX could provide any context of the scale of the dedicated node fee relative to the standard node fee. The Executive General Manager Equity Post Trade Services said while a number of factors will go into that calculation it was unlikely to be multiples of the standard node price.

c) ISO 20022 Technical Committee Report and Minutes

The Chief Operating Officer noted the Technical Committee's work is progressing in line with the system build.

The Chair suggested that the table at the back of the Technical Committee Report could be recast to give a better sense of what proportion of ISO messages have been completed and how much more is still to do.

AGENDA ITEM 4: MARKET INNOVATION OPPORTUNITIES IN DLT (NO PAPER)

Given time constraints it was decided to defer the presentation on the nature of innovations and associated benefits of DLT to the next Business Committee meeting. It was noted that ASX is hosting a DLT Solutions Innovation Expo event in August where six third party vendors will be displaying their DAML-based applications and their capabilities.

AGENDA ITEM 5: REGULATORY EXPECTATIONS – EXTERNAL AUDIT

The ASX Chief Risk Officer advised members that PWC was commencing its third annual audit of ASX's compliance with its regulatory expectations obligations. The audit opinion will be provided to the relevant clearing and settlement board, published on the ASX website and provided to the Business Committee.

He noted that this year PWC would be conducting direct interviews with a sample of Business Committee members rather than repeating the previous practice of sending a written questionnaire to all members. He encouraged members to participate in the interviews if they are selected.

Members asked whether responses in the interviews would be confidential, if Business Committee members were able to nominate to participate; the nature of the questions to be asked and if these could be provided in advance; and whether more colour could be provided in the final audit report.

ASX confirmed that individual responses could be made confidentially if they wished. In addition, if members wanted to express interest in participating they could provide their details and these would be passed on to PWC. The questions that PWC would ask in the interviews would be aligned with the audit requirements around governance, pricing, and access. ASX would pass on to PWC member's comments on the questions and the nature of the final audit report while noting that it is PwC's decision around the process and the procedure they go through to inform their audit opinion.

AGENDA ITEM 6: ADMINISTRATION

a) Minutes from the 4 April 2019 Business Committee Meeting

The minutes of the 4 April 2019 meeting were approved without further change.

b) Forward work program

The Chair asked if members had any new items to add to the Committee's forward work plan. No additional items were proposed. Following the discussion at the meeting ASX would provide an update on the RBA RITS issue and the working group examining the digitising of CHESS holding statements at the next meeting.

c) Other matters

There were no other matters.

Next meeting

The next meeting is scheduled on 19 September 2019.

The meeting closed at 2.00pm.

Signed as a correct record of the meeting.

Chair

Date



BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 5B

Topic	Forward Work Program
Date	19 September 2019
Purpose of this paper	To update Members on the forward work program of the Business Committee for 2019.

OVERVIEW

It is proposed to have one further meeting of the Business Committee this year on Wednesday, 27 November 2019.

Subject to any input from members who wish to add additional items, the forward work program of the Business Committee in 2019 and 2020 will be predominately focused on aspects of CHESS replacement.

A second major stream of work which is expected to run until the first half of 2020 is Corporate Action STP Phase 2.

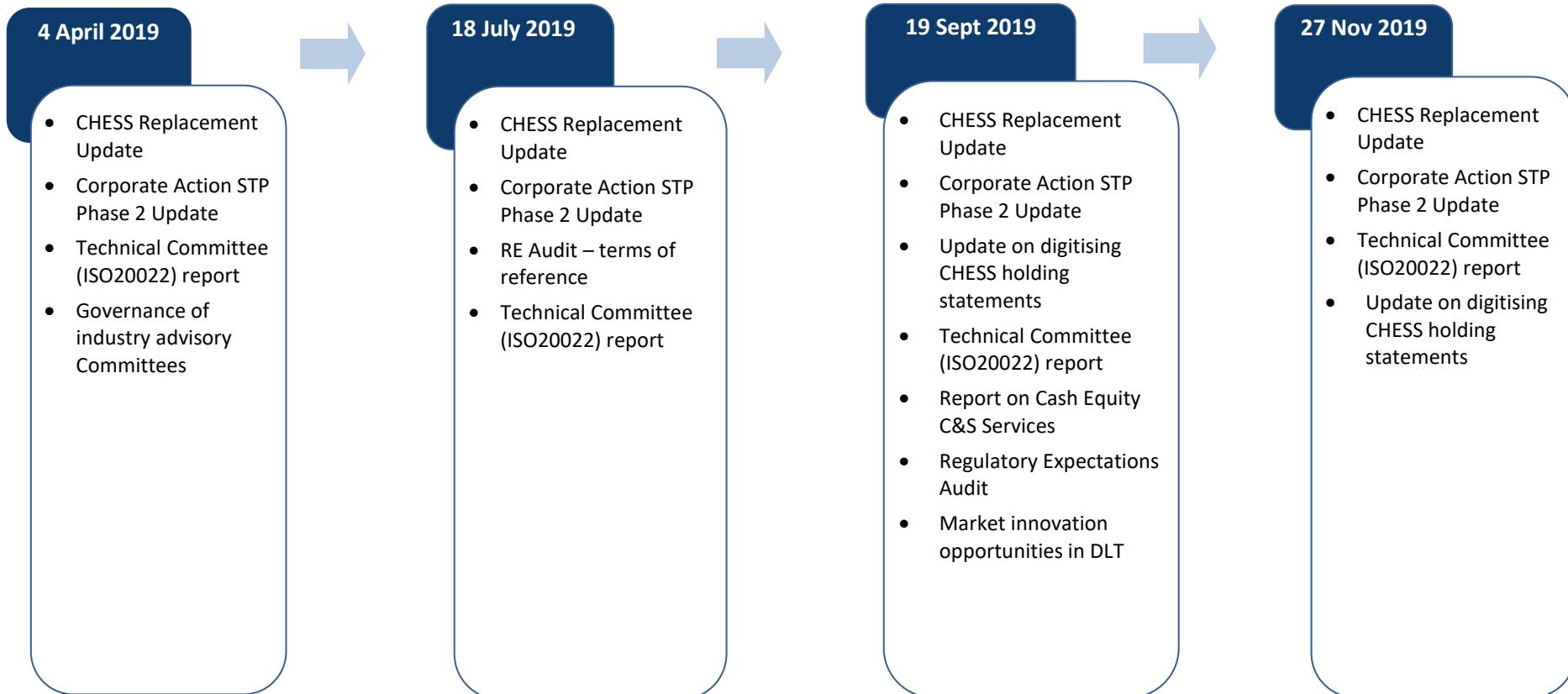
Members of the Business Committee are invited to suggest topics for inclusion in the forward work program at any time by contacting the Business Committee Secretariat.

Meetings of the ISO 20022 Technical Committee are expected to be held every month during 2019.

ATTACHMENTS

Attachment A – Business Committee Forward Work Program

Attachment A: Business Committee Forward Work Plan



Note: the forward work program does not include the standing agenda items for each meeting.