

Agenda

Business Committee

| | | | |
|---------------------------------------|--|-------------|-----------------|
| Date | 27 November 2019 | Time | 4:00pm – 5:30pm |
| Location | ASX offices – Level 1, 20 Bridge Street, Sydney | | |
| 1. Service Performance | | | 4:00pm-4:10pm |
| | a) Cash Market Clearing and Settlement - Operating Performance | | |
| 2. CHES Replacement Project | | | 4:10pm-5:10pm |
| | a) CHES 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 | | |
| 3. Service Enhancements | | | 5:10pm-5:30pm |
| | a) Update on the Corporate Action STP Phase 2 project | | |
| | b) Digitisation of CHES statements (verbal update) | | |
| | c) Transfers to the CHES Sub-Register (verbal update) | | |
| 4. Administration | | | 5:30pm-5:45pm |
| | a) Minutes from the 19 September 2019 Business Committee Meeting | | |
| | b) Forward work program | | |
| | c) Other matters | | |
| 5. Next Meeting – 1 April 2020 | | | |
| End of Year Drinks | | | 5:45pm-6:30pm |

Business Committee members are invited to stay for end-of-year drinks to thank members for participating throughout 2019.

Action Items

| Item number# | Action | Due date | Status | Owner |
|---------------|---|----------|---|------------------------------------|
| 2019 Sept (1) | Communicate with issuers on the proposed changes to corporate action forms and processes | Nov 2019 | To be discussed November Business Committee, Agenda Item 3 | Karen Webb |
| 2019 Sept (2) | Further information regarding how the market could use the optional DLT capabilities of the system | Nov 2019 | To be discussed November Business Committee, Agenda Item 2 | Cliff Richards |
| 2019 Sept (3) | Summary of the types of CHES replacement project risks ASX tracks | Nov 2019 | To be discussed November Business Committee, Agenda Item 2 | Hamish Treleaven Cliff Richards |
| 2019 Sept (4) | Implement changes to Business Committee processes (draft agenda and meeting action items) | Nov 2019 | Completed | Gary Hobourn |
| 2019 Sept (5) | Invite AMOs to attend the next meeting of the Implementation and Transition Working Group | Nov 2019 | Completed | Keith Purdie |
| 2019 Sept (6) | Circulate the annual Regulatory Expectations audit report and Management Accounts for the CS facilities | Nov 2019 | Completed | Gary Hobourn |
| 2019 Sept (7) | Organise a meeting with AMOs to discuss the issues raised during the PWC audit | Nov 2019 | Invitation to AMOs (23/10) – no request for further discussion received from AMOs | Karen Webb |
| 2019 Sept (8) | Respond to industry feedback following release of ASX Clear GN10: Business Continuity & Disaster Recovery | Nov 2019 | Verbal update at November Business Committee | Hamish Treleaven |

Business Committee Members

| Company | Name | Job Title | Apologies |
|------------------------|---------------------------------|--|----------------|
| ABN AMRO Clearing | Matt McMahon (delegate) | 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 Aust & NZ | |
| 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 (CommSec) | Sheridan Thompson | Head of Strategic Development | |
| 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 | Yen Le |
| GIA | Catherine Maxwell (delegate) | General Manager, Policy and Advocacy | Megan Motto |
| HSBC | Nichole Alexander | Manager, Aust Market Advocacy & Development | |
| 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 | |
| Morgans | Daniel Spokes (delegate) | Associate Director, Clearing & Settlement Manager | Peter Chisholm |
| NAB | Anita Mead | Head of Business Management, Self- Directed Wealth | |
| NSX | Matthew Loughnan | Chief Executive Officer | |
| Pershing Securities | Leigh Conder | Chief Operating Officer | |
| SAFAA | Judith Fox | 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 | |
| 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 | |
| Andrew Jones | General Manager, Strategic Partnerships | |
| Giri Tenneti | Senior Manager, Issuer Services | |
| Con Korkofigas | Senior Legal Counsel | |
| Gary Hobourn | Senior Economic Analyst, Regulatory and Public Policy | |

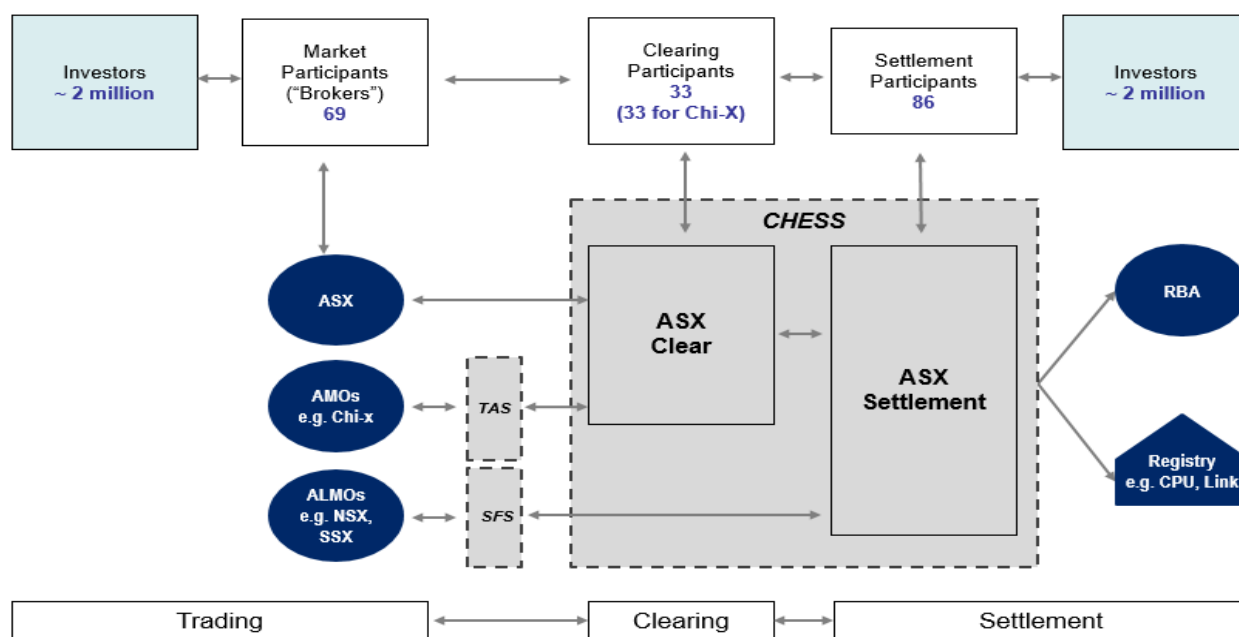
Observers

| 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 | 27 November 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 CHES. It is critical for market operations, that CHES 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 CHES is 99.80%.

For the December 2019 quarter¹, the average monthly system availability was 100% for CHES. The average monthly availability of CHES has been 99.99% between November 2011 and October 2019.

Trade Acceptance Service

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

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

For the December 2019 quarter², the average monthly system availability was 100% for the TAS. The average monthly availability of the TAS has been 99.99% between November 2011 and October 2019 (which is the same as CHES).

Reporting on clearing and settlement service performance

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

¹ Up to 31 October 2019

² Up to 31 October 2019

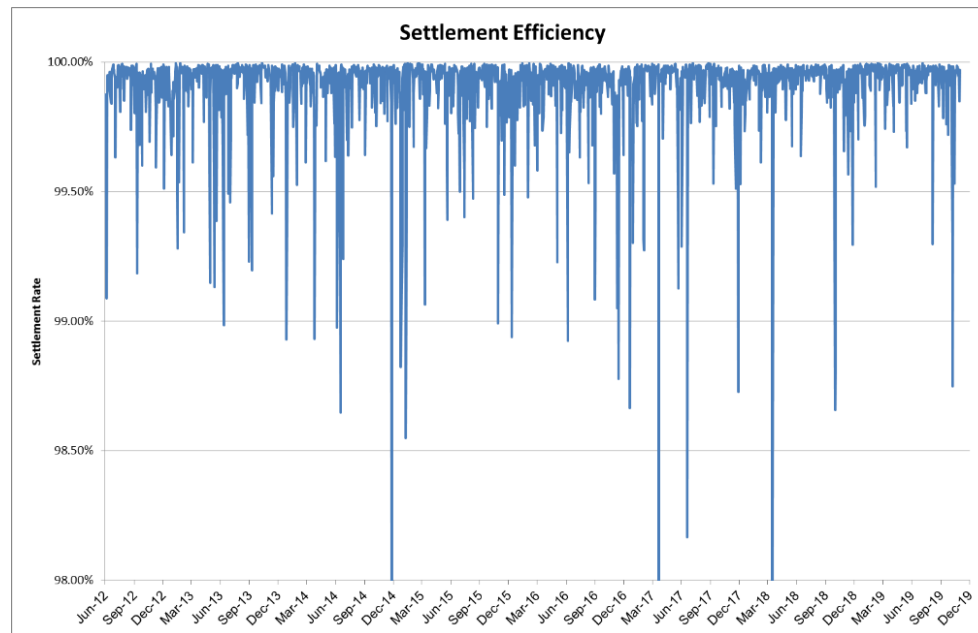
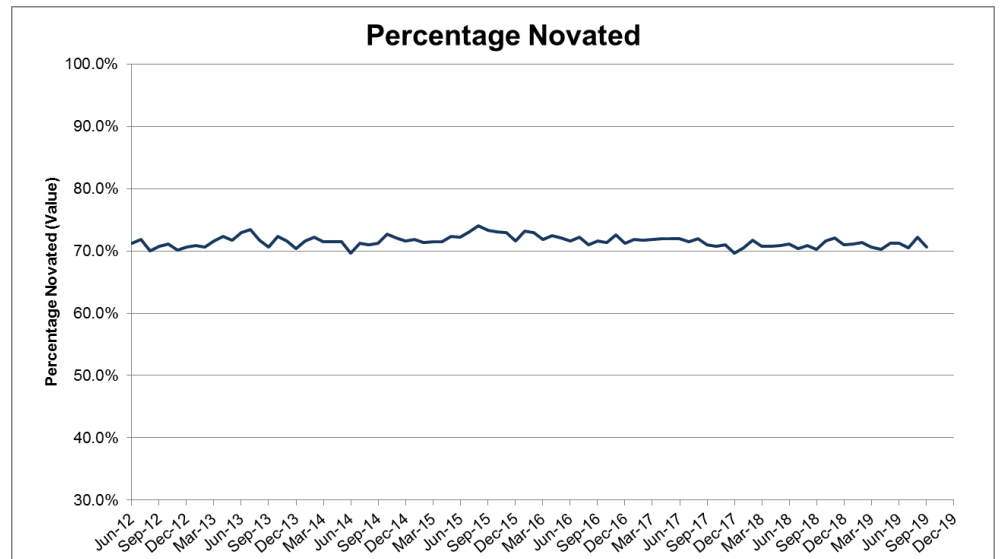
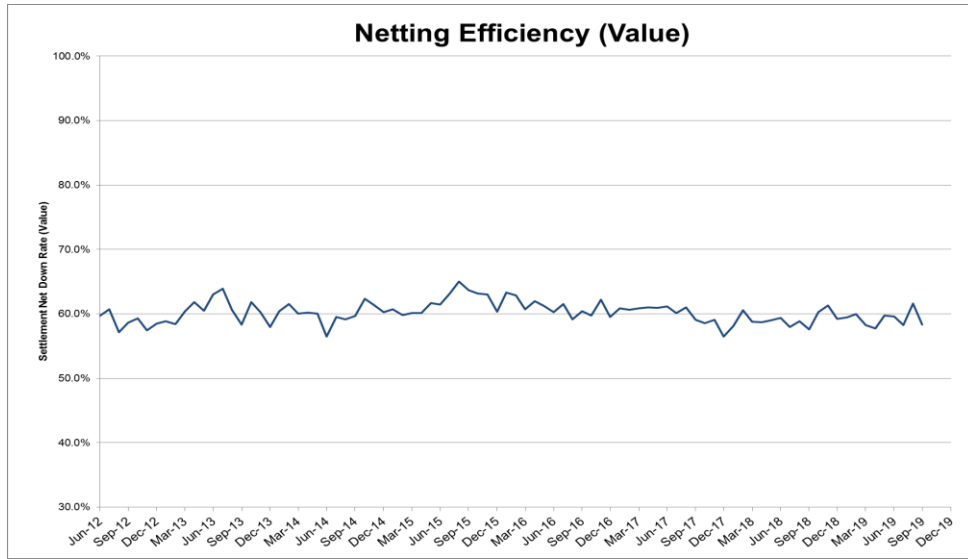
³ Up to 31 October 2019

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

| | December 2019 Quarter ⁴ | September 2019 Quarter | June 2019 Quarter |
|--|------------------------------------|------------------------|-------------------|
| System Availability (CHES) | 100% | 100% | 100% |
| System Availability (TAS) | 100% | 100% | 100% |
| Total Trades Accepted (ASX) | 38,132,728 | 114,467,830 | 97,937,232 |
| Total Trades Rejected (ASX) | 1 | 0 | 0 |
| Total Trades Accepted (Chi-X) | 13,035,693 | 40,046,157 | 35,025,795 |
| 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) | 81 | 214 | 189 |
| Total Value of Settlements (NSX) | \$57,914.55 | \$390,361.45 | \$514,305.70 |
| Daily Average Traded Value (On and Off Market) | \$6.7 billion | \$7.8 billion | \$7.5 billion |
| Daily Average Cleared Value | \$4.8 billion | \$5.5 billion | \$5.3 billion |
| Percentage Novated | 71.52% | 71.12% | 70.94% |
| Daily Average Cleared Value Post-Netting | \$1.91 billion | \$2.25 billion | \$2.17 billion |
| Netting Efficiency (Value) | 60.2% | 59.4% | 59.0% |
| Netting Efficiency (Volume) | 99.02% | 99.05% | 99.03% |
| Daily Average Settled Value (Including Non-Novated) | \$9.4 billion | \$11.4 billion | \$10.9 billion |
| Settlement Efficiency | 99.85% | 99.94% | 99.94% |

⁴ Up to 31 October 2019

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





| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2A | |
|---|--|
| Topic | CHES Replacement – Program Update |
| Date | 27 November 2019 |
| Purpose of this paper | Members will be provided with a program update including stakeholder engagement activities. |

OVERVIEW

The project team continues to publish technical documentation and deliver software code into the Customer Development Environment (CDE) in alternating months, including releasing the fourth drop of software into CDE and the fifth tranche of technical documentation, part II, on 5 November.

There are now 30 users in various stages of connecting to and using the CDE to test and interact with the fourth drop of software which included introducing features for AMOs and Payment.

An Implementation & Transition working group was held on 25 October via webinar to ~200 external attendees. The webinar presented a high level plan for the key activities to be performed by software vendors and CHES users to manage a successful industry transition and cutover to the new system. This includes three migration dress rehearsal weekends.

The Executive General Manager, Equity Post Trade Services has recently presented to over 1,000 company secretaries, investor relation professionals and legal advisers as part of a National Issuer roadshow. The presentation provided an opportunity to engage directly with issuers on the benefits of CHES replacement to their business on day 1, as well as longer term opportunities.

With regards to the takeover offer processing enhancement that is being delivered as part of ASX BAU processes prior to the go-live of the new system, the rule amendments have now received regulatory clearance and became effective from 30 September 2019.

Application Design, Build & Test

The CDE4 code was delivered to stakeholders on 5 November. This is the largest release to-date and at its core, it included (i) batch settlement; (ii) the workflow for some corporate action event types; (iii) FIX specifications for AMO access, including pricing data; and (iv) an uplift in security by introducing TLS certificates for some connectivity channels.

Additional functional specifications and messaging requirements were also published at the same time, completing the scope of the fifth tranche of technical documentation. Release 5 was split in two parts with part I published in September.

Testing of CDE4 code continues across all three connectivity channels – Ledger API, SWIFT and AMQP. We currently have 30 users in various stages of connecting to and using the CDE.

Delivery timelines for DA's functional build and ASX's testing of the software remain on track for the fifth tranche of software to be delivered to customers in CDE mid-December.

Work continues on the delivery of the browser, which can be used by stakeholders as an interface for the CHES Replacement application, particularly for low transaction value and volume users. An update on the browser will be provided in the Connectivity & Integration working group meeting scheduled for 4 December.

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

forward release plan which excludes four items from the previously published 'Day 1' features. Settlement lock for issuer sponsored holdings, auto-borrow, give-ups/take-ups and early settlement will now be considered for implementation post Day 1.

The ISO 20022 work on 'to-be' message mapping state is in progress. See agenda item 2b for further details.

Infrastructure and Ledger

The first install of VMware was delivered on track and has been installed into the ALC Datacentre. ASX testing commenced in November, before the next version of VMware is delivered in January 2020.

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 Principals of Financial Market Infrastructure (PFMI) and Financial Stability Standards (FSS) principals and associated reporting.

Demand reporting is topic to be tabled at an additional Focus Group meeting, scheduled for 21 November.

Rules & Regulatory Engagement

ASX is implementing amendments to the ASX Settlement Operating Rules, ASX Clear Operating Rules and ASX Operating Rules and associated Procedures in connection with the replacement of CHES. These will be released for public consultation in three tranches.

On 15 November 2019, ASX released its [consultation paper](#) on the first tranche of rule amendments, which relate to accounts, participants, securities and pre-settlement aspects for Day 1 CHES replacement system functionality.

The public consultation process will be consistent with the timeline published on the CHES replacement website and included in the newsletter sent to stakeholders on 20 September 2019, and shared with Business Committee members in the meeting held 19 September 2019.

A copy of the timeline setting out the key dates for regulatory and public consultation processes for the rule amendments required for CHES Replacement can be found in Attachment D.

The timeline covers rule amendments required for Day 1 changes in the new system, including new business requirements, re-engineering of solutions for existing CHES functionality and the decommissioning of existing CHES 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 19 September, ASX has held one further Connectivity & Integration working group meeting in October. The next meeting is scheduled for 20 November.

The working group held on 9 October provided updates on functionality available in CDE 4. It was also noted that CDE4 was the recommended entry point for AMOs and payment providers. ASX explained three new test support tools which would be introduced as part of CDE release 4. ASX also explained the extractor, including what it is, how to access it, and how it relates to state contracts/state changes.

The working group scheduled for 20 November will provide updates on CDE, with a focus on high availability allowing developers to progress their non-functional development as well as an opportunity for Q&A.

All Connectivity and Integration working group materials continue to be made available through the CHES replacement website. The presentation materials for the working group held on 9 October can be found here: [Connectivity & Integration work group presentation material - 9 October 2019](#)

Focus Groups

The Focus Group held on 17 September was on the topic of the ASX mFund Settlement Service. Invitees included Product Issuer Settlement Providers (PISPs), fund managers and participants that currently settle mFund transactions via CHES. Topics discussed included the proposed change to the settlement method of mFund application and redemption orders from batch processing to line-by-line RTGS settlement. Following member feedback on the potential impact, ASX has agreed that mFund transactions will remain in the batch.

The Focus Group held on 15 October was on the topic of Investor Information. Invitees included Participants, Share Registries and Product Issuer Settlement Participants (PISPs). Topics discussed included the design of investor data workflows supporting a streamlined approach to the collection and distribution of data, including the collection of email and mobile phone numbers to enable the dissemination of CHES statements electronically. Focus Group attendees were invited to provide feedback to the presented solutions.

The Focus Group held on 31 October was the 7th focus group on the topic of Corporate Actions. This meeting allowed ASX to explain aspects of the solution design where members have requested clarifications relating to RTGS payments, elections processing and foreign cash entitlements. There was a focus on dividend reinvestment plans, bonus share plans and the need for an enquiry function to support this new function. ASX has requested further feedback to finalise the solution.

A summary of the key themes raised through the Focus Groups, as well as ASX's response to feedback, will continue to be published when the associated technical documentation is released.

Issuer Engagement

As part of the plan to increase our engagement with issuers, the EGM of Equity Post Trade was part of a recent 'ASX National Issuer Roadshow' in Sydney, Melbourne, Perth, Brisbane and Adelaide. Over 1,000 company secretaries, investor relation professionals and legal advisers attended and received a presentation on the benefits of CHES replacement and had an opportunity to ask questions. There has also been an increase in the number of bilateral engagements with issuers to address some misunderstandings about the project.

Transition, Cutover & Customer Readiness

Implementation & Transition Working Group

ASX held an Implementation and Transition working group meeting on 25 October via webinar to ~200 external attendees. The webinar presented a high level plan for the key activities to be performed by software vendors and CHES users to manage a successful industry transition and cutover to the new system. This included:

- A timeline for activities that need to be done in advance of Industry Wide Testing commencing such as the provisioning of infrastructure and connectivity to ASX Net or SWIFTNet
- Proposed dates for three migration dress rehearsals
- Activities that make up industry wide testing
- A breakdown on the activities that make up technical accreditation and operational readiness
- The attestation ASX requires from all CHES users
- A change control period to appropriately plan for any changes and manage any associated risks

The working group have been asked to provide any feedback by 15 November 2019. A copy of the presentation material can be found here:

[Implementation & Transition working group presentation material - 25 October 2019](#)

The next working group meeting has been scheduled for 29 November 2019 and will focus on account migration over the cut-over weekend, including moving to the new registration standards and what activities can be done in advance.

ASX will also hold a webinar in December to respond to market feedback and answer questions.

ASX continues to work on the detailed requirements for technical accreditation and operational readiness which will take into consideration market feedback.

ATTACHMENTS

Attachment A – CHES Replacement Key Milestones











Attachment B – CDE Function Availability









Attachment C – Calendar of events for stakeholder engagement

Attachment D – Rule Development Timeline





ATTACHMENT B – CDE FUNCTION AVAILABILITY

| | | | |
|---|----------------|---|----------------------|
|  | Code Available |  | Planned Code Release |
|---|----------------|---|----------------------|

| Capabilities / Features | Code Availability by Release | | | | | | | Technical Documentation Available |
|--|---|--|---|--------------|---------------|---------------|-----------|-----------------------------------|
| | Release 1 | Release 2 | Release 3 | Release 4 | Release 5 | Release 6 | Release 7 | |
| | April 2019 | June 2019 | August 2019 | October 2019 | December 2019 | February 2020 | May 2020 | |
| 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, Novation and Trade Confirmation | |  | | | | | | March 2019 |
| Batch Settlement - Part 1 of 3 Payment Facilities | |  | | | | | | March 2019 |
| Account Management - Part 1 of 2 Account and Holder: Creation; Account and Holder: Modification | | |  | | | | | May 2019 |
| Netting and Netting Reversal | | |  | | | | | May 2019 |
| Transfers / Conversions Between Sub-registers | | |  | | | | | June 2019 |
| SRN Enquiry | | |  | | | | | June 2019 |

| Capabilities / Features | Code Availability by Release | | | | | | | Technical Documentation Available |
|---|------------------------------|--------------|----------------|--|---|------------------|-------------|-----------------------------------|
| | Release 1 | Release 2 | Release 3 | Release 4 | Release 5 | Release 6 | Release 7 | |
| | April 2019 | June 2019 | August 2019 | October 2019 | December 2019 | February 2020 | May 2020 | |
| AMO Price | | | |  | | | | May 2019 |
| Batch Settlement - Part 2 of 3 Funds Obligation; Movement of Units; Settlement Confirmation & Completion; Cancellation of Batch Settlement | | | |  | | | | July 2019 |
| Corporate Actions - Part 1 of 3 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 |
| Settlement Locks on HIN Holdings | | | | |  | | | December 2018 |
| Issuer's Agent Transfer (Warrants) | | | | |  | | | October 2019 |

| Capabilities / Features | Code Availability by Release | | | | | | | Technical Documentation Available |
|--|------------------------------|-----------|-------------|--------------|---------------|---------------|-----------|--|
| | Release 1 | Release 2 | Release 3 | Release 4 | Release 5 | Release 6 | Release 7 | |
| | April 2019 | June 2019 | August 2019 | October 2019 | December 2019 | February 2020 | May 2020 | |
| Corporate Actions - Part 2 of 3 Takeovers & Buy-backs; Reconstructions; Rights; Holding Adjustments; Schemes of Arrangement; Bonus, Capital Return, Dividend and Interest Payment | | | | | | ✓ | | September 2019 Takeovers and Buy-backs October 2019 Reconstructions Rights November 2019 Holding Adjustments Schemes of Arrangement |
| Collateral Management (ETO & CMM) | | | | | | ✓ | | September 2019 |
| Batch Settlement - Part 3 of 3 Unit Fails | | | | | | ✓ | | November 2019 |
| Primary Market Facility: Placements | | | | | | ✓ | | November 2019 |
| Real-Time Settlement: Payment Facilities | | | | | | ✓ | | November 2019 |
| mFunds - Part 1 of 2 Foundation Set-up/On-boarding | | | | | | ✓ | | N/A |

| Capabilities / Features | Code Availability by Release | | | | | | | Technical Documentation Available |
|---|------------------------------|-----------|-------------|--------------|---------------|---------------|---|---|
| | Release 1 | Release 2 | Release 3 | Release 4 | Release 5 | Release 6 | Release 7 | |
| | April 2019 | June 2019 | August 2019 | October 2019 | December 2019 | February 2020 | May 2020 | |
| Account Management - Part 2 of 2 Account and Holder: Cancellation; Account and Holder: Locking and Unlocking; Account and Holder: Investor Data and Pass-through Information (ABN/ACN, TFN, Bank Accounts) | | | | | | |  | May 2019 Account and Holder: Locking and Unlocking February 2020 Account and Holder: Cancellation Account and Holder: Investor Data |
| Corporate Actions - Part 3 of 3 Code Change; Class Merger; Diary Adjustments; DRP Elections; Election & Payment for Exercises (excluding RTGS Interface) | | | | | | |  | February 2020 |
| mFunds - Part 2 of 2 Applications; Redemption; Transfers | | | | | | |  | February 2020 |
| Demand Reporting | | | | | | |  | February 2020 |

Scope for Consideration Post Day 1

The table below details the CSP capabilities/features that are no longer in scope for Day 1.

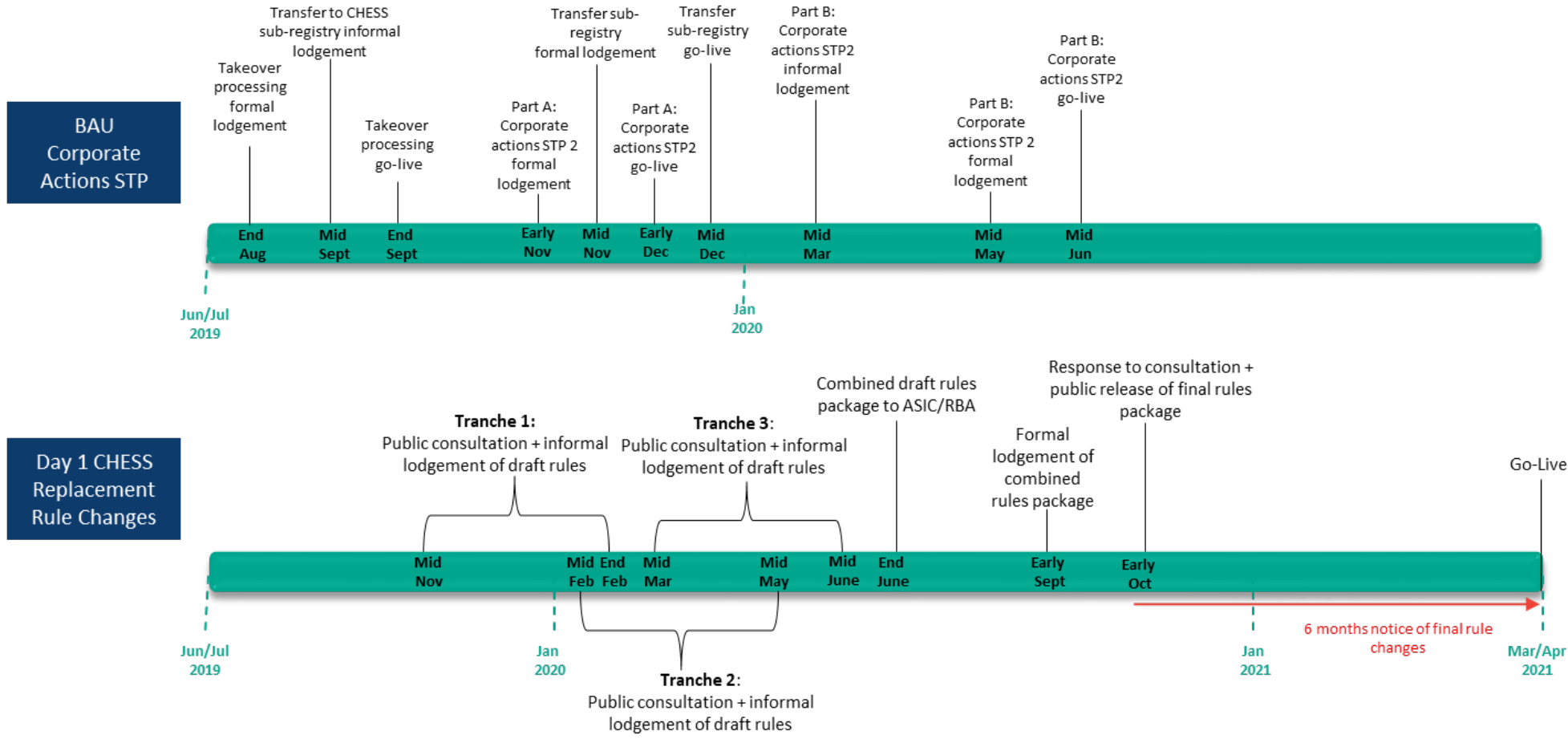
| Capabilities / Features | Comment |
|---|---|
| Give-ups and Take-ups | Refer to: October 2019 - Documentation Release Notes (Part II) - Release Notes |
| Early Settlement | Refer to: October 2019 - Documentation Release Notes (Part II) - Release Notes |
| Settlement Lock for Issuer Sponsored Holdings | Refer to: ISO20022 Technical Committee - October 1 - Meeting Minutes (pg. 9, section 4a.) |
| Auto-borrow | Refer to: ISO20022 Technical Committee - October 1 - Meeting Minutes (pg. 9, section 4a.) |

ATTACHMENT C - CALENDAR OF EVENTS FOR STAKEHOLDER ENGAGEMENT

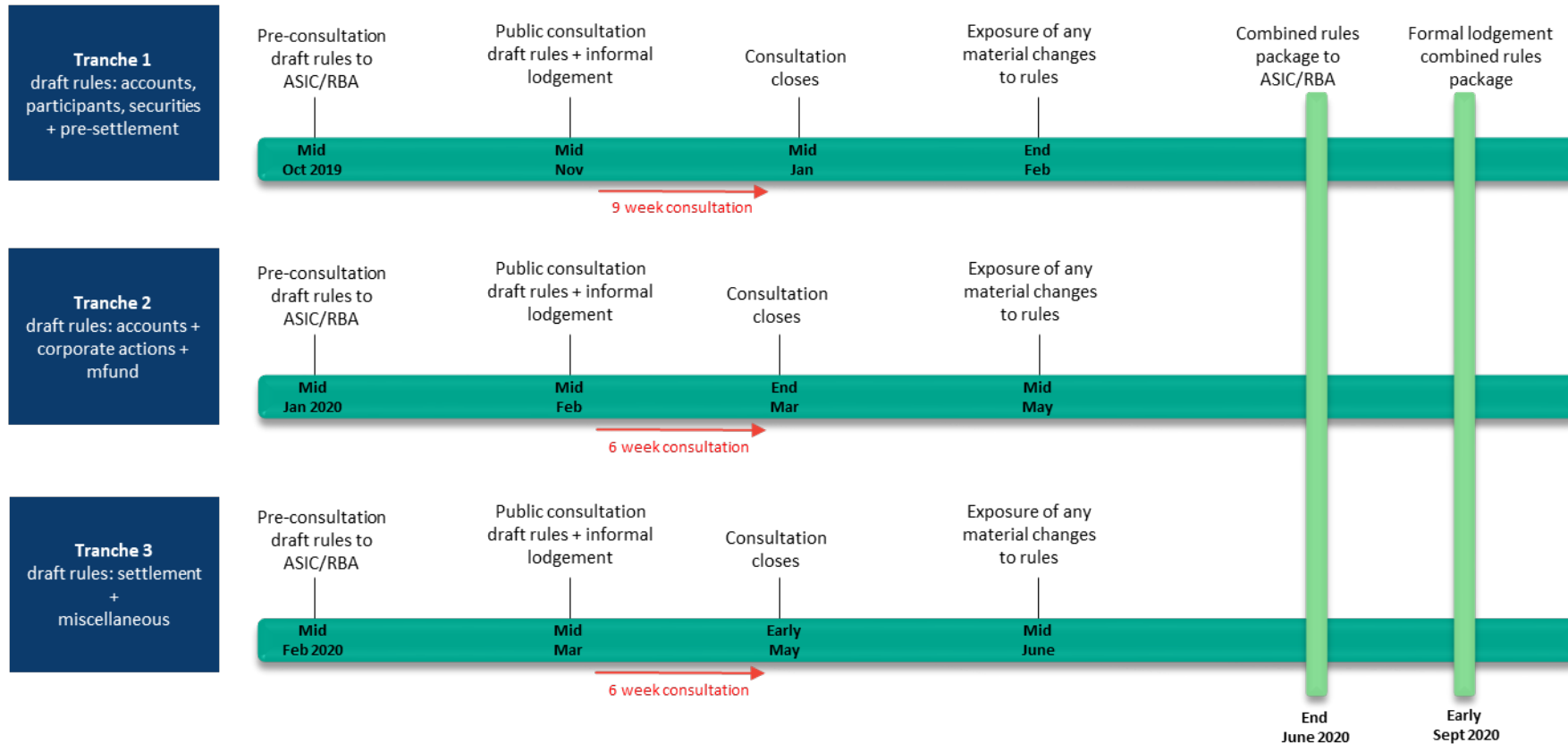
| | 2019 | | | | | | | | | | | | 2020 | 2021 |
|---|---|--|---|--|---|---|--|---|--|--|---|--|-------------------------------|-------------------------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan - Dec | Jan - Dec |
| Business Committee | | | | 4/4 | | | 18/7 | | 19/9 | | 27/11 | | 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 Code change & class merger, Fail – levy notification, mFund application, Focus Group outcomes | 1/11: ISO 20022 mapping feedback & Focus Group outcomes 26/11: ISO 20022 mapping feedback & Focus Group outcomes | 10/12: ISO 20022 mapping feedback & Focus Group outcomes | 28/1 25/2 | 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 16/10: AMO Connectivity | 20/11: ISO 20022 message signing High Availability/ Resiliency | 4/12: Browser & Reporting | Dates TBC | |
| Implementation & Transition Working Group | | | 20/3: Kick-off | | | | | | | 25/10: Key activities & milestones for cutover & transition | 29/11: Preparation activities for account migration, registration details & weekend cut-over activities | December (TBC): General Q&A | Dates TBC (minimum monthly) | |
| 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 18/6 Payment Providers | 9/7: Electronic acceptance of entitlement offers & holding adjustments | 13/8: Corporate actions 26/8 Corporate actions (Retail Broker) 27/8 Payment Providers | 6/9: Corporate Actions follow up (Registries) 6/9: Corporate Actions follow up (Institutions) 17/9: mFunds | 15/10: Investor information 31/10: Corporate Actions | 12/11: Settlement 14/11 Payment Providers 21/11: Demand Reporting | | | |
| Technical documentation | | | 29/3: Drop 2 | | 30/5: Drop 3 | 28/6: Drop 3 Part II | 31/7: Drop 4 | | 27/9: Drop 5 - Part I | | 5/11: Drop 5 - Part II 29/11: Drop 6 | | Feb - Drop 7 | |
| Drops of code | | | | 30/4: Drop 1 | | 28/6: Drop 2 | | 30/8: Drop 3 | | | 5/11: Drop 4 | 13/12- Drop 5 | Feb - Drop 6; May - Drop 7 | |
| Customer Dev Environment (CDE) | | | | Available | | | | | | | | | Available | Available until go-live |
| Industry Test Environment (ITE) | | | | | | | | | | | | | July 2020 onwards | Until go-live |
| Target go-live | | | | | | | | | | | | | | April |

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.

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



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



| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2B | |
|--|--|
| Topic | ISO 20022 Technical Committee Report and Minutes |
| Date | 27 November 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 1 October, 1 November and 26 November 2019. The Technical Committee's report for these meetings is provided in Attachment A.

The minutes from the meetings held on 27 August and 1 October 2019 are available on the CHES Replacement website.

27 August https://www.asx.com.au/documents/settlement/ISO20022_Technical_Committee_Meeting_27Aug2019_Minutes.pdf

1 October https://www.asx.com.au/documents/settlement/ISO20022_Technical_Committee_Meeting_1Oct2019_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 – 1 October, 1 November and 26 November 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 1 October and 1 November 2019 (Sydney and via webinar), and the agenda for the 26 November 2019 meeting.

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

| 1 OCTOBER 2019 | 1 NOVEMBER 2019 | 26 NOVEMBER 2019 |
|--|---|--|
| a) Focus Group update – Corporate actions, mFund | a) Focus Group update – Investor details, Corporate actions | a) Focus Group update – settlement, demand reporting, payments |
| b) Review of member feedback on published ‘to-be’ messages | b) Review of member feedback on published ‘to-be’ messages | b) Review of member feedback on published ‘to-be’ messages |
| c) mFund application | c) Dividend/ Distribution Election | c) Demand reporting |
| d) ‘To-be’ messages for review | d) Distribution Advice Notification | d) Settlement processing for unit failure |
| | e) Levy Notification | e) Corporate actions (code change, diary adjustments) |
| | f) Payment Facilities | f) ‘To-be’ messages for review |
| | g) ‘To-be’ messages for review | |

ACTION ITEMS

- Two additional action items were raised at the 1 October meeting. No additional actions were raised at the 1 November meeting.
- At the conclusion of the 1 November meeting, three action items remain open, while ninety three action items have been closed.

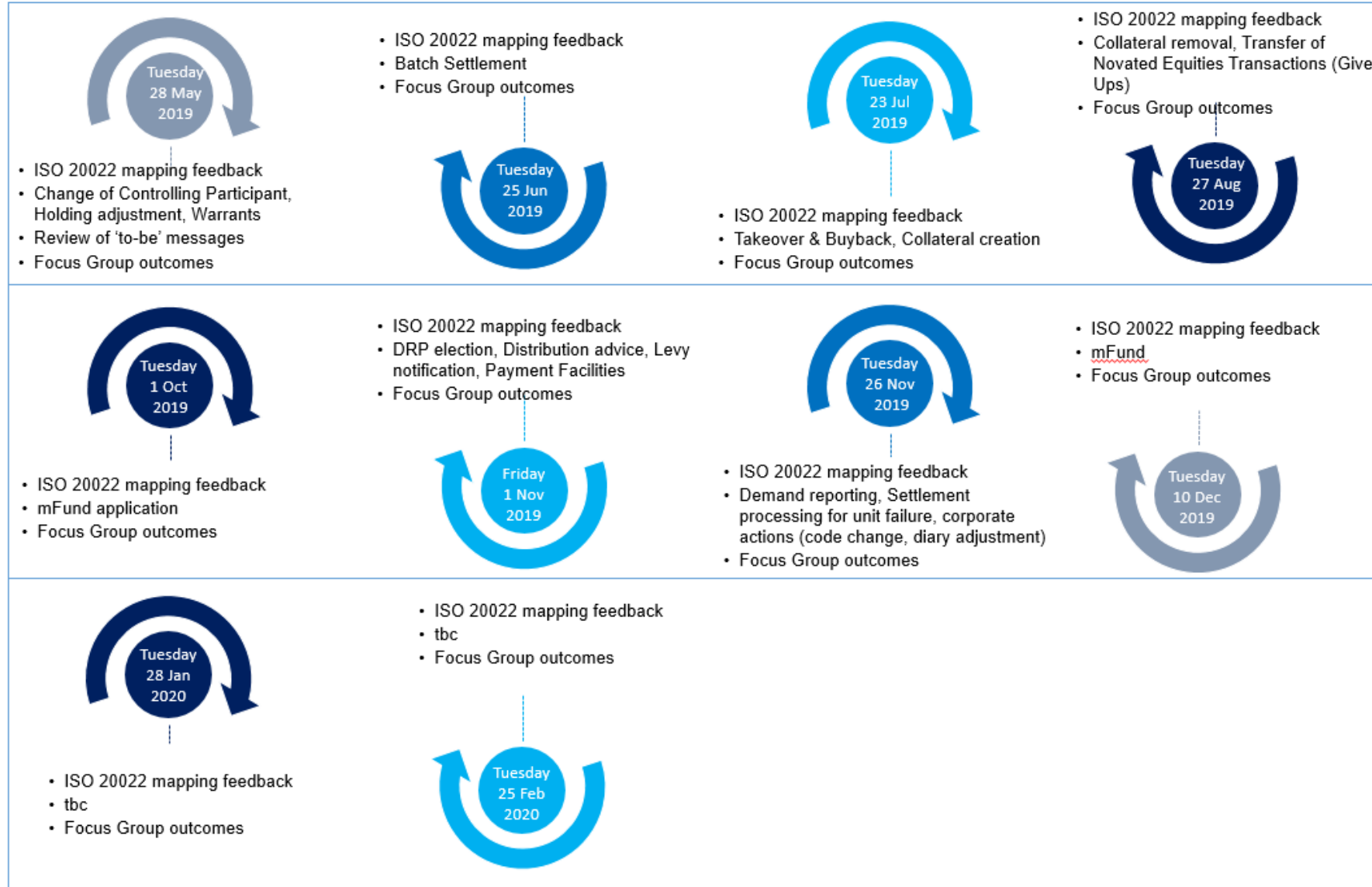
KEY ISSUES DISCUSSED

- At each meeting committee members were provided with a general update on the CHES Replacement project.
 - At the 1 October meeting the deferral of settlement lock for issuer sponsored holdings and auto-borrow from Day 1 scope, for consideration post Day 1, was discussed. Questions and clarifications around pricing, the forward release plan and corporate action event ID/option codes were also discussed.

- At the 1 November meeting the deferral of give-ups/take-ups and early settlement functionality from Day 1 scope, for consideration post Day 1, was discussed.
- At the 1 October meeting committee members were provided with an update from the 19 September 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, as well as mFund and investor details.
- In a follow up to the mFund focus group, ASX confirmed to the committee members on 1 November that mFund application/redemption payments would continue to be settled in the daily batch settlement process. Use of RTGS for mFund regular payment plans would not be delivered as part of Day 1 scope (as previously proposed), with further consideration required prior to implementation.
- ASX provided an overview of **key functional areas and associated message sets** at the meetings:
 - 1 October meeting:
 - An overview of **mFund application** solution design and message flows. Discussion occurred around the interdependency between an mFund application order request and investor details, optional/mandatory elements of messages, the number of status updates that could be requested and how cancellations would be linked to the original request. At the 1 November meeting ASX subsequently confirmed there would be changes to the mFund application messages, given the input from the investor details focus group, and decision regarding payment arrangements.
 - 1 November meeting:
 - An overview of the **dividend/distribution election** solution design and message flows. The same base message used for dividend/distribution elections would also be used for other event elections and applications (including takeover, buy back, rights etc), representing substantial message consolidation compared to CHES EIS. Questions and clarifications around the treatment of partial versus full and concurrent DRP and BSP elections were discussed, as was housekeeping/turnaround time-periods, statuses, cancellations, electing in percentage points and suspension of a plan.
 - An overview of the **distribution advice notification, levy notification and payment facilities** messages and flows.
 - ASX noted it had conducted a full reconciliation of all current CHES EIS messages versus descoped / in scope messages and would provide further information on descoped CHES EIS messages in the EIS to ISO 20022 cross reference guide available in the Technical Documentation.

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 October 2019). ASX shares draft ISO 20022 messages with the Technical Committee for review ahead of release as finalised messages in Technical Documentation.

| As at end October 2019 | | Technical Documentation (releases 1,2,3, 4 and 5) | | Additional drafts provided to Technical Committee ahead of future Technical Documentation releases | | Total messages published in Technical Documentation and provided to Technical Committee | | Total CHES messages mapped (covering messages released in Technical Documentation, provided to the Technical Committee and to be descope) | |
|--|---|--|---|---|---|--|------------------------------------|---|---|
| ISO 20022 Business Area | Total # CHES "as-is" messages in scope | # CHES messages mapped | Equivalent # ISO 20022 messages finalised | # CHES messages mapped | Equivalent # ISO 20022 messages drafted | # CHES messages mapped | Equivalent # ISO 20022 messages | *# CHES message candidates for descope | # CHES messages mapped incl. descope |
| Account management (acct) | 53 | 11 | 6 | | | 11 | 6 | 1 | 12 |
| Operations Admin (admn) | 11 | 1 | 1 | | | 1 | 1 | | 1 |
| Common (comm) | 2 | 11 | 4 | | | 11 | 4 | | 11 |
| RTGS (gset) | 60 | | | | | 0 | 0 | 60 | 60 |
| Holding movement (hold) | 37 | 82 | 23 | | | 82 | 23 | 1 | 83 |
| mFund Service (mfnd) | 85 | | | 12 | 6 | 12 | 6 | 29 | 41 |
| Pledge and Lodge Management (pldg) | 85 | 39 | 6 | | | 39 | 6 | 1 | 40 |
| Reporting (rptg) | 36 | | | | | 0 | 0 | | 0 |
| Settlement (sett) | 51 | 37 | 29 | | | 37 | 29 | 1 | 38 |
| Corporate Actions (evnt) | | 19 | 4 | 5 | 1 | 24 | 5 | | 24 |
| Total | 420 | 200 | 73 | 17 | 7 | 217 | 80 | 93 | 310 |
| % equivalent CHES "as-is" messages delivered | | 47.62% | | 4.05% | | 51.67% | | | 73.81% |



The Forward Work Program is an evolving document and is presented as at November 2019

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3A | |
|---|--|
| Topic | Corporate Actions STP Phase 2 project |
| Date | 27 November 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 activities during October focused on finalisation of the requirements and development of the 30 November first release, with activities focused on testing and release preparation in November. 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 proposed second release in Q2 2020.

Delivery timeline

The project delivery timeline remains unchanged – the first release in December 2019 (subject to regulatory approval), 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.

| Indicative Timeline - Corporate Actions STP Phase 2 | 2018 | | | | 2019 | | | | 2020 | | | | 2021 | |
|---|------|----|----|----|------|----|----|----|------|----|----|----|------|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 |
| Corporate Actions STP Phase 2 - Delivery period | | | | | | | | | | | | | | |
| Listing Rule/other rule changes consultation / effective date | | | | | | | | | | | | | | |
| Industry Working Group meetings (every 4-6 weeks) | | | | | | | | | | | | | | |
| Customer Testing available | | | | | | | | | | | | | | |
| Target Go-Live* (3 releases) | | | | | | | | | | | | | | |
| CHESS Replacement Go-Live | | | | | | | | | | | | | | |

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

First release effective 1 December 2019 & communication to issuers

The scope for the first STP release remains unchanged, with the project team focused on all necessary testing and release preparation. The release focuses on changes for issuers and ASX systems to standardise and structure the announcement of certain events, and to facilitate the achievement of straight through processing. The release includes:

- Updates to the Phase 1 event online forms for the announcement by issuers of dividend/distribution, interest payment, consolidation, split and cash return of capital events, including alignment with particular changes included in the listing rule changes, and updates to some features and validation changes for the benefit of issuers and ASX Operations;
- Availability of new forms to replace the current Appendix 3B, including the new Appendix 3B (notification of proposed issue of securities); Appendix 2A (application for quotation of securities); Appendix 3G (notification of issue, conversion or payment up of equities securities); and Appendix 4A (statement of CDIs on issue). These forms will initially be available in either online form or MS word format; and
- Associated changes to ASX database and system software, market announcement report classifications, and PDF announcement styling.

Subject to regulatory approval, ASX published the associated final marked up listing rule changes and consultation response on 10 October 2019, with a Listed@ASX Compliance Update sent to issuers on 14 October 2019. ASIC invited ASX to formally lodge the ASX listing rule changes on 1 November 2019. Given the 28 day non-disallowance period, ASX expects the rules to be approved on 29 November 2019, with effective date 1 December 2019.

On 31 October, ASX published a Listed@ASX Compliance Update advising issuers of the availability of the new training environment, providing a preview of all online form changes and new online forms. Training and guidance material has also been published on this site.

References to the new forms to replace the current Appendix 3B were also included in the Issuer Roadshows conducted during late October/early November.

Scope for subsequent releases

Given the project has scheduled at least two subsequent releases during 2020, the project team has been working to identify priority items for the next release. The priorities are based on the CHES Replacement project schedule & requirements, and feedback from the industry working group and other stakeholders.

Priorities:

- Provide a full suite of ISO 20022 event notifications to satisfy the CHES Replacement project test schedule and provide the earliest possible enhancements to benefit subscribers to the ISO 20022 notification service:
 - Availability of industry wide testing as soon as possible for the ISO 20022 corporate action notification service, including all in scope corporate action event types, and production service in place by mid-2020;
 - Enhance the Dividend/Distribution online form and ISO 20022 notification changes to include additional tax information.
- Ensure issuers have a complete suite of online forms to replace all scenarios covered by the existing Appendix 3B; and to also ensure all asset classes are included in the STP solution where possible. This also facilitates the straight through processing of the data included in such announcements to benefit ASX Operations and to support the timeliness of the ISO 20022 and other notification services:
 - Full straight through processing capability (STP) for new Appendix 3B (including auto creation of the covered corporate action events – bonus, renounceable, non-renounceable, accelerated, security purchase plan, priority offers);
 - Availability of online forms with full STP for Appendix 2A and Appendix 3G;
 - Investigate potential additional form – for issuer notification of cancelled/expired securities; and
 - Investigate changes for ETF and structured product issuers and their events, including announcement and rule changes to standardise the events where possible, and process to manage exceptions.

ISO 20022 corporate action notification service

The updated and new ISO 20022 corporate action notification messages are targeted for release in Q2 2020. Twenty-two updated usage guidelines have now been published in SWIFT MyStandards for review by the members of the industry working group, with the last two usage guidelines to be published end November. Members have also been provided with progressive updates to the ReferencePoint ISO 20022 Real Time Corporate Actions Manual incorporating key changes for each published 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.

ASX will review member feedback with working group members to agree any particular changes to the draft messages. ASX's target to finalise the usage guidelines is March 2020.

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

Stakeholder engagement

The Corporate Actions STP Phase 2 industry working group most recently met on 24 October 2019. The next meeting is planned for December 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 CHES Replacement message set and updates to include additional information consumed by CHES (for CHES Replacement consumption) such as Adjustments.

ASX also confirmed to the working group that it had received approval from the Association of National Numbering Agencies to generate and include an ISIN to represent the entitlement in a non-renounceable issue. This was a specific request from the CHES Replacement corporate action working group where the temporary entitlement security can be used by industry participants such as custodians to facilitate electronic entitlement and acceptance instructions with their clients. This is in line with the process already available for renounceable offers. The STP project will deliver this change.

A number of discussion points have arisen particularly from those members that are also involved in the CHES Replacement corporate action focus groups, and the coverage of the complementary 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 CHES Replacement project team.

Future discussion will focus on the corporate action events and features to be covered in subsequent releases.

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 4A | |
|---|---|
| Topic | Minutes from 19 September 2019 Business Committee Meeting |
| Date | 27 November 2019 |
| Purpose of this paper | To provide Business Committee members with the minutes and Business Committee report to the ASX Boards from the 19 September 2019 meeting. |

OVERVIEW

Draft minutes and the draft report to the Boards of ASX Clear and ASX Settlement from the 19 September 2019 Business Committee meeting were emailed to all members of the Business Committee on 31 October 2019 for comment. The Secretariat received one comment from a member and a change to the initial draft circulated to members is marked-up.

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 19 September 2019 Meeting.

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

Business Committee Meeting

At its 19 September 2019 meeting, the Business Committee was updated on the:

- operating performance of CHES for the September Quarter 2019;
- CHES replacement, Corporate Action STP Phase 2, and CHES e-statement projects;
- ISO 20022 Technical Committee's progress in developing the new message standards; and
- two annual ASX reports required by the Regulatory Expectations: cash equity clearing settlement service developments in FY19; and the external audit of ASX's compliance with the Regulatory Expectations.

KEY ISSUES DISCUSSED

The Committee was updated on the progress of the Corporate Action STP project, in particular the changes that will come into effect in December 2020. There was discussion of upcoming engagement with issuers and other affected parties and issuer representatives stressed the importance of effective communication to clearly explain the changes and the testing environments.

There was also an update on the CHES e-statement project which is currently examining whether it is possible to put in place an interim solution in advance of the current proposal to have in place a long-term solution as part of CHES replacement. A decision on the feasibility of an interim solution will be made before the end of this calendar year. Two members expressed a view that CHES holding statements could be provided by multiple alternate providers in competition with ASX. ASX indicated that the settlement facility must retain responsibility for sending out holding statements in order to preserve the proper purpose of holding statements - being a confirmation directly from ASX that a holding balance change has occurred - and to avoid increasing the number of communications that would be received by investors through the disaggregation of multiple holding statements that are currently provided by ASX in a single communication. One member indicated that they disagreed with ASX's position.

Members were briefed on progress with the CHES replacement project including a high-level overview of the implementation and transition plan that ASX will be releasing shortly. They were provided with a timeline for three tranches of consultation on rule changes between November 2019 and May 2020, with a view to lodging a combined set of rule changes to regulators in June 2020.

Subsequent discussion focused on topics including the nature of how ASX has been consulting on solution design and uncertainty around the broad implications of CHES replacement for the future structure of the market.

A few members asked ASX to provide the Committee with additional information on:

- the nature of project risks ASX has identified and is working to mitigate; and
- ASX's overarching view of the ways CHES replacement will impact how the market works. ASX agreed to continue to work with the market to explore the possible use of distributed ledger technology - recognising that the innovation by users and third-party providers is not possible to accurately predict and would likely be the most significant driver of future innovation.

Members also raised concerns around the impact of a recent ASX Clear release on business continuity and disaster recovery requirements for clearing participants and the implementation of ASX's post-trade risk management system. ASX acknowledged the issues and indicated that it will be responding shortly.

Agreed Actions

ASX committed to a number of actions:

1. Communicate with issuers (e.g. Listed@ASX Compliance updates, roadshows) on the proposed changes to corporate action forms and processes in advance of the upcoming changes
2. Provide further information at the next meeting regarding how the market could use the optional DLT capabilities of the system to the benefit of themselves and their customers.
3. Provide a summary of the types of CHES replacement project risks it tracks at the next meeting.
4. Implement changes to Business Committee processes: ASX to include a request for agenda items in covering email and a more fulsome capturing of action items.
5. Invite AMOs to attend the next meeting of the Implementation and Transition Working Group.
6. Circulate to members copies of the annual Regulatory Expectations audit report and the Management Accounts for the CS facilities for FY19.
7. Organise a meeting with AMOs to discuss the two issues raised during the PWC audit to better understand the nature of the issues.
8. Respond to industry feedback around unclear definitions and the proposed 2 hour recovery time for participants following the release of ASX Clear Guidance Note 10: Business Continuity and Disaster Recovery.

Minutes from the meeting are attached.

DRAFT

Minutes

Business Committee Meeting

| | | | |
|-------------|-------------------|-------------|------------------|
| Date | 19 September 2019 | Time | 12:00pm – 2:00pm |
|-------------|-------------------|-------------|------------------|

| | |
|-----------------|---|
| Location | ASX Offices – Level 1, 20 Bridge Street, Sydney |
|-----------------|---|

1. Service Performance

- a) Cash Market Clearing and Settlement - Operating Performance
 - Outtakes from RBA RITS Outage - 30 August 2018

2. Service Enhancements

- a) Update on the Corporate Action STP Phase 2 project
- b) Digitisation of CHESSE statements (CHESSE e-Statements)

3. CHESSE Replacement Project

- a) CHESSE 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

- 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

- a) Minutes from the 18 July 2019 Business Committee Meeting
- b) Forward work program
- c) Other matters

6. Next Meeting - 27 November 2019

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 | Rob Brown |
| 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 Aust & NZ | |
| 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 | Geoffrey Plaisted | Chief Operating Officer, Equities | |
| Goldman Sachs | Yen Le | Executive Director | |
| GIA | Catherine Maxwell | General Manager, Policy & Advocacy | Megan Motto |
| HSBC | Nichole Alexander | Manager, Aust Market Advocacy & 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 | Chief Operating Officer | |
| 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 | |
| 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 | |
| Sally Palmer | Deputy General Counsel | |
| Katie McDermott | General Manager, Equity Post Trade Services | |
| Diane Lewis | Senior Manager, Regulatory and Public Policy | |
| Suzy Munro | General Manager, Post Trade Operations | |
| 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) | |

INTRODUCTION

The Chair welcomed members and delegates to the third meeting of the year

There were apologies from Greg Bowrey (NAB) and Rob Brown (ACSA) and six other members were represented by delegates: Matt McMahon (ABN-AMRO); Nichole Alexander (HSBC); Steve Hackers (JP Morgan); John Williams (NSX); Scott Hanlon (UBS); and Catherine Maxwell (GIA). Three members dialled in to the meeting: Peter Chisholm (Morgans); Winston Loke (Credit Suisse); and Rebecca Hill (Morgan Stanley). ASIC (Nathan Bourne, Dodie Green) attended the meeting as observers.

Members were updated on the action items from the July meeting which would be addressed during this meeting:

- There were two updates scheduled for this meeting on the ASX-RBA work conducted following last year's RITS outage (Agenda item 1) and the CHESSE e-statement project (Agenda item 2b).
- The Committee had requested, as part of the external audit of ASX's compliance with the Regulatory Expectations, that ASX pass through to PWC a number of requests (Agenda item 4).

AGENDA ITEM 1: SERVICE PERFORMANCE

ASX spoke to the performance report for the September quarter (up to end-August), noting:

- CHESSE availability was 100% for the period.
- Tuesday 6 August 2019 was a record trading day with around 3.5 million trades processed into the post trade facilities compared to a previous daily record of 1.7 million trades. Around 2.4 million were novated and netted down to around 20,000 scheduled settlements. This represented a netting ratio of 99.4% for trades and 65% by value (\$8.7bn netted down to \$2.9bn).
- Fail rates remained low in the quarter (0.2%) equivalent to 190 failures in an average batch of 95,000 settlements.

ASX updated members on the work it has been doing with the RBA following the RTGS system in August 2018 which had implications for both Austraclear and CHESSE.

As a consequence of the RBA outage ASX delayed CHESSE settlement until 4:00 pm on that day. While Austraclear was operational it wasn't possible to settle the cash leg of transactions until 6:00 pm that evening. On both the fixed income and equity platforms, the end of day was delayed until 8:00pm and normal operations were resumed the next day.

Since the RBA outage ASX has been engaged with the market and with the RBA to consider the appropriate operational responses in the event of a similar outage. In relation to equity settlements, the agreed principle is that the entire batch would be rescheduled to preserve DVP and there would be no attempt to separate the settlement of the securities and cash legs by deferring one or the other. A decision would be made by 5.00pm on the day of any payment system outage with a view to get through to end of day processing by 8:00 pm for participants.

With regards to Austraclear functionality, there is an ability to enter into an 'assured mode' operation during a payment system outage which cuts off any communication with the RBA but still enables settlements to progress and guarantee irrevocable settlement. During the past year there has been a lot of work done to ensure that this mechanism is comprehensively tested, including with the RBA. ASX has updated its procedures for the market as a cash provider or as a participant. There have been tabletop exercises with the RBA. Early next year, ASX will schedule an industry test with a small number of participants.

Members had no questions on the service performance report or the update on the work with the RBA.

AGENDA ITEM 2: SERVICE ENHANCEMENTS

a) Update on the Corporate Action STP Phase 2 project

ASX advised members that the project is progressing well with activities over the last two months focused on firming up the requirements and scope for the development and testing of the first release, scheduled for November to take effect on 1 December 2019. The first release is largely related to issuer enhancements and its features are set out in the meeting papers.

The first release will affect how all listed entities announce certain events and capital raising activities. During the next two months ASX will provide detailed information to listed entities about those changes (including access to the new and updated forms in the test environment), which will also be of relevance to consumers of market announcements (participants, registries and investors). Issuers currently have access to an ASX online training environment to give them a safe place to review those new forms ahead of their release. There will also be training and guidance material published and ASX will host a series of issuer roadshow presentations in the major capital cities in late October – early November.

A member suggested that it would be useful, given the impact the new forms would have on issuers, if this was communicated broadly by ASX through a channel like Listed@ASX Compliance updates. It was agreed that this made sense to complement the planned roadshows and advise firms about the training environment that will be set up during October/November.

ASX is also working on the ISO 20022 specifications (usage guidelines) for the existing and remaining corporate action events that are in scope for the project and these usage guidelines will be released during September and October for working group member review. The aim is to finalise this work by early 2020, ahead of the second release in Q2 2020. This will assist those customers that are interested in subscribing to that optional service to provide them with sufficient time for review and build any new interfaces. To date 11 updated usage guidelines have been published in the SWIFT MyStandards portal.

The third release is scheduled for Q3 2020. Consideration is also being given to an additional release in early 2020, to provide additional online forms to issuers as soon as possible.

The corporate action industry working group continues to meet regularly. Since the last Business Committee, there have been two meetings with the next one planned for late October. The working group includes issuers, AMOs, industry associations, share registries, participants, and vendors. The discussion with stakeholders has also covered how work being progressed in the corporate actions and CHES replacement projects complement each other and will be brought together. There have also been a number of CHES replacement focus group meetings on corporate actions to follow-up issues that have been identified.

In the general context of stakeholder engagement, a member asked why some CHES replacement focus groups which initially comprised all relevant stakeholders had been broken into separate, smaller meetings which involved only single stakeholder groups (e.g. registries, custodians, etc) as he thought it was not an effective process. In response, it was noted that there had been feedback from some working group participants that the larger groups were not necessarily able to progress work quickly given the wide range of levels of expertise and understanding around the table. In these cases, breaking the work down to smaller, specific groups and then pulling these inputs together to assist in designing the solution worked more effectively. Once the feedback from the smaller groups had been digested, and if it is consistent with the final solution design, these matters would normally will be brought back to the larger multi-stakeholder group to make sure the final solution fits together.

b) Digitisation of CHES statements (CHES e-Statements)

The Chair noted that it was timely to provide a high level update on the work that has commenced examining options to develop the capacity for the electronic distribution of CHES holding statements. He noted that this is a work in progress that should run to the end of this calendar year.

ASX informed members that it has been asked by a number of parties to investigate whether ASX can accelerate the process of moving to an e-statement option by establishing an interim solution prior to the Day 1 of CHES replacement. The paper presented at the meeting provided background on CHES holding statements including the

investor protection role they play for those investors with broker-sponsored holdings. The paper also outlined some of the solution options being examined and some of the implementation challenges (consent and privacy) that have been identified in discussions with clearing and settlement participants, in particular the most efficient ways to get investors' contact details and deal with the issues of duplicate or invalid email addresses.

The project is at the stage of gathering information and feedback from specific participants in the system. A working group of various stakeholders is being convened to assist in fleshing out the solution options. The working group comprises representatives from the relevant industry associations, issuers and brokers. An update will be provided at the conclusion of the group's work on identifying a viable e-statement solution and whether it can be implemented prior to CHES replacement.

A member expressed the view that cost savings could be achieved more quickly if dispatch of CHES holding statements was a contestable service. He indicated that they have received legal advice that this is permissible and there were a number of other providers who may be willing to provide that service. ASX has previously rejected this analysis and he asked ASX to revisit the approach it is taking.

In response, it was explained that the purpose of the CHES holding statement (i.e. investor protection) would be lost if it was provided by anyone other than the settlement facility. ASX also explained that the CHES Subregister allows for aggregation of holdings under a HIN across different issuers. This includes for notifications on those holdings by the settlement facility which would be disaggregated and would mean investors receiving multiple communications from different providers. ASX restated that it respectfully disagreed with their legal advice, and will retain its current role in distributing the statements.

ASX also indicated that, given the request by issuers to accelerate the process of implementing e-statements, it was working through the issues with the market as quickly as possible. It was explained that the challenge is not in identifying a technical solution, but rather it is a practical matter of gaining access to email addresses from participants. This is not straightforward, recognising data privacy issues and the fact that those who hold addresses may not receive any benefit from the costs they would incur from gaining permission from customers and connecting their internal systems holding email addresses to CHES (which is estimated to be at least 40 per cent of brokers).

A member noted that brokers hold email addresses and they questioned the commercial case for connecting to the existing CHES systems in advance of the broader CHES replacement solution.

Another member asked if retail investors would be able to opt out of any CHES e-statement solution given some still prefer paper statements. In response, it was confirmed that any solution would need to cater for those investors.

Another member noted that issuers were not only looking for direct cost savings from the move to e-statements but were also anticipating they would benefit from synergies the solution would facilitate for the distribution of other investor communications. However, it was noted these other synergies do not seem to be included in the proposed working group. ASX confirmed these issues are not proposed to be addressed by the working group on the distribution of e-statements as these investor communications are from the issuer and not the settlement facility, but acknowledged that this is also an efficiency that issuers are seeking a solution for.

The Chair summed up the discussion, noting that while there are some different views, ASX is working hard to respond to what issuers have asked for in terms of a faster move to electronic statements while retaining the proper function and aggregation of multiple securities within a single HIN. The Business Committee will be updated on this piece of work as it progresses.

AGENDA ITEM 3: CHES REPLACEMENT PROJECT

a) CHES Replacement

ASX noted that the work to replace CHES is tracking to schedule:

- Three tranches of code have been dropped into the CDE with the next tranche due by end October. ASX has updated the forward release schedule to include the functionality in the final two software drops ending in May 2020.

- All key vendors, as well as firms building proprietary systems, are active in the CDE. Share registries are also able to access the CDE, and from the next release (CDE 4) AMOs can also connect.
- ASX and Digital Asset have joined forces with VMware to provide the DLT infrastructure which will underpin the CHES replacement system. VMware is a global provider of server virtualisation and cloud computing and an existing supplier to ASX. This does not impact on the (separate) application work or the planned CHES go-live date.
- The first of three tranches of rules covering the day one business requirements and any re-engineering of existing CHES functionality will shortly be provided to regulators before being released for public consultation in mid-November. The timing of consultation, response, and submission to ASIC of all three tranches was presented. It was explained that rule amendments have been divided into three tranches to allow for earlier and more digestible consultation. Consultation for each tranche will run for six weeks, except for the one that spans the Christmas period which will be for nine weeks. The rule amendment regulatory clearance processes will be completed by October 2020.
- Stakeholder engagement continues with the connectivity and integration working group focusing on AMQP infrastructure and design patterns as well as updates on the CDE and associated testing tools. A number of specific working groups have also been held on a more frequent basis covering corporate actions, RTGS and payment solutions, connectivity options, the CDE and the provision of technical documentation.

Members were also provided with an advance briefing on the high level timeline for industry transition and cutover that will be presented to an upcoming implementation and transition working group meeting towards the end of October.

A member, noting the wide-range of risks associated with a project the size of CHES replacement, asked whether ASX would share its risk register (or a cut down version) with the Business Committee, so it could understand the overall risk picture and individual risks such as how the risk of one participant not being ready for Day 1 would be mitigated?

ASX explained that its experience in managing the specific risks from previous system transitions, for example the shortening of the settlement cycle to T+2 and the change in the futures trading system is helpful in ensuring appropriate risk management. ASX indicated that it does have a project risk register that is mapped to the deliverables of the project including participant readiness, and this register is shared in its entirety with regulators. While ASX will not share this publicly, particularly given the nature of some of those risks (e.g. security), ASX will provide a summary of the types of risks it tracks at the next Business Committee meeting.

A member asked whether AMOs would be invited to attend the next implementation and transition working group, particularly given their direct interest in the discussion of IWT. He also asked about the mechanism for ASX Trade and other AMOs to connect to the new system and whether ASX Trade has had any visibility on the specific capability of the IWT environment or the upcoming CDE release. ASX confirmed AMOs would be invited to participate in the next meeting and a meeting for market operators will be held in October to discuss connectivity.

Several members asked what the market might look like after CHES replacement and under different assumptions of the take-up of the DLT connectivity option. ASX reminded members that clearing and settlement services will be available much as they are today, without any increase in transaction fees, including via connectivity options using ISO20022 messaging. ASX also agreed to provide further information at the next meeting regarding how the market could use the optional DLT capabilities of the system to the benefit of themselves and their customers.

A member asked about the 28 users that have applied/connected to the CDE and what proportion of users this represents. ASX responded that it has been encouraged by the speed with which people came into the CDE and all the key vendors are in there. Taking into account the number of participants using the services of third-party vendors the current connections to the CDE would represent more than 85% of all current users.

Another member noted that the recent letter from ASX on the cost of node access had been confusing for issuers who are not clear on whether or not they would need, or want, to take a node and ASX should communicate more with issuers to explain the costs and benefits of node access. ASX acknowledged that more needs to be done in this area and has meetings planned with issuers over the coming weeks.

b) ISO 20022 Technical Committee Report and Minutes

ASX provided a brief update on the ISO 20022 Technical Committee which has been progressing its work. There have been two meetings since the last Business Committee meeting which discussed topics including takeovers, collateral, and transfers. The action items produced are a good barometer of the Committee's progress. There has been 91 items opened during the life of the Committee and there are currently only 3 actions still open.

A table included in the meeting papers tracks the Committee's progress in reworking the suite of CHES messages into ISO 20022 messages. At the end of September 2019 about 48 per cent of messages have been completed. The target is to complete the remaining 52 per cent by the end of January - early February 2020.

There were no questions from members on the Technical Committee report.

AGENDA ITEM 4: REGULATORY EXPECTATIONS

a) Annual Cash Equities Clearing and Settlement Reports

ASX is required, on an annual basis, to produce two reports: a report on developments in clearing and settlements services; and an audit report in relation to ASX's compliance with the Regulatory Expectations.

The annual service report noted that the focus on CHES replacement over FY19 has meant there have been limited resources available for other service developments. Despite this, there have been a few service enhancements over the past year. These have included rule changes to support operational efficiencies for participants and other stakeholders, including measures identified during the CHES replacement process but implemented separately (e.g. changes to transfers to the CHES sub-register).

There were no questions on the annual service development report.

ASX advised members that PWC have completed their audit report on ASX's compliance with the Regulatory Expectations and that will it be provided to the Committee after it has been presented to the clearing and settlement boards and regulators. The report opined that ASX complied in all material respects with the regulatory expectations as represented in the compliance framework.

PwC provided feedback that, from their perspective, the new interview-based process with Business Committee members went really well compared to the previous survey-based process. They received richer feedback from those who were interviewed to enable them to form their audit opinion.

Following the discussion of the audit process at the last Business Committee meeting ASX agreed to request that PWC:

- Consider inviting members to self-nominate to participate in the interviews. ASX understands that three members asked to participate in the process and were interviewed.
- Provide the questions ahead of the interviews. This was done.
- Provide more colour in the audit report. PWC provided ASX with some additional feedback on the matters raised during the interviews, this is set out in the Business Committee paper. This included:
 - Two recommendations related to the Business Committee processes (draft agendas and action items). ASX has agreed to implement both enhancements. A third recommendation suggested additional transparency to AMOs around pricing. ASX will reach out to AMOs to better understand what that particular issue is.
 - PWC provided other feedback received during the interviews but did not directly related to the audit process. This is set out in the paper as well as ASX's response.

Members had no questions on the audit report.

The Chair invited any members, if they had any other feedback to provide, particularly around Business Committee processes, or wanted to discuss the issues identified in the paper to approach the Chair or the Secretariat to arrange a meeting.

AGENDA ITEM 5: ADMINISTRATION

a) Minutes from the 18 July 2019 Business Committee Meeting

The minutes of the 18 July 2019 meeting were approved without further change.

b) Forward work program

The draft forward work plan for the Business Committee was included in the meeting pack. The last meeting for the year is on 27 November commencing at 4:00 pm. Members were asked to pass through any suggested agenda items for future meetings to the Chair or Secretariat.

c) Other matters

A member raised a concern relating to a recently released ASX Clear guidance note on disaster recovery and business continuity requirements for clearing participants. While a consultation had occurred prior to release of the guidance there was still considerable confusion about ASX's expectations. Attempts to seek clarification from ASX has created more uncertainty around a number of key definitions and there is a concern this will lead to divergent approaches by different firms. In addition, the new requirement for organisations to be able to recover their systems within two hours (currently four hours) would require a significant investment by firms, particularly firms operating global systems. There needs to be additional engagement, perhaps through industry associations, to clear up what the guidance is trying to get to and whether or not firms can actually achieve it.

Another member noted they had received similar feedback from a number of firms on the difficulties the two hour recovery time would cause firms.

ASX took that feedback on board and agreed to come back with a response. It was noted that ASX was trying to accommodate the feedback received about the desire to align ASX's requirements with those applying to users of the RBA's RITS. With regards to concerns about the ability to meet the two hour recovery time, ASX had provided a three-year transition period.

A member asked if ASX would be reviewing the process about how it implements system changes in the context of the recent problems surrounding the changes to the post-trade risk management (PTRM) system. He indicated that this experience highlighted that ASX should be more proactive in engaging with participants in advance of implementation to better understand the consequences for firms and their customers and to enable ASX to respond to any issues in a timely manner.

In response to that experience ASX has been undertaking work to understand how participants are using the PTRM system and some unforeseen consequences that have emerged. An internal ASX committee is currently looking at how to resolve those issues. ASX will include discussion of a longer term solution in an upcoming consultation paper. ASX acknowledged communication on this matter could have been better and those learnings will be used to improve processes in the future.

A member asked when the Management Accounts for ASX Clear and ASX Settlement will be released. It was noted that they would be published in the coming week.

Next meeting

The next meeting is scheduled on 27 November 2019.

The meeting closed at 2.00pm.

Signed as a correct record of the meeting.

Chair

Date

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 4B | |
|---|--|
| Topic | Forward Work Program |
| Date | 27 November 2019 |
| Purpose of this paper | To update Members on the forward work program of the Business Committee for 2020. |

OVERVIEW

It is proposed to have a total of four meetings of the Business Committee over the course of 2020. The proposed Business Committee dates are:

- Wednesday, 1 April 2020;
- Wednesday, 1 July 2020;
- Wednesday, 23 September 2020; and
- Thursday, 19 November 2020.

Subject to any input from members who wish to suggest additional items, the forward work program of the Business Committee in 2020 will be predominately focused on CHES replacement: technology development, business requirements, and implementation processes.

A second major stream of work will be Corporate Action STP Phase 2. The working group drawing on a range of stakeholders is expected to run until September 2020.

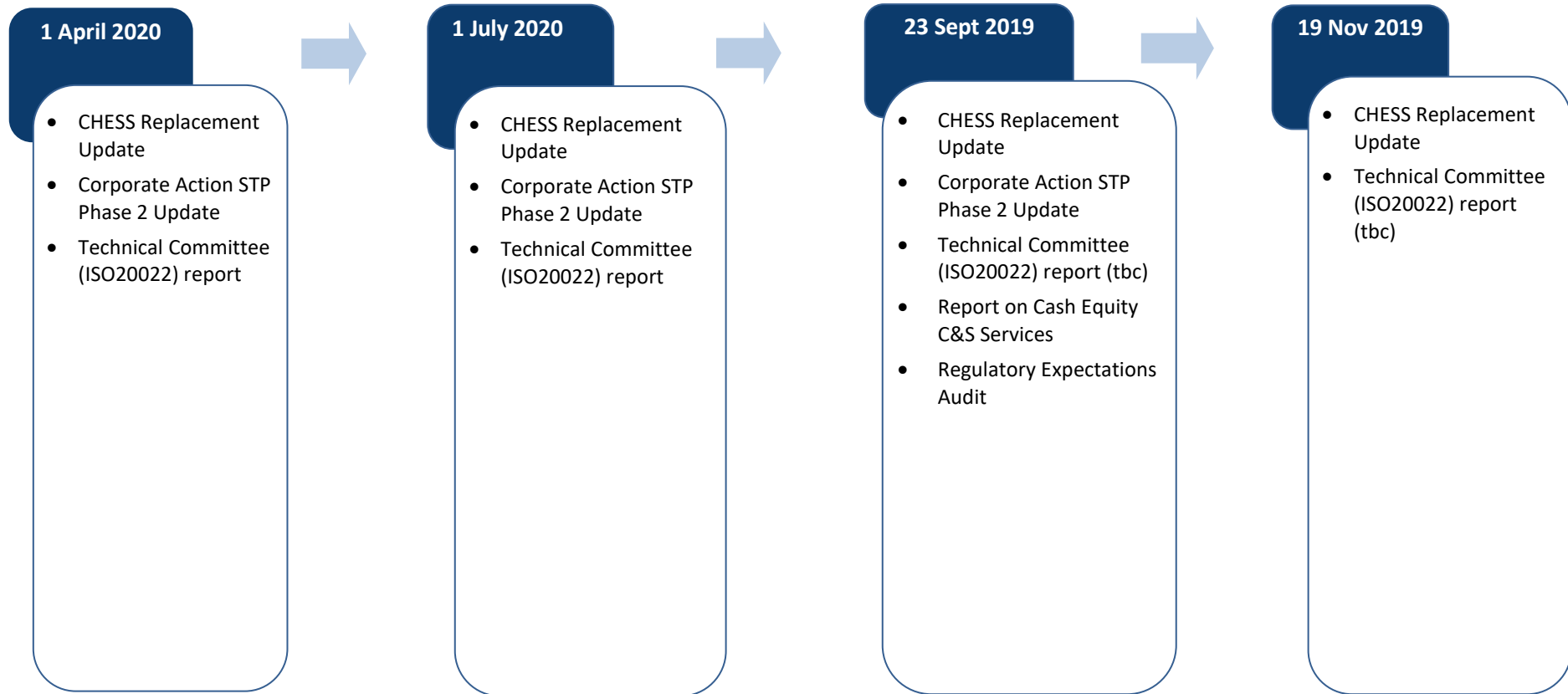
Members of the Business Committee are invited to suggest topics for inclusion in the forward work program at any time by contacting the Business Committee Secretariat.

Meetings of the ISO 20022 Technical Committee will continue into 2020. Further information regarding the expected number of meetings, confirmed dates and agendas for each meeting will be provided as they become available.

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.