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Context of this Document

The ASX Settlement Procedure Guidelines must be read in the context of the ASX Settlement Operating Rules.

Any terms explicitly defined in the ASX Settlement Operating Rules and used in the ASX Settlement Procedure Guidelines should be interpreted according to the definition given in ASX Settlement Operating Rules. This includes terms such as participant, registry, holder, issuer, subregister, and financial product. Because of the large number of these terms, they have not been capitalised for emphasis in this document.

In the interests of readability and comprehension, where a procedure applies only in the context of securities in a listed company, the specific term security has been used instead of the more generic term financial product.

Change History

Version	Date	Description of changes
1.0	May 2005	Initial version of a merged guideline document incorporating details from both the PPG and IRPG
1.3	July 2007	Cross reference to Section 2.2.2.3 updated to Section 2.1.9.
1.4	Dec 2008	Reference to SEATS updated to ITS.
1.5	Mar 2009	Addition of Section 9.1.12 Automatic Close-Out Requirement.
1.6	Aug 2009	Addition of Section 9.3 Settlement Cut-Off and update to Section 9.1.12 Automatic Close-Out Requirement as per CHESS Release 7.0.
1.7	Dec 2010	Updates to include name changes within ASX Group and ASX Operating Rule books. Reference to ITS removed.
1.8	Mar 2012	Introduction of references to the ASX Managed Fund Service. Updates to information regarding Approved Market Operators.
2.2	May 2013	Update to include Cash Market Margining in sections 9.1.5 and 9.1.11
2.3	Aug 2013	Updates to sections 9.1.5, 9.1.8, 9.1.11, 9.1.13 and 9.4.2 regarding settlement, default and multiple PIDs . Addition of Sections 9.4.3 Managing a Defaulting Participant and 9.4.4 The Back Out Algorithm.
2.9	May 2015	Updates to information regarding Single Entry Transfers and Client Account Segregation (section 9.2.1)
3.1	Jan 2016	ASXOnline document merge.

Version	Date	Description of changes
3.2	Mar 2016	T+2 implementation and change in references from C&S Operations to Post Trade Operations

SECTION 9. SETTLEMENT

9.1 SETTLEMENT PRINCIPLES

Settlement of transactions in approved financial products can be effected in the following ways:

- through a daily batch settlement process on either a DvP basis for or a free of payment (FOP) basis; or
- demand transfers of financial products with funds transfer outside CHESS
- through daily batch payment only transactions associated with ASX Managed Fund Service transactions

Refer to section 10 of the ASX Settlement Operating Rules for batch instructions included in batch settlement.

Refer also to Section 7, market trade processing.

Refer to Section 28 for information regarding settlement of ASX Managed Fund Service transactions.

9.1.1 Delivery versus Payment (DvP) Settlement

CHESS DvP settlement facilitates the transfer of legal ownership of financial products and exchange of funds for payment on an irrevocable basis.

DvP is supported by two main principles:

- CHESS has direct control (as an agent of the issuing companies) over the legal ownership of a company's financial products; and
- CHESS can effect the irrevocable transfer of a participant's funds through the banking system.

Settlement occurs in CHESS when CHESS effects movements of financial products between holdings controlled by participants on the subregister. CHESS instructs the payment providers through an electronic interface to effect payment. CHESS effects DvP settlement by posting movements to the financial system (RITS) and net movements to a participant's holdings on the CHESS subregister. Funds movements may be at an aggregated level or specific to a HIN dependent upon the payment arrangements between the participant and their payment provider. CHESS maintains records of the individual transactions underlying the net settlement.

A principle of CHESS DvP settlement for on market transactions is that the market participant bears the capital risk for a financial failure of a non-market participant settlement counterparty. If either a market participant or a non-market participant is unable to meet a settlement payment obligation in any settlement cycle, ASXS backs out that participant's purchase transactions to reach a point where DvP settlement can proceed. The backing out process for a non-market participant transfers the funding burden to those participants having transactions due to settle with the non-market participant. In the event of a market participant failure, a call may be made on the National Guarantee Fund (NGF).

9.1.2 Free of Payment (FOP) Delivery

In addition to providing DvP settlement facilities, CHESS allows for free of payment (FOP) delivery between participants through a dual entry transfer process. Payment for such transfers is effected outside CHESS. FOP deliveries may be scheduled together with DvP financial products obligations to be effected through net financial products movements at the time of settlement. Alternatively, FOP deliveries may be effected by dual entry demand transfers (i.e. the delivery occurs after transfer notifications by the counterparties have been matched).

9.1.3 Settlement of Market Trades

Trades in approved financial products are routed electronically to CHESS for DvP settlement for value according to the fixed settlement period.

For other value transactions, both parties to the settlement instruct CHESS, giving details of the transaction

9.1.4 Settlement of Off Market Transactions

CHESS allows for FOP delivery of off market transactions through a dual entry transfer process (refer to Section 8.1.2). FOP transfers in the settlement process are performed within the net movement of financial products.

Full DvP settlement of off market transactions between participants is not a function of CHESS other than for the following situations:

- Non market participants settling off market transactions with other non-market participants by DvP where the sole purpose of the transaction is to on-deliver an on market transaction involving a market participant;
- Other classes of transactions between market participants and non-market participants, such as "allocation interests" for a primary market facility (PMF), as allowed by the ASX Settlement Operating Rules.

Exchange of the consideration attached to other types of off market transaction is performed outside CHESS.

Off market transactions can also be performed by demand transfer. Demand transfer does not involve net settlement of financial products. Demand transfers can be used to deposit to a participant's settlement HIN to meet delivery commitments or withdraw financial products acquired through a purchase from a participant's settlement HIN as a result of settlement.

Participants use the Transaction Basis field on the settlement notification instructions and demand transfer request messages to designate whether the movement is on market or off market. This differentiation is necessary to determine:

- which warranties and indemnities attach to the transfer under the *Corporations Act* and under the ASX Settlement Operating Rules, and
- National Guarantee Fund protection.

9.1.5 Settlement Timetable

The timetable for each stage of the CHESS settlement cycle appears in the CHESS Overview (refer to Section 2.).

Transactions for DvP settlement must be notified to CHESS and matched with a counterparty's instruction by settlement cut-off on the settlement day.

Transactions for FOP settlement processing must be notified to CHESS and matched by settlement cut-off on settlement date.

Transactions for ASX Managed Fund Service processing must be notified to CHESS by fund request cut-off and matched by the Product Issuer Settlement Participant by settlement cut-off. Refer to Section 28 for further information on ASX Managed Fund Service.

Cash Market Margin Obligations must be matched and settled by Austraclear cut-off. Refer to Section 30 for further information on Cash Market Margining.

Preparation of CHESS holdings, (i.e. movement of financial products to a settlement HIN) must be completed by settlement cut-off on settlement date.

If a participant has a short position, the CHESS settlement process partially settles the transactions, and then reschedules the transaction for the next settlement cycle to fully settle them.

Funds for settlement are provided by a payment provider on the participant's behalf. CHESS seeks authorisation for the funds transfer from each participant's provider. The payment providers authorise release of funds for net payers within the terms of their arrangements with clients, notify CHESS, and hold the committed funds for payment processing.

If any payments are refused, CHESS reschedules purchasing net obligations or matched DvP settlement transactions to a point where settlement can proceed, and then re-nets the obligations. Refer to sections 9.4.3 Managing a Defaulting Participant and 9.4.4 The Back-out Algorithm.

Once it is satisfied that settlement can be effected, CHESS instructs the payment providers to:

- credit cleared funds to the participants who are expected to receive funds; and
- debit funds from those participants who must provide funds.

The credits and debits are irrevocable. CHESS effects the net financial products movements on CHESS holdings.

9.1.6 Preparing for Settlement using an Entrepot

Participants prepare for settlement by notifying CHESS of their settlement obligations and making arrangements to settle those obligations. Participants in CHESS must ensure their obligations can be met. Settlement HINs must be adequately provisioned and financial settlement arrangements with their payment provider must cover any net payment for settlement each day.

For financial products, this is achieved by maintaining all holdings of approved financial products on the CHESS subregisters. Where it is not practical for a participant to hold all financial products in CHESS, that participant must control the conversion of issuer sponsored holdings to CHESS in advance to meet settlement.

Market participants may use a CHESS settlement entrepot to effect settlement of their market transactions. Participant may settle using a settlement HIN or directly from individual holdings under their control. Each participant may determine their own requirements for settlement within the DvP process. A participant may choose to have a separate payment facility for each settlement HIN, a single common funds arrangement for all holdings, or a combination of these arrangements.

Participants establish sufficient financial product cover in settlement HINs by processing transfers to effect deliveries from retail (non participant) clients and through arranging financial product loans from other participants as necessary. Transfers for borrowings may be effected on either a free of payment basis or a DvP basis in CHESS.

9.1.7 Delivering Financial Products Subject to Foreign Ownership Restrictions

For information about delivering financial products subject to foreign ownership restrictions and priority allocation of those financial products (refer to Section 8.1.6).

9.1.8 Settlement Facilities with a Payment Provider

Participants are required to establish settlement facilities with a payment provider for use in CHESS settlement.

A participant is solely responsible for arranging appropriate settlement arrangements and contingency arrangements for short-term excess funding requirements with its payment provider. The ASX Settlement Operating Rules set out minimum requirements in relation to financial settlement arrangements. For participants managing multiple PIDs refer to section 9.4.4.2 Potential Increased Net Payment for a Participant with Multiple PIDs.

The funds availability time is when payment providers account for settlement funds with their Participant clients. If a participant is due to receive funds from settlement then at this time the provider acts on the participant's instructions for the subsequent disbursement of the funds. Participants can consider this time to occur 30 minutes after receipt of the effected net funds movement message.

9.1.9 Accepting Part Settlement

Refer to Section 8.6.5.

9.1.10 Reporting to Participants

CHESS aggregates a participant's funds and financial products for settlement purposes. Only one movement in each case is shown against the participant's funds account and individual financial product holdings. CHESS maintains records of the transactions underlying the aggregated settlement.

A participant can make a request to CHESS for an obligation report, which details the participant's future settlement requirements. CHESS automatically provides participants with exception reporting of projected short positions, predicted part failure, and failed and partly failed obligations.

9.1.11 Failure to Meet Settlement and Cash Market Margin Obligations

Failure by a participant to meet their financial product delivery obligations results in a fail penalty on any shortfall.

Failure by a participant to meet funds or Cash Market Margin obligations may lead to suspension from participation in CHESS.

In the event that a participant's payment provider declines to authorise a payment obligation, CHESS backs out purchase transactions for that payment facility for that settlement cycle in order to achieve a nil payment. Impacted transactions are rescheduled to the following settlement cycle to be managed. CHESS then notifies payment providers of amended payment/receipt notifications. Refer to sections 9.4.3 Managing a Defaulting Participant and 9.4.4 The Back-out Algorithm.

9.1.12 Automatic Close-Out Requirement

ASXS imposes a close-out requirement on Settlement Participants to close-out source settlement shortfalls that remain after batch settlement two business days after the initial scheduled settlement day (generally T+4). This does not apply to ASX Managed Fund Service transactions. Refer to Section 28.5.3.

The close-out requirement imposes an obligation on Settlement Participants to purchase or borrow shares required to complete the failing source settlement.

The close-out requirement is not imposed on those Settlement Participants whose obligation to deliver Financial Products failed as a result of other Settlement Participants failing to deliver Financial Products to them during the Batch Settlement process.

ASXS will enforce the close-out requirement by referring any outstanding source settlement position that has not been resolved by completion of batch settlement on T+8 to ASX Markets Supervision for investigation and possible referral to the Disciplinary Tribunal.

Procedure

9.1.12.1 CHESS identifies a source short position in Batch Settlement that has failed twice.

9.1.12.2 CHESS notifies the Settlement Participant of the need to close-out a source settlement shortfall after the completion of Batch Settlement.

9.1.12.3 The Settlement Participant takes appropriate action to close-out the settlement shortfall.

9.1.12.4 ASXS will refer unresolved source shortfalls to ASX Compliance post completion of batch settlement T+8 (i.e. based on T+2 settlement regime).

Message Reference Table

Section	Message Number and Description	Sender	Recipient
9.1.12.2	554 Close Out Notification	CHESS	Participant

9.1.13 Participant Suspension and Payment Provider Suspension

ASXS may, at its discretion, suspend a participant from DvP settlement. The suspension is effective for all settlements after the next settlement cut-off.

ASXS may also suspend a participant’s payment provider from settlement if the provider becomes insolvent or can no longer perform their contractual obligations. The suspension is effective for all settlements after the next settlement cut-off.

When a participant’s payment provider is suspended, that provider’s participant clients must change their payment facilities to another payment provider operating in CHESS. Until the change is undertaken, these participants cannot take part in DvP settlement.

Participants with financial obligations but without suitable payment facilities face suspension from participation in CHESS.

The CHESS settlement process reschedules value (DvP) settlement instructions associated with either suspended payment facilities or suspended participants. Refer to sections 9.4.3 Managing a Defaulting Participant and 9.4.4 The Back-out Algorithm.

9.2 COMMITMENT TO THE SETTLEMENT PROCESS

Commitment is the first step in the daily settlement cycle. The commitment process commences at End of Day on the business day preceding settlement.

CHESS selects transactions eligible for settlement in the settlement cycle for each participant. Eligible transactions include:

- DvP settlement notifications with a settlement date corresponding to the next settlement cycle;
- DvP settlement notifications that have completely failed a previous settlement or the residual of partially failed settlements;
- settlement dual entry transfers of financial products between participants and single entry settlement transfers notified by a participant;
- ASX Managed Fund Service settlements with a settlement date corresponding to the next settlement cycle (refer to section 28);
- Trade obligations - for market participants only (refer to Section 7); and
- Net obligations for market participants only (refer to Section 7).

CHESS calculates the amount of each participant's obligations for funds and financial products required to fulfil all the selected transactions for the next settlement cycle.

A participant may request that CHESS supplies an obligation report. The obligation report covers the instructions given to CHESS to effect either DvP settlement or FOP transactions and projected positions for funds, projected balances on holdings used in settlement and projected balances of cum entitlements where the underlying financial product is in an ex-period.

An obligation report may assist participants in preparing their holdings for settlement and in renegotiating settlement limits with their payment provider if required. This helps to ensure authorisation and settlement to take place on the following working day.

A participant's funds obligation is not frozen after the commitment process commences at end of day on the business day preceding settlement. Any DvP settlement transactions matched before settlement cut-off on settlement day will alter the participant's funds obligations. The application of settlement failures may subsequently change the participant's net funds obligations after settlement cut-off on settlement day.

CHESS notifies a participant's payment providers with the participant's projected net funding obligations (but not dealings); this allows the payment provider to anticipate the participant's likely net funding needs. The net payment obligation represents only an estimate for the payment provider. This figure can be adjusted by transactions matched prior to settlement cut-off on the settlement day and failures in the settlement process.

The participant should avoid short positions on funds and on any holdings or cum entitlement balances needed to meet settlement. CHESS automatically provides exception reporting to participants for projected short positions for either financial products, funds, or cum entitlement balances by the start of day on the settlement date.

The participant should respond to exception reports and cover any short positions before the settlement cut-off on settlement date (refer to Section 9.2.3). Procedures for entry of settlement transactions are described in Section 8.

9.2.1 Settlement Obligations – Units

This section covers the commitment to settle units in financial products.

Procedure

9.2.1.1 CHESS identifies all settlements for each holding due to settle in the next settlement cycle. Demand transfer transactions are not included in this process.

9.2.1.2 The participant may send a report request to CHESS for their obligations in the next settlement cycle. Alternatively, a participant can set up a standing instruction for CHESS to report these details at the end of day.

Instead of CHESS supplying this information, a participant may rely on reporting from its internal system to determine its obligations.

9.2.1.3 If requested, CHESS notifies the participant of their obligations.

9.2.1.4 The participant reviews their obligations reporting.

If the obligation information was supplied by CHESS, the participant reconciles their transactions and projected positions to be settled with CHESS.

9.2.1.5 If the participant uses a settlement HIN, they either move units to the settlement HIN with demand transfers or schedule the transfer of units to the settlement HIN as part of the settlement process.

9.2.1.6 The participant's final obligations depend on the result of the authorisation process (refer to Section 9.3).

Message Reference Table

Section	Message Number and Description		Sender	Recipient
9.2.1.2	503	Reporting Request	Participant	CHESS
9.2.1.3	164	Notified Trade	CHESS	Participant
9.2.1.3	134	Scheduled Net Obligation	CHESS	Participant
9.2.1.3	166	Scheduled Dual Entry Settlement Instruction	CHESS	Participant
9.2.1.3	106	Scheduled Single Entry Settlement CHESS to CHESS Transfer Request	CHESS	Participant

Section	Message Number and Description		Sender	Recipient
9.2.1.3	148	Projected Cum Entitlement Position	CHESS	Participant
9.2.1.3	150	Projected Funds Obligation	CHESS	Participant
9.2.1.3	152	Projected Holding Position	CHESS	Participant
9.2.1.5	001	Demand Single Entry CHESS to CHESS Transfer Request	Participant	CHESS
9.2.1.5	105	Single Entry Settlement CHESS to CHESS Transfer Request	Participant	CHESS
9.2.1.5	107	Scheduled Settlement CHESS to CHESS Transfer Request	Participant	CHESS

9.2.2 Settlement Obligations – Funds

This section covers the commitment to settle funds.

Procedure

9.2.2.1 If a participant receives settlement obligation reports from CHESS (refer to Section 9.2.1), those reports also identify the funds obligations.

Alternatively, if a participant continually updates its records on receipt of status change messages from CHESS (e.g. scheduled settlement instructions), the participant may choose to rely on obligation reporting from its internal system.

9.2.2.2 The participant makes arrangements to fund the funds obligation with their payment provider for settlement day.

9.2.2.3 At end of day, CHESS provides the participant's payment provider with the participant's expected funds obligations for the next settlement cycle.

This notification provides only an indication of the net funds obligation at the commitment point in the settlement cycle. The final obligation may be affected by failed transactions and any additional DvP settlement transactions matched prior to settlement cut-off on settlement day.

The participant's final funds obligations depend on the result of the authorisation process.

9.2.2.4 It is a matter between the participant and payment provider to arrange cover for a funds obligation. CHESS is not involved in this process.

Message Reference Table

Section	Message Number and Description	Sender	Recipient
9.2.2.1	503 Reporting Request	Participant	CHESS
9.2.2.1	148 Projected Cum Entitlement Position	CHESS	Participant
9.2.2.1	150 Projected Funds Obligation	CHESS	Participant
9.2.2.1	152 Projected Holding Position	CHESS	Participant

9.2.3 Short Positions

CHESS notifies participants if there are projected short positions that require covering by the start of day on settlement day. The projected short positions may cover financial products, cum entitlements or funds.

Alternatively, the participant can rely on reporting from their own internal systems

If the Participant cannot cover a short position, the CHESS authorisation process both fails the affected transactions and reschedules them for the next settlement cycle or part-settles the affected transactions.

The ability of CHESS to part-settle a particular transaction depends on how the participant and their counterparty have instructed CHESS. When CHESS part-settles a transaction, the portion of the obligation that settles is recorded with a new transaction ID, while the outstanding portion of the obligation keeps the original transaction ID. The settled portion has a reference back to the original transaction ID.

If there are insufficient funds made available to satisfy a participant's funds obligations then the shortfall is covered, for that day, by failing transactions (refer to Section 9.1.1).

CHESS attempts to reschedule settlement instructions so that the optimum number of units settles with the minimum adverse impact on other participants when a short position causes a settlement failure.

Penalties are imposed on participants who fail to meet their net obligations (refer to Section 18.2.)

Procedures for settlement instruction entry are described in Section 8.4.

PROCEDURE

9.2.3.1 By start of day, CHESS notifies participants of all short projected funds obligations, short cum entitlement positions, and short financial products positions.

9.2.3.2 The participant reviews the short positions reported by CHESS.

9.2.3.3 The participant makes arrangements to fund short cash positions.

9.2.3.4 The participant makes arrangements to cover short financial products positions before settlement commences.

Message Reference Table

Section	Message Number and Description	Sender	Recipient
9.2.3.1	148 Projected Cum Entitlement Position	CHESS	Participant
9.2.3.1	150 Projected Funds Obligation	CHESS	Participant
9.2.3.1	152 Projected Holding Position	CHESS	Participant

9.3 SETTLEMENT CUT-OFF

Settlement cut-off is the time by which settlement instructions must be to be submitted and matched in CHESS for them to be included in the current settlement cycle.

9.3.1 Extension to Settlement Cut-off

In the event that settlement cut-off is extended CHESS will generate a notice to Settlement Participants to advise of extended Settlement cut-off time. Notice will be sent on Settlement date and more than one notice can be generated. It is possible that the extended cut-off time not be known at the time of CHESS sending the notification, in this event a value of 'Settlement Cut-Off extension to be advised' will be sent and Settlement Participants will be advised of further updates via broadcast email communications from Post Trade Operations.

PROCEDURE

9.3.1 On settlement date, CHESS notifies the Settlement Participant of the change to Settlement Cut-off.

9.3.2 Upon receipt of notification Settlement Participants can continue settlement preparation up until this time.

Message Reference Table

Section	Message Number and Description	Sender	Recipient
9.3.1	542 CHESS Event Notification	CHESS	Participant

9.4 AUTHORISATION

9.4.1 The Authorisation Process

ASXS initiates the authorisation process on settlement day after settlement cut-off. CHESS does not interact with the participant during the authorisation process.

For authorisation to be successful, CHESS verifies that, for each participant:

- net funds obligations for each payment facility are covered by the participant's financial arrangements;
- net financial product positions are covered by the participant's holdings; and
- net cum entitlement positions are covered by the participant's cum entitlement balances.

If these criteria are satisfied for all participants, eligible transactions are authorised to proceed to final settlement.

For funds obligations, CHESS directly requests the participants' payment provider to authorise the payment required from each payment facility. The response from the payment provider to this request indicates if funds are available and allows the authorisation function to determine the success or otherwise of payment settlement for that participant. If the funds obligation exceeds the standing arrangements with the Payment Provider, the Participant has from end of day on the business day prior to the settlement day until funds authorisation to negotiate the payment approval with its payment provider. CHESS is not involved with the participant's negotiations with its Provider, nor does it prompt the need for negotiation. Fund obligations that cannot be satisfied will be covered by part settling or rescheduling transactions for later settlement (refer to Section 9.1.1).

CHESS determines the availability of financial products that are to be delivered within CHESS by monitoring the holdings on a participant's settlement HINs and a participant's cum entitlement balances.

If the financial product or funds obligation is not satisfied, CHESS selects transactions to part-settle or fail, then reschedules these transactions for the next settlement cycle (refer to Section 9.3.2).

When CHESS has selected sufficient transactions for rescheduling and all remaining funds and financial product positions can be met, the remaining eligible transactions are authorised to proceed to final settlement.

CHESS does not permit participants to modify their holdings on the subregister in any way during the authorisation process. CHESS does not process demand transfers during these periods: instead it queues them for processing after settlement.

The settlement process reschedules value (DvP) settlement instructions associated with either suspended payment facilities or suspended Participants.

9.4.2 The CHESS Settlement Algorithm

The objective of the CHESS settlement algorithm is to maximise settlement in terms of units and dollar value for all participants. This is achieved by failing settlement instructions that have the minimal impact on the overall settlement process.

CHESS follows four rules in selecting which settlement instructions are to fail:

- avoid or minimise knock-on effects;
- prioritise fails from previous settlement cycles;
- maximise the dollar value settled; and
- maximise the number of units settled.

All settlement instructions that target a particular holding are aggregated to provide a net delivery that must be made to or from the holding to satisfy the financial product obligation. A projected financial product position for each holding is calculated by taking the current available holding balance and adding or subtracting the net delivery. If this produces a negative figure, there is a shortfall of financial products.

A knock-on effect arises where the failure of one settlement instruction to resolve a shortfall causes a shortfall in the projected position of the holding that was to receive the units (i.e. the transferee was relying on the units to on-deliver). A knock-on effect has a greater impact on the industry as it causes further settlement instructions to be failed to cover the subsequent shortfall.

CHESS avoids knock-on effects as far as possible by failing settlement instructions that do not cause further shortfalls. If a knock-on effect is avoided, the impact of the failure is restricted to the two counterparties of the failed settlement instruction.

As an example, assume there are two or more deliveries due to be made from a holding and the holding has a short projected position. The projected position of each of the holdings that are expecting to receive units from the delivering holding are examined to see which holdings can absorb the failure of a settlement instruction. If the failure of a settlement instruction covers the shortfall of the delivering holding and does not cause a shortfall for the receiving holding, this settlement instruction becomes a candidate for failure as it does not cause a knock-on.

If several settlement instructions are candidates for failure, one of them is selected for failing by using the other three rules stated above. If one has failed before, the algorithm tries not to fail it again. If one of the settlement instructions is for less units than the others, this settlement instruction is selected. If two or more settlement instructions share the lowest number of units, the settlement instruction with the lowest dollar value is selected.

In practice, the application of these rules is more complicated as multiple settlement instructions may need to be selected to cover a shortfall and part settlement can be utilised to minimise the amount of failure (provided it is not excluded by either participant). As a result, a settlement instruction that satisfies one of the rules in isolation may in part be rescheduled due to the higher weighting under the circumstance of the rules.

If a funds obligation is not covered by a Participant, the same principles are applied to cover the funds shortfall as are used to cover a financial product shortfall. Refer to section 9.4.4 The back-out Algorithm.

9.4.3 Managing a Defaulting Participant

As Central Counterparty to cash equity market transactions, ASX Clear inherits the unsettled novated obligations and market risk from a defaulting Clearing Participant. Once a Clearing Participant defaults, ASX Clear will attempt to manage the market risk by closing out unsettled positions whilst monitoring potential losses and liquidity requirements.

Management of the Defaulting Clearing Participants (DCP) unsettled obligations involves the following processes:

- Back-out removes the DCP settlement obligations from the batch until the DCPs payment figure has been reduced to nil (or a minimum receipt position). See section 9.1.13 for more detail.

- Close-out refers to the offsetting transaction required in order to liquidate a DCPs novated position in a particular security. Liquidation takes effect by taking an equal and opposite position to the DCPs current exposure in a particular security. Non novated transactions will be cancelled.

9.4.4 The Back-out Algorithm

An automated process in CHESS referred to as the back-out algorithm removes a net payment obligation from a Participant by rescheduling settlement instructions for the purchase of shares to the next settlement day. The process is initiated in the event of the default of a Participant during CHESS batch processing.

When initiated, the back-out algorithm recalculates non defaulting Participants' settlement obligations having backed-out the defaulting Participant's settlements and resends Participant fund obligations messages to Payment Providers to advise amended fund (pay and receive) positions.

The objective of the back-out algorithm is to:

(i) eliminate the defaulting Participant's net payment obligation, reducing it to zero or to a position of net receipt,

(ii) minimise the knock-on to other Participants,

(iii) avoid increasing any non defaulting Participant's payment obligation, and

(iv) maximise the value and number of units settled.

9.4.4.1 Second Round Authorisation Not Required

The back-out process will result in the defaulting Participant having a zero or small funds receipt position. Non defaulting Participants' funds positions may also have changed from the first round however re-authorisation is not required since any revised payment obligation will not be greater than that authorised in the first round and no funds receipt position can become a pay position.

9.4.4.2 Potential Increased Net Payment for a Participant with Multiple PIDs

The second round calculation of payment obligations and receipt entitlements resulting from the back-out algorithm could lead to a net amount payable by a Payment Provider for a non-defaulting Participant at the legal entity level (ie aggregating across multiple Payment Facilities operated by the Payment Provider for the Participant) to increase.

In particular, the Payment Provider may be required to pay on a Settlement Day in respect of a non-defaulting Participant (across the Payment Facilities operated by the Payment Provider for the Participant) a larger net amount than it contemplated when authorising the Customer Net Funds originally notified to it by ASX Settlement for each of those Payment Facilities. This could occur if, as a result of the application of the backout algorithm in a failure to settle situation, the amount payable by a Payment Facility operated for a non-defaulting Participant stays the same (or is reduced) but the amount to be paid by ASX to another Payment Facility operated by the Payment Provider for the same Participant is reduced (or reduced by a greater amount).

Conversely, another potential scenario that the backout algorithm could trigger in such circumstances is that the amount the Payment Provider receives in respect of a Participant on a Settlement Day is lesser than the net receipt contemplated when authorising the Customer Net Funds originally notified to it by ASX Settlement for the Payment Facilities operated in respect of that Participant.

To illustrate the potential outcome of an increased net payment for a Participant, assume the following Customer Net Funds are notified with respect to the 2 PIDs operated by the Payment Provider's client, Participant XYZ Pty Ltd:

- PID 1 / PayFac 1 - payable from the PayFac to ASX: $100
- PID 2 / PayFac 2 - payable from ASX to the PayFac: $ 70

Net funds payable by the Payment Provider on behalf of Participant XYZ: $30

Assume the Payment Provider authorises the $100 payment (in practice it is not required to authorise receipt of funds). Assume then that following the rejection by another Payment Provider of another Participant's payment obligation, XYZ's Customer Net Funds amounts are recalculated following back out of the defaulting Participant's obligations:

- PID 1 / PayFac 1 - payable from the PayFac to ASX: $90

- PID 2 / PayFac 2 - payable from ASX to the PayFac: $ 20

Revised net funds payable by the Payment Provider on behalf of Participant XYZ: $70

The payment amount at the PID / PayFac level has not increased (and based on the back out algorithm, cannot increase) and therefore in practice a second round authorisation is not required. However, the net funds payable at the Participant level has increased from $30 to $70 given the receipt in PID 2 has reduced by more than the reduction in the pay amount in PID 1.

As the adoption of multiple PIDs is a matter for each Participant on a voluntary basis, the management of the potential implications for a Payment Provider which makes available a separate Payment Facility for each PID is something that will need to be considered by each Payment Provider and their Participant as part of the process of seeking to operate multiple PIDs.

9.4.5 Standard Settlement Price

Each net obligation represents the aggregate of buy and sell trades for a particular participant in a specific financial product. The average settlement price per unit is normally different for each participant due to the variation in underlying trades.

If differing average settlement prices are applied to each failed net obligation, ASXS may have to cover a financial shortfall. To avoid this, during each settlement process, CHESS applies a standard settlement price to all failed net obligations in a particular financial product. The valuation price calculated at the end of trading on the previous business day is used to determine the standard settlement price.

For more information refer to Section 9.8.

9.4.6 Delivering Financial Products Subject to Foreign Ownership Restrictions

For information about delivering financial products subject to foreign ownership restrictions and priority allocation of those financial products (refer to Section 8.1.6).

9.5 CHESS SETTLEMENT REPORTING

The settlement process delivers settlement reports to the participant in the form of CHESS messages.

Funds reports summarise the payments for each payment facility.

Financial product reports notify participants of the settlement instructions that have been settled on each holding and the resulting balance. During an ex period (or combination of ex periods arising from multiple corporate actions) one net movement occurs per holding for each basis of movement. For example, during a dividend ex period two movements exist, either CD or XD. However for a combined bonus / dividend the possible movements are: CD+CB, CD+XB, XD+CB, XD+XB. Reports also notify participants of all settlement instructions that were part-settled. Transactions fully rescheduled are notified to Participants during the authorisation process.

For obligations settling as priority foreign to foreign allocations (refer to Section 2.1.9), one net movement may occur per holding for the priority foreign to foreign movements, and another for the remaining movement that is not priority foreign to foreign.

PROCEDURE

9.5.1 On settlement day after authorisation, CHESS processes the settlement instructions and confirms completion.

CHESS immediately reports settlements that are complete fails and predicted partial fails during the period from settlement cut-off to authorisation cut-off. CHESS confirms transactions that are part settled on completion of the settlement cycle.

9.5.2 If a short financial product position exists before the application of failures then CHESS calculates the fail fee for inclusion in the participant's monthly CHESS service invoice and notifies the participant. CHESS calculates the penalty on the net shortage of units, not on a line-for-line basis.

9.5.3 The participant internally processes the transactions to completion, checks the closing balance of the account and records rescheduled transactions resulting from failures in their internal system.

9.5.4 The participant may request further reporting to assist reconciliation of their holding.

9.5.5 If settlement instructions have been settled in CHESS for a financial products currently in an ex period, CHESS notifies the basis of movement applying to the effected movements. Net movements applied to units with one corporate action in an ex period may have two net movements: one to cover associated settlements on a cum basis and another for associated settlements on an ex basis.

9.5.6 On the rare occasion that the settlement process is cancelled or fails to complete, CHESS cancels the funds obligations, notifies participants and reschedules all settlement obligations to the next business day.

9.5.7 CHESS notifies participants about the end of settlement reporting after settlement reporting has been queued for all participants. Participants can process messages prior to the notification receipt. The notification is intended as a reconciliation point for participants and not a processing trigger.

Message Reference Table

Section	Message Number and Description		Sender	Recipient
9.5.1	146	Effected Net Settlement Movement	CHESS	Participant
9.5.1	156	Settled Settlement Instruction	CHESS	Participant
9.5.1	124	Rescheduled Settlement Instruction	CHESS	Participant
9.5.1	190	Predicted Partial Fail Advice	CHESS	Participant
9.5.1	192	Part-Settled Settlement Instruction	CHESS	Participant
9.5.1	170	Effected Net Funds Movement	CHESS	Participant
9.5.2	544	Levy Notification	CHESS	Participant
9.5.4	503	Reporting Request	Participant	CHESS
9.5.5	146	Effected Net Settlement Movement	CHESS	Participant
9.5.6	154	Cancelled Funds Obligations	CHESS	Participant
9.5.6	124	Rescheduled Settlement Instruction	CHESS	Participant
9.5.7	542	CHESS Event Notification	CHESS	Participant

9.6 DEMAND SETTLEMENT OF FAILS AFTER DVP SETTLEMENT

DvP settlement may reschedule a settlement obligation to a later settlement cycle for the following reasons:

- insufficient units;
- insufficient funds; or
- settlement unit shortfalls as a result of a knock-on effect from other settlement unit shortfalls, i.e. not directly as a result of its own failure to cover the net obligation by settlement cut-off time.

If a receiving participant flags a settlement obligation such that part settlement is unacceptable, then both participants incur a rescheduled settlement obligation when less than the agreed number of units are available for delivery during DvP settlement.

If a receiving participant refuses part-settlement and both participants incur a rescheduled settlement obligation, the delivering participant has the right to deliver via demand, later on the same day as settlement, in full, to the receiving participant.

If demand settlement is used, the rescheduled settlement obligation should be cancelled. Payment for such deliveries is effected outside CHESS

PROCEDURE

9.6.1 The delivering participant notifies their intention to deliver, in full, the agreed units to the receiving participant.

After netting has occurred, direct settlement is only available for blocked trades. That is, participants cannot direct or demand settle netted obligations.

9.6.2 The delivering participant submits a settlement instruction cancellation followed by a dual entry demand transfer with equivalent units. The delivering participant may choose to delay the submission of the demand transfer until after the receiving participant has matched the cancellation.

9.6.3 CHESS validates the requests, and, if either request is invalid, notifies the participant of the rejection.

9.6.4 The receiving participant submits both the cancellation and demand transfer.

9.6.5 CHESS validates the requests, and if either request is invalid, notifies the participant of the rejection

If each match is successful, CHESS processes the transaction immediately and notifies both participants.

9.6.6 The receiving participant delivers the funds to the delivering participant outside CHESS.

Message Reference Table

Section	Message Number and Description		Sender	Recipient
9.6.1	542	CHESS Event Notification	CHESS	Participant
9.6.2	129	Dual Entry Settlement Cancellation Request	Participant	CHESS
9.6.2	005	Demand Dual Entry CHESS to CHESS Transfer Request	Participant	CHESS
9.6.3	518	Rejected Transaction	CHESS	Participant
9.6.3	178	Unmatched Dual Entry Settlement Instruction Cancellation Request	CHESS	Participant
9.6.3	194	Unmatched Dual Entry Request	CHESS	Participant
9.6.4	129	Dual Entry Settlement Cancellation Request	Participant	CHESS
9.6.5	005	Demand Dual Entry CHESS to CHESS Transfer Request	Participant	CHESS
9.6.5	518	Rejected Transaction	CHESS	Participant
9.6.5	116	Cancelled Settlement Instruction	CHESS	Participant
9.6.5	006	Effected Demand Dual Entry CHESS to CHESS Transfer	CHESS	Participant

9.7 NON -APPROVED FINANCIAL PRODUCTS

Obligations in financial products that are not approved are settled outside CHESS, irrespective of whether the counterparties are market or non-market participants in CHESS. Settlement is effected by exchange of a paper transfer (with or without certificates attached) or lodgement advice against a cheque, or by another process appropriate to the particular financial product. CHESS plays no part in such settlements, and the transactions are not notified to CHESS.

9.8 OTHER METHODS OF SETTLEMENT

The CHESS RTGS service offers “line by line” transaction settlement on a real-time basis.

Refer to the Real Time Gross Settlement (RTGS) Procedure Guidelines under the Additional Procedures section of this document.

The ASX Managed Fund Service enables CHESS Participants to settle primary market fund applications and redemptions routed via ASX to Product issuers, represented by Product Issuer Settlement Participants (PISPs). Refer to Section 28.

9.9 STANDARD SETTLEMENT PRICE FOR FAILED NET OBLIGATIONS

If a net obligation fails to settle, in part or in full, CHESS uses a standard settlement price to avoid ASXS having to fund the settlement. This has the effect of marking to market the failed net obligation.

This section describes how this works and how it is reported to market participants.

Standard settlement price does not apply to ASX Managed Fund Service transactions.

9.9.1 Average Settlement Price Per Unit

As a result of netting, CHESS establishes a net obligation (NO) for each market participant in each financial product in which the market participant has executed trades (excluding trades exempted from netting). Each net obligation results in a net unit quantity and a net settlement amount. The average settlement price per unit is likely to be different for each market participant due to the difference in the underlying trade prices.

For example, take two market participants' trades in a financial product:

					Average settlement price per unit
Participant A	buys	100 units	@ $1.00 =	$100.00	
	buys	150 units	@ $1.10 =	$165.00	
	sells	125 units	@ $1.20 =	$150.00	
Net obligation for A	***receives***	***125 units***		***$115.00***	***@ $0.92***
Participant B	buys	100 units	@ $1.20	$120.00	
	sells	50 units	@ $1.00	$50.00	
	sells	30 units	@ $1.10	$33.00	
Net obligation for B	***receives***	***20 units***		***$37.00***	***@ $1.85***

Although the overall position of the central counterparty is zero (i.e. it receives no units and pays no funds), if one participant fails to deliver the financial products to cover its net obligation to the central counterparty, a similar net obligation must be failed from the central counterparty to another participant. As it is likely that these two net obligations have different average settlement prices per unit, the central counterparty would have to fund the difference.

To avoid the central counterparty funding the settlement, a standard Settlement Price (SSP) is applied to all failed net obliations.

9.9.2 Standard Settlement Price

The Standard Settlement Price (SSP) is calculated as the "valuation price" of a financial product at the end of the previous business day. The application of an SSP has the effect of marking-to-market any failed net obligations. Marking to market means that the value of the failed net obligation reflects the current market price.

9.9.3 Standard Settlement Price Example

The following example illustrate how the SSP is effected and reported to participants.

Assume there are four net obligations in the same class of Financial Product due to be settled:

	Net Obligation			
Participant A	deliver	10 units	receive	$20
Participant B	deliver	20 units	receive	$50
Participant C	receive	15 units	pay	$30
Participant D	receive	15 units	pay	$40

Participant A fails to meet their obligation to deliver 10 units and the CHESS settlement algorithm determines to fully settle the net obligation of Participant C but only part settle the net obligation of Participant D.

The settlement for Participants A and D will depend on the direction of the market and the resultant SSP.

Result In a Rising Market

If the market was rising, and the SSP for the financial product was, say, $3.00, the result of the settlement would be as follows:

	Net Obligation				***Result with SSP of $3.00 per unit***			
Participant A	deliver	10 units	receive	$20	**fails**	**0 units**	**pays**	**$10**
Participant B	deliver	20 units	receive	$50	*(as per Net Obligation)*			
Participant C	receive	15 units	pay	$30	*(as per Net Obligation)*			
Participant D	receive	15 units	pay	$40	**receives**	**5 units**	**pays**	**$10**

Participant A was due to receive $20 but using the SSP of $3.00, the net obligation is marked to market, and is now worth $30. Participant A must therefore pay $10 in this settlement process. If the net obligation is settled in the next settlement cycle, Participant A will receive $30 (the original $20 plus the additional $10).

Participant D was due to receive 15 units but will only receive 5 units. Using the SSP of $3.00, the 10 outstanding units are worth $30, so Participant D pays $10 to receive the 5 units instead of $13.33 ($40.00 * 5 units/15 units, which it would have go if the average unit price were used). The rescheduled net obligation now indicates that Participant D is due to receive 10 units in return for payment of $30.

Result In a Falling Market

If the market was falling, and the SSP for the financial product was, say, $1.00, the result of the settlement would be as follows:

	Net Obligation				***Result with SSP of $1.00 per unit***			
Participant A	deliver	10 units	receive	$20	**fails**	**0 units**	**receives**	**$10**
Participant B	deliver	20 units	receive	$50	*(as per Net Obligation)*			
Participant C	receive	15 units	pay	$30	*(as per Net Obligation)*			
Participant D	receive	15 units	pay	$40	**receives**	**5 units**	**pays**	**$30**

Participant A was due to receive $20 but using the SSP of $1.00, the net obligation is marked to market, and is now only worth $10. Participant A receives $10 in this settlement process. If the net obligation is settled in the next settlement cycle, Participant A will receive $10 (the original $20 less the $10 already received).

Participant D was due to receive 15 units but will only receive 5 units. Using the SSP of $1.00, the 10 units outstanding are now worth $10, so Participant D pays $30 to receive the 5 units instead of $13.33 (if it were calculated on the average price). The rescheduled net obligation now indicates that Participant D is due to receive 10 units in return for payment of $10.

SUMMARY

As can be seen from these examples, using an SSP to mark to market failed net obligations it is possible for units to be delivered but no funds received or funds to be paid but no units received.

9.9.4 Reporting Net Obligation Failure

Whenever a net obligation fails, it is reported to the participant using message 192 Part-Settled Settlement Instruction. This message is used because, even though no units have been settled, it is likely that some funds have been settled due to the use of the SSP.