9. CROSS REFERENCE OF FIELD DEFINITIONS AND MESSAGE FORMATS

9.1 Introduction

The purpose of this section is to provide a cross reference facility of fields to message types. The fields are listed in alphabetic order followed by the messages in which they occur in numeric order of message number.

9.2 Cross Reference

AI Dividends Franked Amount Cash

961-01 Registry Income Statement Part C Al 966-01 Participant Income Statement Part C Al

AI Dividends Franked Amount Tax

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AI Dividends Franked Amount Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AI Dividends UnFranked Amount Cash

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AI Dividends UnFranked Amount Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

Al Interest Cash

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

Al Interest Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

Al Non Primary Income Cash

961-01 Registry Income Statement Part C Al 966-01 Participant Income Statement Part C Al

Al Non Primary Income Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

Al Other Income Cash

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

Al Other Income Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AI Trust Deductions Cash

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AI Trust Deductions Taxable

961-01 Registry Income Statement Part C AI 966-01 Participant Income Statement Part C AI

AML/CTF Flag

726-02 Application Request 727-02 Application Order Request 800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

APIR Code

715-01 CHESS to Issuer Sponsored Fund Conversion Request
716-01 CHESS Conversion Request to Issuer Sponsored Fund
717-01 Effected CHESS Conversion to Issuer Sponsored Fund
718-01 Issuer Sponsored Fund to CHESS Conversion Request
719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request
721-01 Conversion Authorisation Issuer Sponsored Fund to CHESS
724-01 Conversion Rejection Issuer Sponsored Fund to CHESS
726-02 Application Request
729-01 Application Order Request
729-01 Application Order/Payment Plan Application Response
730-01 Effected Application Order/Payment Plan Application Response
731-01 Scheduled Settlement Payment Instruction

732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 812-01 Reminder Notice 813-01 Income Statement 816-01 Income Statement Advice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice 822-01 Cancelled Funds Settlement Payment Instruction 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 832-01 Holding Fund Balance 833-01 Total Security Fund Balance 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 837-01 Participant to CHESS Fund Balance Request 838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection 844-01 Top Security Fund Holder Report 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request 868-01 Income Statement Authorisation Request 869-01 Income Statement Request 957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD

ASX Code

561-01 CCMS CHESS Security Message

Account

927-01 Collateral Statement Notification 952-01 Collateral Statement

Account Cancellation

757-02 Holding Advice 760-02 Holding Advice Notification

Account Id

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Account Name

757-02 Holding Advice 760-02 Holding Advice Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Account Number

757-02 Holding Advice 760-02 Holding Advice Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Account Purpose

757-02 Holding Advice 760-02 Holding Advice Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Accrual Number

188-02 Full Adjusted Settlement Instruction 274-01 Adjusted Loan

Additional Reporting Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Additional Units

817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice

Address

226-01 User Detail 228-01 User History

Adjustment History Status

188-02 Full Adjusted Settlement Instruction

Adjustment Reason

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Adjustment Units

732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment

Advice Reason

222-04 Holder Detail 502-02 Holding Subposition Detail 520-02 Cum Entitlement Balance 522-02 Holding Balance 832-01 Holding Fund Balance

Advisor Mobile

738-01 Participant Investor Details

Agreement Type

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

Allocation Cancellation Level

661-01 Allocation Cancellation Advice 672-01 Allocation Cancellation

Allocation Cancellation Timestamp

661-01 Allocation Cancellation Advice 672-01 Allocation Cancellation

EXTERNAL INTERFACE SPECIFICATION VERSION 10.7 – NOV 2024

Allocation Eligibility

561-01 CCMS CHESS Security Message

Allocation Quantity

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation

Allocation Status

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation

Allocation Timestamp

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation

Amount

158-01 Participant Counterparty Balance 300-01 Participant Funds Notification 302-01 Payment Provider Funds Notification 310-02 Participant Funds Obligation 312-01 Payment Provider Funds Obligation 332-01 Payment Provider Transfer Request 350-01 Clearing Account Transfer Request 551-01 Aggregated Payment Request 614-01 Cash Subrecord Details

Annual Capital Gain

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Annual Capital Gain Total

959-01 Registry Income Statement Part B 964-01 Participant Income Statement Part B

Application APIR Code

806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Application Fund Code

806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Application Product Name

806-01 Switch Request 807-01 Switch Order Request

Application Unit Price

808-01 Switch Order Response 809-01 Effected Switch Order Request

Application Unit Pricing Date

808-01 Switch Order Response 809-01 Effected Switch Order Request

Application Units

808-01 Switch Order Response 809-01 Effected Switch Order Request

Approved Timestamp

286-01 Full Loan Instruction

Approved Transaction Id

286-01 Full Loan Instruction

As At Date

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 664-01 Contract Note 957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD

As At Date Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Ask Price

093-01 Price Registration 097-02 Price Notification Registration

Ask Time

093-01 Price Registration 097-02 Price Notification Registration

Assessable Foreign Income

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Authorisation Reason

310-02 Participant Funds Obligation 312-01 Payment Provider Funds Obligation

Authorisation Required

310-02 Participant Funds Obligation

Authorised Amount

154-01 Cancelled Funds Obligation

Available Balance

576-01 CCMS Collateral Transfer Notification

BIC

343-01 Create Net Position Authorisation

BSB Number

757-02 Holding Advice 760-02 Holding Advice Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Balance

565-01 CCMS Reconciliation Balance 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 616-01 Cash Subrecord Total

Balance Instruction

021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 406-02 Certificated to CHESS Transfer Authorisation Request

Bank Reference

311-01 Participant Funds Obligation Acknowledgement 313-01 Participant Funds Obligation Rejection 333-01 Payment Provider Transfer Response

Bank UIC

240-01 Created Payment Facility 242-01 Applied Payment Facility Update 350-01 Clearing Account Transfer Request

Basis of Movement 1

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer

090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 584-01 CCMS Cum Entitlement Transfer 602-02 Effected ACH Transaction 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement 874-01 Effected Margin Cover Release and Transfer 890-01 Scheduled STP Transfer

Basis of Movement 2

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 584-01 CCMS Cum Entitlement Transfer 602-02 Effected ACH Transaction 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement 874-01 Effected Margin Cover Release and Transfer 890-01 Scheduled STP Transfer

Basis of Movement 3

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 584-01 CCMS Cum Entitlement Transfer 602-02 Effected ACH Transaction 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement 874-01 Effected Margin Cover Release and Transfer 890-01 Scheduled STP Transfer

Basis of Movement 4

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 584-01 CCMS Cum Entitlement Transfer 602-02 Effected ACH Transaction 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement 874-01 Effected Margin Cover Release and Transfer 890-01 Scheduled STP Transfer

Basis of Movement 5

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response

584-01 CCMS Cum Entitlement Transfer 602-02 Effected ACH Transaction 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement 874-01 Effected Margin Cover Release and Transfer 890-01 Scheduled STP Transfer

Basis of Quotation 1

093-01 Price Registration 097-02 Price Notification Registration 161-02 Trade Registration Request 164-03 Notified Trade 554-01 Close Out Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Basis of Quotation 2

093-01 Price Registration 097-02 Price Notification Registration 161-02 Trade Registration Request 164-03 Notified Trade 554-01 Close Out Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Basis of Quotation 3

093-01 Price Registration 097-02 Price Notification Registration 161-02 Trade Registration Request 164-03 Notified Trade 554-01 Close Out Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Basis of Quotation 4

093-01 Price Registration 097-02 Price Notification Registration 161-02 Trade Registration Request 164-03 Notified Trade 554-01 Close Out Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Basis of Quotation 5

093-01 Price Registration 097-02 Price Notification Registration 161-02 Trade Registration Request 164-03 Notified Trade 554-01 Close Out Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Bid Price

093-01 Price Registration 097-02 Price Notification Registration

Bid Time

093-01 Price Registration 097-02 Price Notification Registration

Blocking Transaction Id

196-01 Blocked Trade

Broker Non broker Indicator

402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 716-01 CHESS Conversion Request to Issuer Sponsored Fund 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request

Brokerage

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Business Day

563-01 CCMS CHESS Calendar Message

Buy/Sell Indicator

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 664-01 Contract Note

Buyer Id

161-02 Trade Registration Request 164-03 Notified Trade

Buyer Order Reference Number

161-02 Trade Registration Request 164-03 Notified Trade

CG Discount Cash

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Discount Tax

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Discount Taxable

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Distributed Tax

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Distrubuted Cash

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Net

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Other Method Cash

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Other Method Tax

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Other Method Taxable

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Tax Concession Cash

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Tax Concession Taxable

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CG Trust Deductions Taxable

963-01 Registry Income Statement Part C CG 968-01 Participant Income Statement Part C CG

CGT Concession

959-01 Registry Income Statement Part B 964-01 Participant Income Statement Part B

CHESS Event Type

542-01 CHESS Event Notification

CHESS Only Message Set

587-01 End of Linked Transfer Message Set

CMAX Delivered Units

578-01 Position Update

CMAX Giver Account Id

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

CMAX Giver Short User Id

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

CMAX Received Units

578-01 Position Update

CMAX Receiver Account Id

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

CMAX Receiver Short User Id

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

Calendar Date

563-01 CCMS CHESS Calendar Message

Cancel Reason

810-01 Update Order 811-01 Effected Update Order

Cancel Rejected Reason

905-01 STP CP Collateral Removal Cancellation Rejection 916-01 Rejected STP Collateral Removal Cancellation 920-01 STP Collateral Removal Cancellation Rejection Advice

Cancellation Reason

048-01 Cancelled Demand Dual Entry Transfer Request 116-01 Cancelled Settlement Instruction 118-01 Cancelled Change Settlement Instruction Request 132-01 Removed Dual Entry Settlement Instruction Cancellation Request 442-01 Cancelled Change RTGS Instruction Request 450-01 Cancelled Request to Change Settlement Type 492-01 Removed RTGS Instruction Cancellation Request

Cancellation Timestamp

667-01 ETC Trade Cancellation Advice 669-01 ETC Contract Note Cancellation Advice 684-01 ETC Trade Cancellation 688-01 ETC Contract Note Cancellation

Cancelled Timestamp

052-03 Full Dual Entry CHESS to CHESS Transfer 180-02 Full Settlement Instruction 188-02 Full Adjusted Settlement Instruction 286-01 Full Loan Instruction

Cancelling Transaction Id

048-01 Cancelled Demand Dual Entry Transfer Request 052-03 Full Dual Entry CHESS to CHESS Transfer 116-01 Cancelled Settlement Instruction 118-01 Cancelled Change Settlement Instruction Request 132-01 Removed Dual Entry Settlement Instruction Cancellation Request 140-01 Cancelled Net Obligation 178-01 Unmatched Dual Entry Settlement Instruction Cancellation Request 180-02 Full Settlement Instruction 188-02 Full Adjusted Settlement Instruction 250-01 Cancelled Change Controlling Participant Request 284-01 Cancelled Loan Instruction 286-01 Full Loan Instruction 442-01 Cancelled Change RTGS Instruction Request 450-01 Cancelled Request to Change Settlement Type 490-01 Unmatched RTGS Instruction Cancellation Request 492-01 Removed RTGS Instruction Cancellation Request

Capital Gain Discount

959-01 Registry Income Statement Part B 964-01 Participant Income Statement Part B

Capital Gain Other

959-01 Registry Income Statement Part B 964-01 Participant Income Statement Part B

Cash Account Identifier

356-01 Effected Create Cash Subrecord 375-01 Participant Change Cash Subrecord Attributes Request 382-01 Effected Participant Change Cash Subrecord Attributes 386-01 Rejected Participant Change Cash Subrecord Attributes 444-01 Unmatched Change Settlement Type Request 448-01 Adjusted Settlement Type 481-01 RTGS Dual Entry Notification 493-01 Maintain RTGS Instruction Request 497-01 Settlement Type Change Request 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 756-01 RTGS Funds Movement

Cash Balance Brought Forward

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Cash Balance Carried Forward

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Cash Payment / Withdrawal

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Cash Subrecord Id

351-01 Create Cash Subrecord Request
352-01 Create Cash Subrecord Authorisation Request
353-01 Create Cash Subrecord Authorisation
356-01 Effected Create Cash Subrecord
357-01 Create Cash Subrecord Rejection
360-01 Rejected Create Cash Subrecord
373-01 Payment Provider Change Cash Subrecord Attributes Request
377-01 Participant Change Cash Subrecord Attributes Rejection
380-01 Participant Change Cash Subrecord Attributes Rejection
380-01 Participant Change Cash Subrecord Attributes Rejection

614-01 Cash Subrecord Details 616-01 Cash Subrecord Total

Cash Subrecord Type

351-01 Create Cash Subrecord Request
352-01 Create Cash Subrecord Authorisation Request
375-01 Participant Change Cash Subrecord Attributes Request
380-01 Participant Change Cash Subrecord Attributes Authorisation Request

Certificate Number

019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 402-02 Certificated to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request

Certificate Quantity

021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 406-02 Certificated to CHESS Transfer Authorisation Request

Change Cash Subrecord Reject Reason

379-01 Participant Change Cash Subrecord Attributes Rejection 386-01 Rejected Participant Change Cash Subrecord Attributes

Closing Balance

504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement 560-01 Top Security Holder Report

Closing Balance Date

560-01 Top Security Holder Report 844-01 Top Security Fund Holder Report

Closing Fund Balance

830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 844-01 Top Security Fund Holder Report

Collateral Agreement Reference

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details

Collateral Giver PID

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 578-01 Position Update 579-01 Collateral Acount Details 580-01 Collateral Acount Details Verification

Collateral Giver Source HIN

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 578-01 Position Update 579-01 Collateral Acount Details 580-01 Collateral Acount Details

Collateral Giver TSLS HIN

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 579-01 Collateral Acount Details 580-01 Collateral Acount Details Verification

Collateral Receiver Account Details

566-01 Recorded Collateral Registration Details 568-01 Cancelled Collateral Registration Details

Collateral Receiver HIN

566-01 Recorded Collateral Registration Details 568-01 Cancelled Collateral Registration Details

Collateral Receiver PID

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation 579-01 Collateral Acount Details 580-01 Collateral Acount Details Verification

Collateral Receiver Pledge Id

566-01 Recorded Collateral Registration Details 568-01 Cancelled Collateral Registration Details

Collateral Receiver TSLS HIN

566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 579-01 Collateral Acount Details 580-01 Collateral Acount Details Verification

Collateral Rejected Reason

030-02 Reduced Collateral 078-02 Rejected Collateral Removal 109-01 CP Collateral Removal Rejection 120-01 CP Collateral Removal Rejection Advice 160-01 Collateral Removal Rejection Advice 176-01 Collateral Creation Rejection Advice 605-02 Collateral Removal Rejection 609-02 Rejected Collateral 875-01 Margin Cover Creation Rejection 878-01 Reduced Margin Cover 891-01 STP Collateral Removal Rejection 892-01 Rejected STP Collateral Removal Request 895-01 STP CP Collateral Removal Rejection 900-01 STP Collateral Removal CP Rejection Advice 930-01 Scheduled STP Collateral Rejection CP Advice 931-01 Margin Cover Removal Rejection 956-01 Rejected Margin Cover Removal Request

Collateral Type

927-01 Collateral Statement Notification 952-01 Collateral Statement

Collateral Value

927-01 Collateral Statement Notification 952-01 Collateral Statement

Condition Code 1

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 2

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 3

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 4

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 5

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 6

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 7

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Condition Code 8

161-02 Trade Registration Request 164-03 Notified Trade 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Contact

226-01 User Detail 228-01 User History

Contact Reference

203-04 Registration Details Update Request

Contract Note Rejection Level

659-01 Contract Note Rejection Advice 668-01 Contract Note Rejection

Contract Note Status

657-01 Contract Note Advice 664-01 Contract Note

Contract Note Timestamp

657-01 Contract Note Advice 664-01 Contract Note

Controlling PID

108-01 Collateral Creation Acceptance Advice 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification
222-04 Holder Detail
224-03 Holder History
245-01 Change Controlling Participant Request
512-04 Holding Registration Details
560-01 Top Security Holder Report
565-01 CCMS Reconciliation Balance
583-01 CCMS Collateral Account Adjustment
692-01 Controlling PID and Holder Status Response
844-01 Top Security Fund Holder Report

Controlling PID Status

692-01 Controlling PID and Holder Status Response

Corporate Action Type Id

148-01 Projected Cum Entitlement Position 188-02 Full Adjusted Settlement Instruction 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 520-02 Cum Entitlement Balance 524-01 Total Cum Entitlement Balance 544-01 Levy Notification

Corporate Action Type Id Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Create Cash Subrecord Reject Reason

357-01 Create Cash Subrecord Rejection 360-01 Rejected Create Cash Subrecord

Credit Status

353-01 Create Cash Subrecord Authorisation 373-01 Payment Provider Change Cash Subrecord Attributes Request

Crossing Indicator

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 664-01 Contract Note

Currency

927-01 Collateral Statement Notification 952-01 Collateral Statement

Currency Code

561-01 CCMS CHESS Security Message

Current Balance

576-01 CCMS Collateral Transfer Notification

Current PDS Provided

726-02 Application Request

727-02 Application Order Request 806-01 Switch Request 807-01 Switch Order Request 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Current Processing Date

564-01 CHESS Processing Status Notification

Current or New Debit Cap Limit

371-01 Change Net Position Attributes Request 372-01 Changed Net Position Attributes Notification

DRP Preference

DRP Units Participating

863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Date

504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement 514-01 Aggregated Foreign to Foreign Allocations 562-01 CCMS End Message 587-01 End of Linked Transfer Message Set 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 911-01 Daily Interest Earned Notification 927-01 Collateral Statement Notification 929-01 End Statement Notification 940-01 Daily Interest Earned Statement 952-01 Collateral Statement 954-01 End Statement 971-01 End Registry Income Statement Set 976-01 End Participant Income Statement Set

Date of Birth 1

738-01 Participant Investor Details

Date of Birth 2

738-01 Participant Investor Details

Date of Birth 3

738-01 Participant Investor Details

Date of Event

203-04 Registration Details Update Request

Dealer Group AFSL Number

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Dealer Group Advisor Code

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Dealer Group Advisor Email

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Dealer Group Advisor Name

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Dealer Group Name

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Debit Cap Activity Flag

341-01 Create Net Position Request342-01 Create Net Position Record Authorisation Request371-01 Change Net Position Attributes Request372-01 Changed Net Position Attributes Notification

Debit Cap Exclusion Flag

351-01 Create Cash Subrecord Request
352-01 Create Cash Subrecord Authorisation Request
375-01 Participant Change Cash Subrecord Attributes Request
380-01 Participant Change Cash Subrecord Attributes Authorisation Request

Debit Cap Limit

341-01 Create Net Position Request 342-01 Create Net Position Record Authorisation Request

Default Accumulation HIN

226-01 User Detail 228-01 User History

Default Demand HIN

226-01 User Detail 228-01 User History

Default Payment Facility Indicator

230-01 Payment Facility Detail 232-01 Payment Facility History 240-01 Created Payment Facility

Default Settlement HIN

226-01 User Detail 228-01 User History

Deliver/Receive Units Indicator

663-01 ETC Settlement Advice 676-01 ETC Settlement

Deliverer Reference

572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 586-01 Linked Collateral Transfer Request

Delivering HIN

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 013-02 CHESS to Certificated Conversion Request 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 275-01 Loan Return Notification 278-01 Scheduled Loan Instruction 281-01 Bulk Loan Approval 286-01 Full Loan Instruction 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 431-01 Takeover Transfer 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request 601-04 Collateral Release Request 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 835-01 Full CHESS to Issuer Sponsored Fund Conversion 874-01 Effected Margin Cover Release and Transfer

885-01 ASXCL Margin Cover Removal Request
887-01 STP Collateral Removal Request
890-01 Scheduled STP Transfer
894-01 STP Collateral Removal CP Authorisation Request
896-01 STP Collateral Removal CP Notification

Delivering Net Movement Transaction Id

156-01 Settled Settlement Instruction 180-02 Full Settlement Instruction 192-01 Part-Settled Settlement Instruction

Delivering PID

005-03 Demand Dual Entry CHESS to CHESS Transfer Request 010-03 Applied Transferor Submitted Transfer 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 025-01 Single Entry Transfer Request 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 090-03 Full Transferor Submitted Demand Transfer 134-01 Scheduled Net Obligation 142-02 Accrued Settlement Instruction 161-02 Trade Registration Request 164-03 Notified Trade 180-02 Full Settlement Instruction 278-01 Scheduled Loan Instruction 286-01 Full Loan Instruction 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 835-01 Full CHESS to Issuer Sponsored Fund Conversion 874-01 Effected Margin Cover Release and Transfer 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification

Delivering PID/Payee PID

101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification

Delivering Pledge Account

572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request

Delivering Registration Details

070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 174-02 Effected Registry to CHESS Transfer 405-01 Registry to CHESS Transfer Authorisation 412-03 CHESS to Certificated Conversion 416-03 CHESS to Issuer Sponsored Conversion 716-01 CHESS Conversion Request to Issuer Sponsored Fund

Delivering Supplementary Reference

052-03 Full Dual Entry CHESS to CHESS Transfer 180-02 Full Settlement Instruction

Destination Settlement System

410-01 Requested Settlement Type Change 444-01 Unmatched Change Settlement Type Request 497-01 Settlement Type Change Request

Diary Adjustment Number

188-02 Full Adjusted Settlement Instruction 274-01 Adjusted Loan

Diary Adjustment Type

128-02 Adjusted Settlement Instruction 142-02 Accrued Settlement Instruction 188-02 Full Adjusted Settlement Instruction 274-01 Adjusted Loan 276-02 Accrued Loan

Dispatch Date

544-01 Levy Notification

Distinct Portion Indicator

031-02 Takeover Acceptance

036-01 Offeror Takeover Acceptance Notification 704-02 Takeover Acceptance Notification 711-01 Offeror Takeover Acceptance

Duty Payable

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 060-03 Full Issuer Sponsored to CHESS Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 125-01 Maintain Settlement Instruction Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 493-01 Maintain RTGS Instruction Request 601-04 Collateral Release Request 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Duty Type

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 060-03 Full Issuer Sponsored to CHESS Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 125-01 Maintain Settlement Instruction Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 493-01 Maintain RTGS Instruction Request 601-04 Collateral Release Request 651-01 ETC Trade Advice 652-01 ETC Trade 663-01 ETC Settlement Advice 676-01 ETC Settlement

DvP Declaration Timestamp

361-01 Zero Sum Notification 362-01 CHESS DvP Notification

ESA Status

353-01 Create Cash Subrecord Authorisation 373-01 Payment Provider Change Cash Subrecord Attributes Request

ETC Rejection Reason

655-01 ETC Trade Rejection Advice 659-01 Contract Note Rejection Advice 660-01 ETC Trade Rejection 668-01 Contract Note Rejection

ETC Settlement Cancel Timestamp

665-01 ETC Settlement Cancellation Advice 680-01 ETC Settlement Cancellation

ETC Settlement Date

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

ETC Source UIC

652-01 ETC Trade 656-02 ETC Trade Allocation 660-01 ETC Trade Rejection 664-01 Contract Note 668-01 Contract Note Rejection 672-01 Allocation Cancellation 676-01 ETC Settlement 680-01 ETC Settlement Cancellation 684-01 ETC Trade Cancellation 688-01 ETC Contract Note Cancellation

ETC Target UIC

651-01 ETC Trade Advice 653-02 ETC Trade Allocation Advice 655-01 ETC Trade Rejection Advice 657-01 Contract Note Advice 659-01 Contract Note Rejection Advice 661-01 Allocation Cancellation Advice 663-01 ETC Settlement Advice 665-01 ETC Settlement Cancellation Advice 669-01 ETC Trade Cancellation Advice 669-01 ETC Contract Note Cancellation Advice

Effected Timestamp

018-02 Effected Holding Transformation 022-03 Effected Holding Adjustment 034-04 Effected Takeover Transfer 042-05 Collateral Release 050-02 Effected Security Code Change 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 146-03 Effected Net Settlement Movement 286-01 Full Loan Instruction 733-01 Effected Fund Unit Adjustment 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 874-01 Effected Margin Cover Release and Transfer

Email Address

201-04 New Registration Details
203-04 Registration Details Update Request
222-04 Holder Detail
224-03 Holder History
512-04 Holding Registration Details
716-01 CHESS Conversion Request to Issuer Sponsored Fund

Email Cancellation

203-04 Registration Details Update Request 512-04 Holding Registration Details

Email Purpose

201-04 New Registration Details 203-04 Registration Details Update Request 222-04 Holder Detail 224-03 Holder History 512-04 Holding Registration Details 716-01 CHESS Conversion Request to Issuer Sponsored Fund

End Date Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Entitlement Balance

520-02 Cum Entitlement Balance

Entrepot Type

201-04 New Registration Details 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History

Ex Date

148-01 Projected Cum Entitlement Position 188-02 Full Adjusted Settlement Instruction 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 520-02 Cum Entitlement Balance 524-01 Total Cum Entitlement Balance

Ex Date Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Excess / Shortage

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Excess Cash Standing Instruction

909-01 Excess Cash Standing Instruction Request 917-01 Margin Settlement Notification 932-01 Excess Cash Standing Instruction Authorisation Request 942-01 Margin Settlement Advice

Exchange

096-01 Security Detail

Exercise Date

887-01 STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification

Expiry Date

927-01 Collateral Statement Notification 952-01 Collateral Statement

FATCA Questions

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

FI Assessible Income Cash

965-01 Registry Income Statement Part C FI 970-01 Participant Income Statement Part C FI

FI Assessible Income Tax

965-01 Registry Income Statement Part C FI 970-01 Participant Income Statement Part C FI

FI Assessible Income Taxable

965-01 Registry Income Statement Part C FI

970-01 Participant Income Statement Part C FI

FI Cash Cash

965-01 Registry Income Statement Part C FI 970-01 Participant Income Statement Part C FI

FI Cash Cash Sub-Total

965-01 Registry Income Statement Part C FI 970-01 Participant Income Statement Part C FI

FI Cash Tax

965-01 Registry Income Statement Part C FI 970-01 Participant Income Statement Part C FI

FI Code

760-02 Holding Advice Notification

Face Value

927-01 Collateral Statement Notification 952-01 Collateral Statement

Failing Unit Quantity

111-01 External Delivery Fail Notification 112-01 Notified External Delivery Failure 190-01 Predicted Partial Fail Advice

Fees

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 813-01 Income Statement 816-01 Income Statement Advice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice

First Listed Date

096-01 Security Detail 561-01 CCMS CHESS Security Message

First Trade Price

093-01 Price Registration

097-02 Price Notification Registration

Foreign Income Tax Offsets

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Franking Credit

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Full Redemption

800-01 Redemption Request 801-01 Redemption Order Request

Full Switch

806-01 Switch Request 807-01 Switch Order Request

Fund Amount

726-02 Application Request

727-02 Application Order Request
729-01 Application Order/Payment Plan Application Response
730-01 Effected Application Order/Payment Plan Application Response
800-01 Redemption Request
801-01 Redemption Order Request
802-01 Redemption Order Response
803-01 Effected Redemption Order Request
806-01 Switch Request
808-01 Switch Order Response
809-01 Effected Switch Order Request
822-01 Cancelled Funds Settlement Payment Instruction

Fund Code

715-01 CHESS to Issuer Sponsored Fund Conversion Request
716-01 CHESS Conversion Request to Issuer Sponsored Fund
717-01 Effected CHESS Conversion to Issuer Sponsored Fund
718-01 Issuer Sponsored Fund to CHESS Conversion Request
719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request
721-01 Conversion Authorisation Issuer Sponsored Fund to CHESS
724-01 Conversion Rejection Issuer Sponsored Fund to CHESS
726-02 Application Request
727-02 Application Order Request
729-01 Application Order/Payment Plan Application Response
730-01 Effected Application Order/Payment Plan Application Response

731-01 Scheduled Settlement Payment Instruction

732-01 Unit Adjustment

733-01 Effected Fund Unit Adjustment 738-01 Participant Investor Details 800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 812-01 Reminder Notice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice 822-01 Cancelled Funds Settlement Payment Instruction 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 832-01 Holding Fund Balance 833-01 Total Security Fund Balance 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 837-01 Participant to CHESS Fund Balance Request 838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection 844-01 Top Security Fund Holder Report 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

Fund Holding Balance

839-01 Registry to CHESS Fund Balance Response 840-01 CHESS to Participant Fund Balance Response

Fund Movement from Registry

831-01 Holding Net Fund Movement

Fund Movement to Registry

831-01 Holding Net Fund Movement

Fund Net Offs

831-01 Holding Net Fund Movement

Fund Net Ons

831-01 Holding Net Fund Movement

Fund Reason

732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment

Gross DRP Amount

817-01 Distribution Re-investment Notification

818-01 Effected Distribution Re-investment Plan Advice

Gross Income Amount

813-01 Income Statement 816-01 Income Statement Advice

Guaranteed Foreign Closing Balance

514-01 Aggregated Foreign to Foreign Allocations

Guaranteed Foreign Indicator

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 142-02 Accrued Settlement Instruction 146-03 Effected Net Settlement Movement 180-02 Full Settlement Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification

754-01 RTGS Settlement Movement 890-01 Scheduled STP Transfer

Guaranteed Foreign Net Offs

514-01 Aggregated Foreign to Foreign Allocations

Guaranteed Foreign Net Ons

514-01 Aggregated Foreign to Foreign Allocations

Guaranteed Movement from Registry

514-01 Aggregated Foreign to Foreign Allocations

Guaranteed Movement to Registry

514-01 Aggregated Foreign to Foreign Allocations

HIN

005-03 Demand Dual Entry CHESS to CHESS Transfer Request 018-02 Effected Holding Transformation 022-03 Effected Holding Adjustment 023-01 ACH Collateral Removal Request 027-03 Collateral Creation Request 029-03 Collateral Removal Request 031-02 Takeover Acceptance 036-01 Offeror Takeover Acceptance Notification 050-02 Effected Security Code Change 082-01 Adjusted Subposition 085-02 Takeover Acceptance Removal Request 092-01 Offeror Takeover Acceptance Removal Notification 101-02 Dual Entry Settlement Notification 104-01 Collateral Removal Notification 108-01 Collateral Creation Acceptance Advice 125-01 Maintain Settlement Instruction Request 146-03 Effected Net Settlement Movement 148-01 Projected Cum Entitlement Position 152-01 Projected Holding Position 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification 202-01 Accepted New Registration Details 203-04 Registration Details Update Request 204-01 Locked CHESS Holding 206-01 Unlocked CHESS Holding 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 230-01 Payment Facility Detail 232-01 Payment Facility History 240-01 Created Payment Facility

242-01 Applied Payment Facility Update 245-01 Change Controlling Participant Request 248-01 Change Controlling Participant Authorisation Request 252-01 Effected Controlling Participant Change 421-01 Holding Transformation 425-01 Holding Adjustment 444-01 Unmatched Change Settlement Type Request 481-01 RTGS Dual Entry Notification 493-01 Maintain RTGS Instruction Request 497-01 Settlement Type Change Request 502-02 Holding Subposition Detail 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement 512-04 Holding Registration Details 514-01 Aggregated Foreign to Foreign Allocations 516-01 Rights Accepted 520-02 Cum Entitlement Balance 522-02 Holding Balance 533-02 Tax File Number / Australian Business Number Advice 534-02 Notified Tax File Number / Australian Business Number 544-01 Levy Notification 546-01 Revised Holder Registration Details 560-01 Top Security Holder Report 565-01 CCMS Reconciliation Balance 583-01 CCMS Collateral Account Adjustment 584-01 CCMS Cum Entitlement Transfer 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 691-01 Controlling PID and Holder Status Request 692-01 Controlling PID and Holder Status Response 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification 707-01 Offeror Takeover Acceptance Removal 711-01 Offeror Takeover Acceptance 726-02 Application Request 727-02 Application Order Request 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 738-01 Participant Investor Details 754-01 RTGS Settlement Movement 757-02 Holding Advice 760-02 Holding Advice Notification 800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

812-01 Reminder Notice 813-01 Income Statement 816-01 Income Statement Advice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 832-01 Holding Fund Balance 844-01 Top Security Fund Holder Report 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request 868-01 Income Statement Authorisation Request 869-01 Income Statement Request 871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 877-01 Margin Cover Removal Request 882-01 Margin Cover Removal Authorisation Request 883-01 ASXCL Removal Margin Cover 888-01 STP Collateral Removal Authorisation Request 922-01 Adjusted Scheduled STP Release 927-01 Collateral Statement Notification 952-01 Collateral Statement 957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD

HIN Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Haircut Rate

927-01 Collateral Statement Notification 952-01 Collateral Statement

Highest Trade Price

093-01 Price Registration 097-02 Price Notification Registration

Hold Reason

802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Holder DRP Preference

738-01 Participant Investor Details 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Holder Lock Release Reason

203-04 Registration Details Update Request

Holder RPP Preference

863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Holder Status

220-02 Authorised Registration Details
222-04 Holder Detail
224-03 Holder History
512-04 Holding Registration Details
692-01 Controlling PID and Holder Status Response

Holder Status Change

203-04 Registration Details Update Request

Holder Type

201-04 New Registration Details 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 512-04 Holding Registration Details 560-01 Top Security Holder Report 844-01 Top Security Fund Holder Report

Holding Balance

459-01 Registry to CHESS Holding Balance Response 470-01 CHESS to Participant Holding Balance Response

Holding Balance Timestamp

459-01 Registry to CHESS Holding Balance Response 470-01 CHESS to Participant Holding Balance Response 839-01 Registry to CHESS Fund Balance Response 840-01 CHESS to Participant Fund Balance Response

Holding Transaction Status

052-03 Full Dual Entry CHESS to CHESS Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion

In / Out

570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification

Income

802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Income Amount Per Unit

813-01 Income Statement 816-01 Income Statement Advice

Income Notification Flag

813-01 Income Statement 816-01 Income Statement Advice

Income Statement Cancellation

868-01 Income Statement Authorisation Request 869-01 Income Statement Request

Income Statement Report Frequency

868-01 Income Statement Authorisation Request 869-01 Income Statement Request

Income Statement Report Type

868-01 Income Statement Authorisation Request

869-01 Income Statement Request

Income Statement Status

957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C AI 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C CG 969-01 Registry Income Statement Part C CG 969-01 Registry Income Statement Part C CG 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD

Increase or Decrease

022-03 Effected Holding Adjustment 082-01 Adjusted Subposition 146-03 Effected Net Settlement Movement 425-01 Holding Adjustment 584-01 CCMS Cum Entitlement Transfer 732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 754-01 RTGS Settlement Movement

Increasing Holding Balance

018-02 Effected Holding Transformation 074-03 Full Single Entry CHESS to CHESS Transfer

Increasing Security Code

018-02 Effected Holding Transformation 421-01 Holding Transformation

Increasing Unit Quantity

018-02 Effected Holding Transformation 421-01 Holding Transformation

Initial Application

726-02 Application Request 727-02 Application Order Request

Initial Margin

917-01 Margin Settlement Notification

942-01 Margin Settlement Advice

Initial Timestamp

052-03 Full Dual Entry CHESS to CHESS Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 180-02 Full Settlement Instruction 834-01 Full Issuer Sponsored Fund to CHESS Conversion

Initiator Name and Address

657-01 Contract Note Advice 664-01 Contract Note

Interest Amount

911-01 Daily Interest Earned Notification 940-01 Daily Interest Earned Statement

Interest Description

911-01 Daily Interest Earned Notification 940-01 Daily Interest Earned Statement

Interest Rate

911-01 Daily Interest Earned Notification 940-01 Daily Interest Earned Statement

Invalid Message Header

540-01 Invalid Transaction

Invalid Reason

540-01 Invalid Transaction

lsin

927-01 Collateral Statement Notification 952-01 Collateral Statement

Issue

927-01 Collateral Statement Notification 952-01 Collateral Statement

Issuer

927-01 Collateral Statement Notification

952-01 Collateral Statement

Issuer Code

561-01 CCMS CHESS Security Message

Issuer Name

561-01 CCMS CHESS Security Message

Last Date Traded

093-01 Price Registration 097-02 Price Notification Registration

Last Listed Date

096-01 Security Detail 561-01 CCMS CHESS Security Message

Last Trade Price

093-01 Price Registration 097-02 Price Notification Registration

Last Traded Time

093-01 Price Registration 097-02 Price Notification Registration

Levy Type

544-01 Levy Notification 548-02 Reversed Levy Notification

Levy Value

544-01 Levy Notification

Linking Transaction ID

738-01 Participant Investor Details

Loan Consideration

276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction

Loan Transaction Id

274-01 Adjusted Loan 275-01 Loan Return Notification 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 286-01 Full Loan Instruction

Location of Register

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer

Lodgement Date

927-01 Collateral Statement Notification 952-01 Collateral Statement

Lowest Trade Price

093-01 Price Registration 097-02 Price Notification Registration

Margin Lender

027-03 Collateral Creation Request 108-01 Collateral Creation Acceptance Advice 176-01 Collateral Creation Rejection Advice 610-04 Collateral Request

Margin Payment Date

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

EXTERNAL INTERFACE SPECIFICATION VERSION 10.7 – NOV 2024

Market

871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 874-01 Effected Margin Cover Release and Transfer 877-01 Margin Cover Removal Request 882-01 Margin Cover Removal Authorisation Request 883-01 ASXCL Removal Margin Cover 885-01 ASXCL Margin Cover Removal Request 909-01 Excess Cash Standing Instruction Request 911-01 Daily Interest Earned Notification 917-01 Margin Settlement Notification 921-01 Margin Settlement Amount Change Request 927-01 Collateral Statement Notification 932-01 Excess Cash Standing Instruction Authorisation Request 940-01 Daily Interest Earned Statement 942-01 Margin Settlement Advice 944-01 Margin Settlement Amount Change Authorisation Request 952-01 Collateral Statement

Market Value

927-01 Collateral Statement Notification 952-01 Collateral Statement

Marking Number

174-02 Effected Registry to CHESS Transfer 405-01 Registry to CHESS Transfer Authorisation

Master UIC

226-01 User Detail 228-01 User History

Matched Timestamp

188-02 Full Adjusted Settlement Instruction

Matching Transaction Id

006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 052-03 Full Dual Entry CHESS to CHESS Transfer 116-01 Cancelled Settlement Instruction 128-02 Adjusted Settlement Instruction 166-01 Scheduled Dual Entry Settlement Instruction 180-02 Full Settlement Instruction 188-02 Full Adjusted Settlement Instruction 448-01 Adjusted Settlement Type 450-01 Cancelled Request to Change Settlement Type

Member ASX Indicator

657-01 Contract Note Advice 664-01 Contract Note

Message Set Transaction Id

561-01 CCMS CHESS Security Message 562-01 CCMS End Message 563-01 CCMS CHESS Calendar Message 565-01 CCMS Reconciliation Balance 570-01 Pending Equity Settlement Balance 578-01 Position Update 581-01 Accepted Corporate Action Message Set 582-01 Rejected Corporate Action Message Set 586-01 Linked Collateral Transfer Request 587-01 End of Linked Transfer Message Set 588-01 Rejected Linked Collateral Transfer 589-01 Pending Linked Collateral Transfer 590-01 Finalise Linked Collateral Transfer 591-01 Successful Linked Collateral Transfer 592-01 Reject Linked Collateral Transfer

Message Type

161-02 Trade Registration Request

Movement From Registry

506-01 Cum Entitlement Net Movement 510-01 Holding Net Movement

Movement Reason

007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request

408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 718-01 Issuer Sponsored Fund to CHESS Conversion Request 719-01 Issuer Sponsored Fund to CHESS Conversion Request 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion

Movement To Registry

506-01 Cum Entitlement Net Movement 510-01 Holding Net Movement

Movement Type

754-01 RTGS Settlement Movement

NA Gross Cash

967-01 Registry Income Statement Part C NA 972-01 Participant Income Statement Part C NA

NA Tax Deferred Amounts Cash

967-01 Registry Income Statement Part C NA 972-01 Participant Income Statement Part C NA

NA Tax Exempted Amounts Cash

967-01 Registry Income Statement Part C NA 972-01 Participant Income Statement Part C NA

Name

226-01 User Detail228-01 User History350-01 Clearing Account Transfer Request

Net Capital Gain

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Net Funds Transaction Id

156-01 Settled Settlement Instruction 170-01 Effected Net Funds Movement 180-02 Full Settlement Instruction 192-01 Part-Settled Settlement Instruction

Net Offs

506-01 Cum Entitlement Net Movement 510-01 Holding Net Movement

Net Ons

506-01 Cum Entitlement Net Movement 510-01 Holding Net Movement

Net Position Activity Flag

371-01 Change Net Position Attributes Request372-01 Changed Net Position Attributes Notification

Nett Amount

813-01 Income Statement 816-01 Income Statement Advice

Nett DRP Amount

817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice

Nett or Gross

800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Netted Obligation Transaction Id

180-02 Full Settlement Instruction

New Balance

583-01 CCMS Collateral Account Adjustment

New Controlling PID

252-01 Effected Controlling Participant Change

New Fund Holding Balance

717-01 Effected CHESS Conversion to Issuer Sponsored Fund 723-01 Effected Conversion Issuer Sponsored Fund to CHESS 733-01 Effected Fund Unit Adjustment 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion

New Holding Balance

004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 022-03 Effected Holding Adjustment 050-02 Effected Security Code Change 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 146-03 Effected Net Settlement Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 706-02 Effected Offeror Transaction 754-01 RTGS Settlement Movement

New Resultant Excess

923-01 Margin Settlement Amount Change Authorisation 948-01 Effected Margin Settlement Amount Change

New Settlement Amount

923-01 Margin Settlement Amount Change Authorisation 948-01 Effected Margin Settlement Amount Change

New Subposition Balance

082-01 Adjusted Subposition

Non Primary Deductions

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Non Primary Income

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Notification Type

911-01 Daily Interest Earned Notification 917-01 Margin Settlement Notification 927-01 Collateral Statement Notification 929-01 End Statement Notification 940-01 Daily Interest Earned Statement 942-01 Margin Settlement Advice 952-01 Collateral Statement

Novation Indicator

164-03 Notified Trade

Number Holders Affected

544-01 Levy Notification

Number of Days Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Number of Units

715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 718-01 Issuer Sponsored Fund to CHESS Conversion Request 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 812-01 Reminder Notice 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

OCH Account

027-03 Collateral Creation Request 029-03 Collateral Removal Request 042-05 Collateral Release 108-01 Collateral Creation Acceptance Advice 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification 601-04 Collateral Release Request 610-04 Collateral Release Request 612-04 Collateral Removal Authorisation Request 887-01 STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification

OCH Clearing Member

027-03 Collateral Creation Request 029-03 Collateral Removal Request 042-05 Collateral Release 108-01 Collateral Creation Acceptance Advice 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification 601-04 Collateral Release Request 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 887-01 STP Collateral Removal Request 888-01 STP Collateral Removal CP Authorisation Request 894-01 STP Collateral Removal CP Notification

OCH Lodgement Number

027-03 Collateral Creation Request 029-03 Collateral Removal Request 042-05 Collateral Release 108-01 Collateral Creation Acceptance Advice 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification 601-04 Collateral Release Request 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 887-01 STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification

OD Net Cash

969-01 Registry Income Statement Part C OD 974-01 Participant Income Statement Part C OD

OD Other Expenses

969-01 Registry Income Statement Part C OD 974-01 Participant Income Statement Part C OD

OD TFN Amounts Withheld

969-01 Registry Income Statement Part C OD 974-01 Participant Income Statement Part C OD

Off-Market Value

093-01 Price Registration

Off-Market Volume

093-01 Price Registration

Old Balance

583-01 CCMS Collateral Account Adjustment

Old Controlling PID

252-01 Effected Controlling Participant Change

On-Market Value

093-01 Price Registration

On-Market Volume

093-01 Price Registration

Opening Balance

560-01 Top Security Holder Report

Opening Balance Date

560-01 Top Security Holder Report 844-01 Top Security Fund Holder Report

Opening Fund Balance

844-01 Top Security Fund Holder Report

Order Reference

651-01 ETC Trade Advice 652-01 ETC Trade 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 731-01 Scheduled Settlement Payment Instruction 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

Order Type

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 805-01 Order Cancellation Request 810-01 Update Order 811-01 Effected Update Order 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

Origin Transaction ID

020-01 ACH Accepted Collateral 026-01 Single Entry Transfer Acknowledgement 036-01 Offeror Takeover Acceptance Notification 084-01 Effected Participant Transaction 092-01 Offeror Takeover Acceptance Removal Notification 108-01 Collateral Creation Acceptance Advice 110-01 CP Collateral Removal Acceptance Advice 120-01 CP Collateral Removal Rejection Advice 144-01 Effected CP Transaction 160-01 Collateral Removal Rejection Advice 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 182-01 Collateral Removal to CP Notification 432-01 Cancelled Offeror Initiated TKO Acceptance Request 536-01 Accepted Tax File Number / Australian Business Number Advice 584-01 CCMS Cum Entitlement Transfer 692-01 Controlling PID and Holder Status Response 694-01 Cancelled Transfer or Conversion Request 710-01 Rejected Offeror Takeover Acceptance 738-01 Participant Investor Details 758-01 Holding Advice Acknowledgement 760-02 Holding Advice Notification 762-01 Effected Registry Transaction 764-01 Accepted Holding Advice 766-01 Rejected Holding Advice

Origin Transaction Id

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 016-01 Accepted Registry to CHESS Movement Request 018-02 Effected Holding Transformation 022-03 Effected Holding Adjustment 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 028-01 Created Collateral 030-02 Reduced Collateral 032-01 Effected Takeover Acceptance 034-04 Effected Takeover Transfer 038-01 Reversed Takeover Acceptance 040-01 Accepted Collateral Removal Request 042-05 Collateral Release 048-01 Cancelled Demand Dual Entry Transfer Request 050-02 Effected Security Code Change 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 076-02 Rejected Registry to CHESS Movement 078-02 Rejected Collateral Removal 080-02 Rejected Registration Details Update 082-01 Adjusted Subposition 086-01 Accepted Takeover Acceptance Removal Request 088-01 Rejected Takeover Acceptance Removal Request 090-03 Full Transferor Submitted Demand Transfer 096-01 Security Detail 098-01 Price Notification Acceptance 100-01 Trade Removal Notification 102-02 Unmatched Dual Entry Settlement Notification 106-01 Scheduled Single Entry Settlement CHESS to CHESS Transfer 112-01 Notified External Delivery Failure 114-01 Cancelled External Delivery Failure 116-01 Cancelled Settlement Instruction 118-01 Cancelled Change Settlement Instruction Request 122-01 Unmatched Change Settlement Instruction Request 124-01 Rescheduled Settlement Instruction 126-01 Updated Settlement Instruction 128-02 Adjusted Settlement Instruction 130-02 Requested Settlement Instruction Change 132-01 Removed Dual Entry Settlement Instruction Cancellation Request 134-01 Scheduled Net Obligation

136-01 Reinstated Trade 138-01 Netted Trade 140-01 Cancelled Net Obligation 142-02 Accrued Settlement Instruction 146-03 Effected Net Settlement Movement 148-01 Projected Cum Entitlement Position 150-01 Projected Funds Obligation 152-01 Projected Holding Position 154-01 Cancelled Funds Obligation 156-01 Settled Settlement Instruction 158-01 Participant Counterparty Balance 162-01 Suspended Settlement Instruction 164-03 Notified Trade 166-01 Scheduled Dual Entry Settlement Instruction 170-01 Effected Net Funds Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 178-01 Unmatched Dual Entry Settlement Instruction Cancellation Request 180-02 Full Settlement Instruction 184-01 Trade Registration Acceptance 186-01 Net Trust Amount Movement 188-02 Full Adjusted Settlement Instruction 190-01 Predicted Partial Fail Advice 192-01 Part-Settled Settlement Instruction 194-01 Unmatched Dual Entry Request 196-01 Blocked Trade 198-01 Unblocked Trade 202-01 Accepted New Registration Details 204-01 Locked CHESS Holding 206-01 Unlocked CHESS Holding 218-01 Accepted Registration Details Update 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 226-01 User Detail 228-01 User History 230-01 Payment Facility Detail 232-01 Payment Facility History 234-03 Reporting Request Detail 240-01 Created Payment Facility 242-01 Applied Payment Facility Update 244-01 Cancelled Payment Facility 246-01 Accepted Change Controlling Participant Request 248-01 Change Controlling Participant Authorisation Request 250-01 Cancelled Change Controlling Participant Request 252-01 Effected Controlling Participant Change 254-01 Rejected Change Controlling Participant 256-01 Applied Change Controlling Participant Reject 272-01 Accepted Loan Instruction 274-01 Adjusted Loan 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 282-01 Rejected Loan Application

284-01 Cancelled Loan Instruction 286-01 Full Loan Instruction 342-01 Create Net Position Record Authorisation Request 344-01 Accepted Create Net Position Response 346-01 Applied Create Net Position Response 352-01 Create Cash Subrecord Authorisation Request 354-01 Accepted Create Cash Subrecord Response 358-01 Applied Create Cash Subrecord Response 372-01 Changed Net Position Attributes Notification 374-01 Changed Net Position Attributes Confirmation 376-01 Payment Provider Change Cash Subrecord Attributes Confirmation 378-01 Accepted Participant Change Cash Subrecord Attributes 380-01 Participant Change Cash Subrecord Attributes Authorisation Request 384-01 Applied Participant Change Cash Subrecord Attributes 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 410-01 Requested Settlement Type Change 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 430-01 Applied Code Change 442-01 Cancelled Change RTGS Instruction Request 444-01 Unmatched Change Settlement Type Request 446-01 Updated RTGS Instruction 448-01 Adjusted Settlement Type 450-01 Cancelled Request to Change Settlement Type 452-01 CHESS to Participant SRN Request Acknowledgement 456-01 CHESS to Registry SRN Response Acknowledgement 458-01 CHESS to Participant SRN Response 460-01 CHESS to Registry SRN Reject Acknowledgement 462-01 CHESS to Participant SRN Reject 464-01 CHESS to Participant Holding Balance Request Acknowledgement 468-01 CHESS to Registry Holding Balance Response Acknowledgement 470-01 CHESS to Participant Holding Balance Response 472-01 CHESS to Registry Holding Balance Reject Acknowledgement 474-01 CHESS to Participant Holding Balance Reject 476-01 Authorise RTGS Instruction Confirmation 478-01 Unmatched Change RTGS Instruction Request 480-01 Requested RTGS Instruction Change 482-01 Unmatched RTGS Dual Entry Notification 484-01 Unmatched RTGS Dual Entry Request 490-01 Unmatched RTGS Instruction Cancellation Request 492-01 Removed RTGS Instruction Cancellation Request 500-01 RTGS Instruction Ready to Settle Advice 502-02 Holding Subposition Detail 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement

512-04 Holding Registration Details 514-01 Aggregated Foreign to Foreign Allocations 516-01 Rights Accepted 518-01 Rejected Transaction 520-02 Cum Entitlement Balance 522-02 Holding Balance 524-01 Total Cum Entitlement Balance 526-01 Accepted Reporting Request 528-01 Archived Sub-Register 530-01 Cancelled Reporting Request 532-01 Total Security Balance 534-02 Notified Tax File Number / Australian Business Number 538-01 End of Reporting 542-01 CHESS Event Notification 544-01 Levy Notification 546-01 Revised Holder Registration Details 548-02 Reversed Levy Notification 566-01 Recorded Collateral Registration Details 568-01 Cancelled Collateral Registration Details 573-01 Successful Collateral Transfer 574-01 Rejected Collateral Transfer 575-01 Pending Collateral Transfer 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 580-01 Collateral Acount Details Verification 583-01 CCMS Collateral Account Adjustment 602-02 Effected ACH Transaction 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 652-01 ETC Trade 654-01 ETC Trade Advice Acknowledgement 656-02 ETC Trade Allocation 658-01 ETC Trade Allocation Acknowledgement 660-01 ETC Trade Rejection 662-01 ETC Trade Rejection Acknowledgement 664-01 Contract Note 666-01 Contract Note Advice Acknowledgement 668-01 Contract Note Rejection 670-01 Contract Note Rejection Acknowledgement 672-01 Allocation Cancellation 674-01 Allocation Cancellation Acknowledgement 676-01 ETC Settlement 678-01 ETC Settlement Advice Acknowledgement 680-01 ETC Settlement Cancellation 682-01 ETC Settlement Cancellation Acknowledgement 684-01 ETC Trade Cancellation 686-01 ETC Trade Cancellation Acknowledgement 688-01 ETC Contract Note Cancellation 690-01 ETC Contract Note Cancellation Acknowledgement 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification

706-02 Effected Offeror Transaction

716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 720-01 Accepted Participant Request 721-01 Conversion Authorisation Issuer Sponsored Fund to CHESS 722-01 Fund Response 723-01 Effected Conversion Issuer Sponsored Fund to CHESS 724-01 Conversion Rejection Issuer Sponsored Fund to CHESS 725-01 Rejected Conversion Issuer Sponsored Fund to CHESS 727-02 Application Order Request 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 731-01 Scheduled Settlement Payment Instruction 732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 752-01 Requesting Funds Approval 754-01 RTGS Settlement Movement 756-01 RTGS Funds Movement 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 816-01 Income Statement Advice 818-01 Effected Distribution Re-investment Plan Advice 822-01 Cancelled Funds Settlement Payment Instruction 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 832-01 Holding Fund Balance 833-01 Total Security Fund Balance 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 840-01 CHESS to Participant Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection 842-01 CHESS to Participant Fund Balance Reject 844-01 Top Security Fund Holder Report 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 860-01 Rejected Registry Authorisation 864-01 Distribution Election Authorisation Request 865-01 Distribution Election Registry Authorisation 866-01 Accepted Distribution Election Request 867-01 Distribution Election Registry Rejection 868-01 Income Statement Authorisation Request 870-01 Accepted Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 874-01 Effected Margin Cover Release and Transfer 876-01 Accepted Margin Cover Creation 878-01 Reduced Margin Cover 880-01 Accepted Margin Cover Removal Request 881-01 Income Statement Authorisation

882-01 Margin Cover Removal Authorisation Request 884-01 Accepted Income Statement Request 886-01 Accepted STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 890-01 Scheduled STP Transfer 892-01 Rejected STP Collateral Removal Request 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification 900-01 STP Collateral Removal CP Rejection Advice 904-01 STP Collateral Removal Cancellation Notification 906-01 Effected STP Collateral Removal Cancellation 907-01 Income Statement Rejection 908-01 Accepted STP Collateral Removal Cancellation Request 910-01 STP Collateral Removal CP Cancellation Authorisation Request 912-01 STP Collateral Removal CP Cancellation Notification 916-01 Rejected STP Collateral Removal Cancellation 920-01 STP Collateral Removal Cancellation Rejection Advice 922-01 Adjusted Scheduled STP Release 924-01 STP Reduced Collateral Notification 926-01 Scheduled STP Collateral Removal 928-01 Scheduled STP Collateral Removal CP Advice 930-01 Scheduled STP Collateral Rejection CP Advice 932-01 Excess Cash Standing Instruction Authorisation Request 934-01 Accepted Excess Cash Standing Instruction Request 936-01 Effected Excess Cash Standing Instruction Request 938-01 Rejected Excess Cash Standing Instruction Request 940-01 Daily Interest Earned Statement 942-01 Margin Settlement Advice 944-01 Margin Settlement Amount Change Authorisation Request 946-01 Accepted Margin Settlement Amount Change Request 948-01 Effected Margin Settlement Amount Change 950-01 Rejected Margin Settlement Amount Change 952-01 Collateral Statement 954-01 End Statement 956-01 Rejected Margin Cover Removal Request 957-01 Registry Income Statement Part A 958-01 Accepted Registry Income Statement Set 959-01 Registry Income Statement Part B 960-01 Rejected Registry Income Statement Set 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 971-01 End Registry Income Statement Set 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD 976-01 End Participant Income Statement Set

Origin Transaction id

560-01 Top Security Holder Report

Original Settlement Date

554-01 Close Out Notification

Other Amount

657-01 Contract Note Advice 664-01 Contract Note

Other Foreign Income

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Other Margin

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Outstanding Loan Consideration

286-01 Full Loan Instruction

Outstanding Settlement Amount

180-02 Full Settlement Instruction 554-01 Close Out Notification

Outstanding Unit Quantity

180-02 Full Settlement Instruction 286-01 Full Loan Instruction 554-01 Close Out Notification

Override Basis of Movement 1

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction 164-03 Notified Trade 180-02 Full Settlement Instruction 271-01 Loan Application 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 576-01 CCMS Collateral Transfer Notification

Override Basis of Movement 2

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction

164-03 Notified Trade 180-02 Full Settlement Instruction 271-01 Loan Application 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 576-01 CCMS Collateral Transfer Notification

Override Basis of Movement 3

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction 164-03 Notified Trade 180-02 Full Settlement Instruction 271-01 Loan Application 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request

406-02 Certificated to CHESS Transfer Authorisation Request

408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 576-01 CCMS Collateral Transfer Notification

Override Basis of Movement 4

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction 164-03 Notified Trade 180-02 Full Settlement Instruction 271-01 Loan Application 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Reguest 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 576-01 CCMS Collateral Transfer Notification

Override Basis of Movement 5

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction 164-03 Notified Trade 180-02 Full Settlement Instruction 271-01 Loan Application 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 576-01 CCMS Collateral Transfer Notification

PDS Issue Date

726-02 Application Request

727-02 Application Order Request
806-01 Switch Request
807-01 Switch Order Request
863-01 Distribution Election Request
864-01 Distribution Election Authorisation Request

PID

074-03 Full Single Entry CHESS to CHESS Transfer 148-01 Projected Cum Entitlement Position 152-01 Projected Holding Position 158-01 Participant Counterparty Balance 230-01 Payment Facility Detail 232-01 Payment Facility History 240-01 Created Payment Facility 242-01 Applied Payment Facility Update 300-01 Participant Funds Notification 310-02 Participant Funds Obligation 342-01 Create Net Position Record Authorisation Request 343-01 Create Net Position Authorisation 345-01 Create Net Position Rejection 352-01 Create Cash Subrecord Authorisation Request 353-01 Create Cash Subrecord Authorisation 357-01 Create Cash Subrecord Rejection 371-01 Change Net Position Attributes Request 373-01 Payment Provider Change Cash Subrecord Attributes Request 377-01 Participant Change Cash Subrecord Attributes Authorisation 379-01 Participant Change Cash Subrecord Attributes Rejection 380-01 Participant Change Cash Subrecord Attributes Authorisation Request 727-02 Application Order Request 729-01 Application Order/Payment Plan Application Response 732-01 Unit Adjustment 738-01 Participant Investor Details 801-01 Redemption Order Request 802-01 Redemption Order Response 805-01 Order Cancellation Request 807-01 Switch Order Request 808-01 Switch Order Response 810-01 Update Order 812-01 Reminder Notice 813-01 Income Statement 817-01 Distribution Re-investment Notification 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 864-01 Distribution Election Authorisation Request 868-01 Income Statement Authorisation Request 872-01 Margin Cover Creation Authorisation Request 882-01 Margin Cover Removal Authorisation Request 911-01 Daily Interest Earned Notification 917-01 Margin Settlement Notification 927-01 Collateral Statement Notification 932-01 Excess Cash Standing Instruction Authorisation Request 944-01 Margin Settlement Amount Change Authorisation Request 957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 963-01 Registry Income Statement Part C CG 965-01 Registry Income Statement Part C FI 967-01 Registry Income Statement Part C NA 969-01 Registry Income Statement Part C OD

PID Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

PIN

015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request

Parent Transaction Id

142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 276-02 Accrued Loan 286-01 Full Loan Instruction

Part-Settled Transaction Id

192-01 Part-Settled Settlement Instruction

Part-Settlement

101-02 Dual Entry Settlement Notification
105-02 Single Entry Settlement CHESS to CHESS Transfer Request
125-01 Maintain Settlement Instruction Request
444-01 Unmatched Change Settlement Type Request
448-01 Adjusted Settlement Type
497-01 Settlement Type Change Request

Participant Advisor Code

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Participant Advisor Email

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Participant Advisor Name

800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request

Participant Name

300-01 Participant Funds Notification 310-02 Participant Funds Obligation

Participant Reference

001-02 Demand Single Entry CHESS to CHESS Transfer Request 002-02 Effected Demand Single Entry CHESS to CHESS Transfer 003-02 Transferor Submitted Demand Transfer 004-02 Effected Transferor Submitted Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 025-01 Single Entry Transfer Request 027-03 Collateral Creation Request 034-04 Effected Takeover Transfer 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 106-01 Scheduled Single Entry Settlement CHESS to CHESS Transfer 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 166-01 Scheduled Dual Entry Settlement Instruction 180-02 Full Settlement Instruction 271-01 Loan Application 286-01 Full Loan Instruction 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification

657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 718-01 Issuer Sponsored Fund to CHESS Conversion Request 726-02 Application Request 731-01 Scheduled Settlement Payment Instruction 738-01 Participant Investor Details 800-01 Redemption Request 806-01 Switch Request 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request

Participant Type

226-01 User Detail 228-01 User History

Pay Receive Indicator

150-01 Projected Funds Obligation 158-01 Participant Counterparty Balance 170-01 Effected Net Funds Movement 300-01 Participant Funds Notification 302-01 Payment Provider Funds Notification 310-02 Participant Funds Obligation 312-01 Payment Provider Transfer Request 350-01 Clearing Account Transfer Request 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 663-01 ETC Settlement Advice 676-01 ETC Settlement 756-01 RTGS Funds Movement

Payee Clearing Member

551-01 Aggregated Payment Request

Payee PID

550-01 Scheduled Payment Instruction

Payee Payment Category

551-01 Aggregated Payment Request

Payer Clearing Member

551-01 Aggregated Payment Request

Payer PID

550-01 Scheduled Payment Instruction

Payer Payment Category

551-01 Aggregated Payment Request

Paying PID

731-01 Scheduled Settlement Payment Instruction 822-01 Cancelled Funds Settlement Payment Instruction 824-01 Change Settlement Date

Payment Date

802-01 Redemption Order Response 803-01 Effected Redemption Order Request 810-01 Update Order 811-01 Effected Update Order 813-01 Income Statement 816-01 Income Statement Advice

Payment Facility Change Reason

232-01 Payment Facility History 242-01 Applied Payment Facility Update

Payment Facility Id

150-01 Projected Funds Obligation 154-01 Cancelled Funds Obligation 170-01 Effected Net Funds Movement 186-01 Net Trust Amount Movement 230-01 Payment Facility Detail 232-01 Payment Facility Update 240-01 Created Payment Facility 242-01 Applied Payment Facility Update 244-01 Cancelled Payment Facility 300-01 Participant Funds Notification 310-02 Participant Funds Obligation 311-01 Participant Funds Obligation Acknowledgement 313-01 Participant Funds Obligation Rejection 340-01 Effected Create Net Position 341-01 Create Net Position Request

342-01 Create Net Position Record Authorisation Request 343-01 Create Net Position Authorisation 345-01 Create Net Position Rejection 348-01 Rejected Create Net Position 351-01 Create Cash Subrecord Request 352-01 Create Cash Subrecord Authorisation Request 353-01 Create Cash Subrecord Authorisation 356-01 Effected Create Cash Subrecord 357-01 Create Cash Subrecord Rejection 360-01 Rejected Create Cash Subrecord 371-01 Change Net Position Attributes Request 372-01 Changed Net Position Attributes Notification 373-01 Payment Provider Change Cash Subrecord Attributes Request 375-01 Participant Change Cash Subrecord Attributes Request 377-01 Participant Change Cash Subrecord Attributes Authorisation 379-01 Participant Change Cash Subrecord Attributes Rejection 380-01 Participant Change Cash Subrecord Attributes Authorisation Request 382-01 Effected Participant Change Cash Subrecord Attributes 386-01 Rejected Participant Change Cash Subrecord Attributes 550-01 Scheduled Payment Instruction 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 756-01 RTGS Funds Movement

Payment Facility Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Payment HIN

731-01 Scheduled Settlement Payment Instruction 822-01 Cancelled Funds Settlement Payment Instruction 824-01 Change Settlement Date

Payment Set Transaction Id

551-01 Aggregated Payment Request 552-01 Accepted Payment Set 553-01 Payment Set Total Record

Payment Set Transaction id

556-01 Cancelled Payment Set Notification

Payment Type

550-01 Scheduled Payment Instruction

Payments from OCH

552-01 Accepted Payment Set

Payments to OCH

552-01 Accepted Payment Set

Pending Delivery Balance

578-01 Position Update

Pledge Account

565-01 CCMS Reconciliation Balance 583-01 CCMS Collateral Account Adjustment

Position Type Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Post-Settlement Advice

353-01 Create Cash Subrecord Authorisation 373-01 Payment Provider Change Cash Subrecord Attributes Request

Pre-Settlement Advice - Credit Level

353-01 Create Cash Subrecord Authorisation 373-01 Payment Provider Change Cash Subrecord Attributes Request

Pre-Settlement Advice - ESA Level

353-01 Create Cash Subrecord Authorisation 373-01 Payment Provider Change Cash Subrecord Attributes Request

Previous Delivering HIN

188-02 Full Adjusted Settlement Instruction

Previous Destination Settlement System

448-01 Adjusted Settlement Type

Previous Duty Payable

188-02 Full Adjusted Settlement Instruction

Previous Duty Type

188-02 Full Adjusted Settlement Instruction

Previous Guaranteed Foreign Indicator

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous HIN

448-01 Adjusted Settlement Type

Previous Loan Consideration

274-01 Adjusted Loan

Previous Override Basis of Move 1

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Override Basis of Move 2

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Override Basis of Move 3

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Override Basis of Move 4

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Override Basis of Move 5

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Processing Date

564-01 CHESS Processing Status Notification

Previous Receiving HIN

188-02 Full Adjusted Settlement Instruction

Previous STP Quantity

922-01 Adjusted Scheduled STP Release

Previous STP Status

922-01 Adjusted Scheduled STP Release

Previous Security Code

050-02 Effected Security Code Change 128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 274-01 Adjusted Loan 430-01 Applied Code Change 922-01 Adjusted Scheduled STP Release

Previous Settlement Amount

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 192-01 Part-Settled Settlement Instruction

Previous Settlement Date

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 448-01 Adjusted Settlement Type 922-01 Adjusted Scheduled STP Release

Previous Stamping Consideration

188-02 Full Adjusted Settlement Instruction

Previous Status

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Transaction Basis

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Previous Underlying Reference

188-02 Full Adjusted Settlement Instruction

Previous Unit Quantity

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 192-01 Part-Settled Settlement Instruction 274-01 Adjusted Loan

Price Run Date

093-01 Price Registration 097-02 Price Notification Registration

Price Run Time

093-01 Price Registration 097-02 Price Notification Registration

Price Run Type

093-01 Price Registration 097-02 Price Notification Registration

Principal

911-01 Daily Interest Earned Notification 940-01 Daily Interest Earned Statement

Principal Indicator

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 664-01 Contract Note

Processing Frequency

234-03 Reporting Request Detail 503-04 Reporting Request

Processing Period

234-03 Reporting Request Detail 503-04 Reporting Request

Processing Point

234-03 Reporting Request Detail 503-04 Reporting Request

Processing Timestamp

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 004-02 Effected Transferor Submitted Transfer 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 008-03 Effected CHESS to Registry Movement 010-03 Applied Transferor Submitted Transfer 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 016-01 Accepted Registry to CHESS Movement Request 018-02 Effected Holding Transformation 020-01 ACH Accepted Collateral 022-03 Effected Holding Adjustment 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 026-01 Single Entry Transfer Acknowledgement 028-01 Created Collateral 030-02 Reduced Collateral 032-01 Effected Takeover Acceptance 034-04 Effected Takeover Transfer 036-01 Offeror Takeover Acceptance Notification 038-01 Reversed Takeover Acceptance 040-01 Accepted Collateral Removal Request 042-05 Collateral Release 048-01 Cancelled Demand Dual Entry Transfer Request 050-02 Effected Security Code Change 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 076-02 Rejected Registry to CHESS Movement 078-02 Rejected Collateral Removal 080-02 Rejected Registration Details Update 082-01 Adjusted Subposition 084-01 Effected Participant Transaction 086-01 Accepted Takeover Acceptance Removal Request 088-01 Rejected Takeover Acceptance Removal Request 090-03 Full Transferor Submitted Demand Transfer 092-01 Offeror Takeover Acceptance Removal Notification 096-01 Security Detail 098-01 Price Notification Acceptance 100-01 Trade Removal Notification 102-02 Unmatched Dual Entry Settlement Notification 104-01 Collateral Removal Notification 106-01 Scheduled Single Entry Settlement CHESS to CHESS Transfer 108-01 Collateral Creation Acceptance Advice 110-01 CP Collateral Removal Acceptance Advice 112-01 Notified External Delivery Failure 114-01 Cancelled External Deliverv Failure 116-01 Cancelled Settlement Instruction 118-01 Cancelled Change Settlement Instruction Request 120-01 CP Collateral Removal Rejection Advice 122-01 Unmatched Change Settlement Instruction Request 124-01 Rescheduled Settlement Instruction 126-01 Updated Settlement Instruction 128-02 Adjusted Settlement Instruction 130-02 Requested Settlement Instruction Change 132-01 Removed Dual Entry Settlement Instruction Cancellation Request 134-01 Scheduled Net Obligation 136-01 Reinstated Trade 138-01 Netted Trade 140-01 Cancelled Net Obligation 142-02 Accrued Settlement Instruction 144-01 Effected CP Transaction 146-03 Effected Net Settlement Movement 148-01 Projected Cum Entitlement Position

150-01 Projected Funds Obligation 152-01 Projected Holding Position 154-01 Cancelled Funds Obligation 156-01 Settled Settlement Instruction 158-01 Participant Counterparty Balance 160-01 Collateral Removal Rejection Advice 162-01 Suspended Settlement Instruction 164-03 Notified Trade 166-01 Scheduled Dual Entry Settlement Instruction 168-01 CP Collateral Removal Authorisation Request 170-01 Effected Net Funds Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 176-01 Collateral Creation Rejection Advice 178-01 Unmatched Dual Entry Settlement Instruction Cancellation Request 180-02 Full Settlement Instruction 182-01 Collateral Removal to CP Notification 184-01 Trade Registration Acceptance 186-01 Net Trust Amount Movement 188-02 Full Adjusted Settlement Instruction 190-01 Predicted Partial Fail Advice 192-01 Part-Settled Settlement Instruction 194-01 Unmatched Dual Entry Request 196-01 Blocked Trade 198-01 Unblocked Trade 202-01 Accepted New Registration Details 204-01 Locked CHESS Holding 206-01 Unlocked CHESS Holding 218-01 Accepted Registration Details Update 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 226-01 User Detail 228-01 User History 230-01 Payment Facility Detail 232-01 Payment Facility History 234-03 Reporting Request Detail 240-01 Created Payment Facility 242-01 Applied Payment Facility Update 244-01 Cancelled Payment Facility 246-01 Accepted Change Controlling Participant Request 248-01 Change Controlling Participant Authorisation Request 250-01 Cancelled Change Controlling Participant Request 252-01 Effected Controlling Participant Change 254-01 Rejected Change Controlling Participant 256-01 Applied Change Controlling Participant Reject 272-01 Accepted Loan Instruction 274-01 Adjusted Loan 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 282-01 Rejected Loan Application 284-01 Cancelled Loan Instruction 286-01 Full Loan Instruction

300-01 Participant Funds Notification 302-01 Payment Provider Funds Notification 310-02 Participant Funds Obligation 312-01 Payment Provider Funds Obligation 332-01 Payment Provider Transfer Request 340-01 Effected Create Net Position 342-01 Create Net Position Record Authorisation Request 344-01 Accepted Create Net Position Response 346-01 Applied Create Net Position Response 348-01 Rejected Create Net Position 350-01 Clearing Account Transfer Request 352-01 Create Cash Subrecord Authorisation Request 354-01 Accepted Create Cash Subrecord Response 356-01 Effected Create Cash Subrecord 358-01 Applied Create Cash Subrecord Response 360-01 Rejected Create Cash Subrecord 362-01 CHESS DvP Notification 372-01 Changed Net Position Attributes Notification 374-01 Changed Net Position Attributes Confirmation 376-01 Payment Provider Change Cash Subrecord Attributes Confirmation 378-01 Accepted Participant Change Cash Subrecord Attributes 380-01 Participant Change Cash Subrecord Attributes Authorisation Request 382-01 Effected Participant Change Cash Subrecord Attributes 384-01 Applied Participant Change Cash Subrecord Attributes 386-01 Rejected Participant Change Cash Subrecord Attributes 398-01 Settlement Cancellation Notification 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 410-01 Requested Settlement Type Change 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 422-02 Applied Registry Transaction 426-02 Applied Registry Authorisation Response 430-01 Applied Code Change 432-01 Cancelled Offeror Initiated TKO Acceptance Request 442-01 Cancelled Change RTGS Instruction Request 444-01 Unmatched Change Settlement Type Request 446-01 Updated RTGS Instruction 448-01 Adjusted Settlement Type 450-01 Cancelled Request to Change Settlement Type 452-01 CHESS to Participant SRN Request Acknowledgement 453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 455-01 Registry to CHESS SRN Reject 456-01 CHESS to Registry SRN Response Acknowledgement 458-01 CHESS to Participant SRN Response 460-01 CHESS to Registry SRN Reject Acknowledgement 461-01 Registry to CHESS Holding Balance Reject 462-01 CHESS to Participant SRN Reject 464-01 CHESS to Participant Holding Balance Request Acknowledgement

466-01 CHESS to Registry Holding Balance Reguest 468-01 CHESS to Registry Holding Balance Response Acknowledgement 470-01 CHESS to Participant Holding Balance Response 472-01 CHESS to Registry Holding Balance Reject Acknowledgement 474-01 CHESS to Participant Holding Balance Reject 476-01 Authorise RTGS Instruction Confirmation 478-01 Unmatched Change RTGS Instruction Request 480-01 Requested RTGS Instruction Change 482-01 Unmatched RTGS Dual Entry Notification 484-01 Unmatched RTGS Dual Entry Request 490-01 Unmatched RTGS Instruction Cancellation Request 492-01 Removed RTGS Instruction Cancellation Request 496-01 Checking RBA Funds Queue Advice 500-01 RTGS Instruction Ready to Settle Advice 502-02 Holding Subposition Detail 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement 512-04 Holding Registration Details 514-01 Aggregated Foreign to Foreign Allocations 516-01 Rights Accepted 518-01 Rejected Transaction 520-02 Cum Entitlement Balance 522-02 Holding Balance 524-01 Total Cum Entitlement Balance 526-01 Accepted Reporting Request 528-01 Archived Sub-Register 530-01 Cancelled Reporting Request 532-01 Total Security Balance 534-02 Notified Tax File Number / Australian Business Number 536-01 Accepted Tax File Number / Australian Business Number Advice 538-01 End of Reporting 542-01 CHESS Event Notification 544-01 Levy Notification 546-01 Revised Holder Registration Details 548-02 Reversed Levy Notification 550-01 Scheduled Payment Instruction 560-01 Top Security Holder Report 561-01 CCMS CHESS Security Message 562-01 CCMS End Message 563-01 CCMS CHESS Calendar Message 564-01 CHESS Processing Status Notification 565-01 CCMS Reconciliation Balance 566-01 Recorded Collateral Registration Details 568-01 Cancelled Collateral Registration Details 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 573-01 Successful Collateral Transfer 574-01 Rejected Collateral Transfer 575-01 Pending Collateral Transfer 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 578-01 Position Update

580-01 Collateral Acount Details Verification 581-01 Accepted Corporate Action Message Set 582-01 Rejected Corporate Action Message Set 583-01 CCMS Collateral Account Adjustment 584-01 CCMS Cum Entitlement Transfer 587-01 End of Linked Transfer Message Set 588-01 Rejected Linked Collateral Transfer 589-01 Pending Linked Collateral Transfer 590-01 Finalise Linked Collateral Transfer 591-01 Successful Linked Collateral Transfer 592-01 Reject Linked Collateral Transfer Request 602-02 Effected ACH Transaction 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 652-01 ETC Trade 654-01 ETC Trade Advice Acknowledgement 656-02 ETC Trade Allocation 658-01 ETC Trade Allocation Acknowledgement 660-01 ETC Trade Rejection 662-01 ETC Trade Rejection Acknowledgement 664-01 Contract Note 666-01 Contract Note Advice Acknowledgement 668-01 Contract Note Rejection 670-01 Contract Note Rejection Acknowledgement 672-01 Allocation Cancellation 674-01 Allocation Cancellation Acknowledgement 676-01 ETC Settlement 678-01 ETC Settlement Advice Acknowledgement 680-01 ETC Settlement Cancellation 682-01 ETC Settlement Cancellation Acknowledgement 684-01 ETC Trade Cancellation 686-01 ETC Trade Cancellation Acknowledgement 688-01 ETC Contract Note Cancellation 690-01 ETC Contract Note Cancellation Acknowledgement 692-01 Controlling PID and Holder Status Response 694-01 Cancelled Transfer or Conversion Request 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification 706-02 Effected Offeror Transaction 710-01 Rejected Offeror Takeover Acceptance 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 720-01 Accepted Participant Request 722-01 Fund Response 723-01 Effected Conversion Issuer Sponsored Fund to CHESS 725-01 Rejected Conversion Issuer Sponsored Fund to CHESS 727-02 Application Order Request 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 731-01 Scheduled Settlement Payment Instruction

738-01 Participant Investor Details

752-01 Requesting Funds Approval 754-01 RTGS Settlement Movement 756-01 RTGS Funds Movement 758-01 Holding Advice Acknowledgement 759-01 Holding Advice Acceptance 760-02 Holding Advice Notification 761-01 Holding Advice Rejection 762-01 Effected Registry Transaction 764-01 Accepted Holding Advice 766-01 Rejected Holding Advice 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 805-01 Order Cancellation Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 810-01 Update Order 811-01 Effected Update Order 816-01 Income Statement Advice 822-01 Cancelled Funds Settlement Payment Instruction 830-01 Holding Daily Fund Balance 831-01 Holding Net Fund Movement 832-01 Holding Fund Balance 833-01 Total Security Fund Balance 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 838-01 CHESS to Registry Fund Balance Request 840-01 CHESS to Participant Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection 842-01 CHESS to Participant Fund Balance Reject 844-01 Top Security Fund Holder Report 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 860-01 Rejected Registry Authorisation 864-01 Distribution Election Authorisation Request 866-01 Accepted Distribution Election Request 868-01 Income Statement Authorisation Request 870-01 Accepted Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 874-01 Effected Margin Cover Release and Transfer 876-01 Accepted Margin Cover Creation 878-01 Reduced Margin Cover 880-01 Accepted Margin Cover Removal Request 882-01 Margin Cover Removal Authorisation Request 884-01 Accepted Income Statement Request 886-01 Accepted STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 890-01 Scheduled STP Transfer 892-01 Rejected STP Collateral Removal Request 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification 900-01 STP Collateral Removal CP Rejection Advice 904-01 STP Collateral Removal Cancellation Notification

906-01 Effected STP Collateral Removal Cancellation 908-01 Accepted STP Collateral Removal Cancellation Request 910-01 STP Collateral Removal CP Cancellation Authorisation Request 912-01 STP Collateral Removal CP Cancellation Notification 916-01 Rejected STP Collateral Removal Cancellation 920-01 STP Collateral Removal Cancellation Rejection Advice 922-01 Adjusted Scheduled STP Release 924-01 STP Reduced Collateral Notification 926-01 Scheduled STP Collateral Removal 928-01 Scheduled STP Collateral Removal CP Advice 930-01 Scheduled STP Collateral Rejection CP Advice 932-01 Excess Cash Standing Instruction Authorisation Request 934-01 Accepted Excess Cash Standing Instruction Request 936-01 Effected Excess Cash Standing Instruction Request 938-01 Rejected Excess Cash Standing Instruction Request 940-01 Daily Interest Earned Statement 942-01 Margin Settlement Advice 944-01 Margin Settlement Amount Change Authorisation Request 946-01 Accepted Margin Settlement Amount Change Request 948-01 Effected Margin Settlement Amount Change 950-01 Rejected Margin Settlement Amount Change 952-01 Collateral Statement 954-01 End Statement 956-01 Rejected Margin Cover Removal Request 958-01 Accepted Registry Income Statement Set 960-01 Rejected Registry Income Statement Set 962-01 Participant Income Statement Part A 964-01 Participant Income Statement Part B 966-01 Participant Income Statement Part C AI 968-01 Participant Income Statement Part C CG 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD 976-01 End Participant Income Statement Set

Product Name

726-02 Application Request

800-01 Redemption Request 801-01 Redemption Order Request

Projected Funds Position

150-01 Projected Funds Obligation

Projected Security Position

148-01 Projected Cum Entitlement Position 152-01 Projected Holding Position

RPP Amount

863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

RPP Frequency

863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request

Reason

018-02 Effected Holding Transformation 022-03 Effected Holding Adjustment 023-01 ACH Collateral Removal Request 025-01 Single Entry Transfer Request 082-01 Adjusted Subposition 104-01 Collateral Removal Notification 421-01 Holding Transformation 425-01 Holding Adjustment 883-01 ASXCL Removal Margin Cover 922-01 Adjusted Scheduled STP Release

Receiver Reference

572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 586-01 Linked Collateral Transfer Request

Receiving HIN

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 010-03 Applied Transferor Submitted Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 271-01 Loan Application 278-01 Scheduled Loan Instruction 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request

408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 431-01 Takeover Transfer 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request 601-04 Collateral Release Request 718-01 Issuer Sponsored Fund to CHESS Conversion Request 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 834-01 Full Issuer Sponsored Fund to CHESS Conversion 874-01 Effected Margin Cover Release and Transfer 885-01 ASXCL Margin Cover Removal Request 887-01 STP Collateral Removal Request 890-01 Scheduled STP Transfer 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification

Receiving Net Movement Transaction Id

156-01 Settled Settlement Instruction 180-02 Full Settlement Instruction 192-01 Part-Settled Settlement Instruction

Receiving PID

003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 025-01 Single Entry Transfer Request 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 090-03 Full Transferor Submitted Demand Transfer 134-01 Scheduled Net Obligation 142-02 Accrued Settlement Instruction 161-02 Trade Registration Request 164-03 Notified Trade 180-02 Full Settlement Instruction 278-01 Scheduled Loan Instruction 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request

719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request
731-01 Scheduled Settlement Payment Instruction
822-01 Cancelled Funds Settlement Payment Instruction
824-01 Change Settlement Date
834-01 Full Issuer Sponsored Fund to CHESS Conversion
874-01 Effected Margin Cover Release and Transfer

Receiving PID/Payer PID

101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification

Receiving Pledge Account

572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 586-01 Linked Collateral Transfer Request

Receiving Registration Details

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 054-04 Full CHESS to Certificated Transfer 058-03 Full Certificated to CHESS Conversion 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 414-04 CHESS to Certificated Transfer 418-04 CHESS to Issuer Sponsored Transfer 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 835-01 Full CHESS to Issuer Sponsored Fund Conversion

Receiving Residency Indicator

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 054-04 Full CHESS to Certificated Transfer 058-03 Full Certificated to CHESS Conversion 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 414-04 CHESS to Certificated Transfer 418-04 CHESS to Issuer Sponsored Transfer

Receiving Supplementary Reference

052-03 Full Dual Entry CHESS to CHESS Transfer 180-02 Full Settlement Instruction

Recipient Name

657-01 Contract Note Advice 664-01 Contract Note

Reconciliation Point

565-01 CCMS Reconciliation Balance

Record Date

813-01 Income Statement816-01 Income Statement Advice817-01 Distribution Re-investment Notification818-01 Effected Distribution Re-investment Plan Advice

Redemption APIR Code

806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Redemption Fund Code

806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Redemption Product Name

806-01 Switch Request 807-01 Switch Order Request

Redemption Request Reason

800-01 Redemption Request 801-01 Redemption Order Request

Redemption Unit Price

808-01 Switch Order Response 809-01 Effected Switch Order Request

Redemption Unit Pricing Date

808-01 Switch Order Response 809-01 Effected Switch Order Request

Reducing Holding Balance

018-02 Effected Holding Transformation 074-03 Full Single Entry CHESS to CHESS Transfer

Reducing Security Code

018-02 Effected Holding Transformation 421-01 Holding Transformation

Reducing Unit Quantity

018-02 Effected Holding Transformation 421-01 Holding Transformation

Reference

927-01 Collateral Statement Notification 952-01 Collateral Statement

Registration Details

036-01 Offeror Takeover Acceptance Notification 201-04 New Registration Details 203-04 Registration Details Update Request 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 451-01 Participant to CHESS SRN Request 453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 458-01 CHESS to Participant SRN Response 459-01 Registry to CHESS Holding Balance Response 470-01 CHESS to Participant Holding Balance Response 512-04 Holding Registration Details 546-01 Revised Holder Registration Details 560-01 Top Security Holder Report 610-04 Collateral Request 704-02 Takeover Acceptance Notification 727-02 Application Order Request 839-01 Registry to CHESS Fund Balance Response 840-01 CHESS to Participant Fund Balance Response 844-01 Top Security Fund Holder Report 872-01 Margin Cover Creation Authorisation Request

Registration Details Indicator

512-04 Holding Registration Details

Registration Details Update Reason

220-02 Authorised Registration Details

Registration Name Update Reason 1

203-04 Registration Details Update Request

Registration Name Update Reason 2

203-04 Registration Details Update Request

Registry Reference

018-02 Effected Holding Transformation 022-03 Effected Holding Adjustment 076-02 Rejected Registry to CHESS Movement 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 401-01 Registry to CHESS Conversion Authorisation 403-01 Registry to CHESS Conversion Rejection 405-01 Registry to CHESS Transfer Authorisation 407-01 Registry to CHESS Transfer Rejection 421-01 Holding Transformation 425-01 Holding Adjustment 721-01 Conversion Authorisation Issuer Sponsored Fund to CHESS 723-01 Effected Conversion Issuer Sponsored Fund to CHESS 724-01 Conversion Rejection Issuer Sponsored Fund to CHESS 725-01 Rejected Conversion Issuer Sponsored Fund to CHESS 732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 860-01 Rejected Registry Authorisation 865-01 Distribution Election Registry Authorisation 866-01 Accepted Distribution Election Request 867-01 Distribution Election Registry Rejection 881-01 Income Statement Authorisation 884-01 Accepted Income Statement Request 907-01 Income Statement Rejection

Registry Reject Reason

455-01 Registry to CHESS SRN Reject 461-01 Registry to CHESS Holding Balance Reject 462-01 CHESS to Participant SRN Reject 474-01 CHESS to Participant Holding Balance Reject 841-01 Registry to CHESS Fund Balance Rejection 842-01 CHESS to Participant Fund Balance Reject

Rejected Change Reason

253-01 Change Controlling Participant Rejection 254-01 Rejected Change Controlling Participant 915-01 Excess Cash Standing Instruction Rejection 925-01 Margin Settlement Amount Change Rejection 938-01 Rejected Excess Cash Standing Instruction Request 950-01 Rejected Margin Settlement Amount Change

Rejected Holding Advice Reason

761-01 Holding Advice Rejection 766-01 Rejected Holding Advice

Rejected Income Statement Set Reason

960-01 Rejected Registry Income Statement Set

Rejected Movement Reason

076-02 Rejected Registry to CHESS Movement 403-01 Registry to CHESS Conversion Rejection 407-01 Registry to CHESS Transfer Rejection 724-01 Conversion Rejection Issuer Sponsored Fund to CHESS 725-01 Rejected Conversion Issuer Sponsored Fund to CHESS

Rejected Net Position Reason

345-01 Create Net Position Rejection 348-01 Rejected Create Net Position

Rejected Order Reason

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 810-01 Update Order 811-01 Effected Update Order

Rejected Reason

518-01 Rejected Transaction
574-01 Rejected Collateral Transfer
580-01 Collateral Acount Details Verification
582-01 Rejected Corporate Action Message Set
588-01 Rejected Linked Collateral Transfer

Rejected Registration Update Reason

080-02 Rejected Registration Details Update

Rejected Registry Reason

860-01 Rejected Registry Authorisation 867-01 Distribution Election Registry Rejection 907-01 Income Statement Rejection

Rejected Transfer Reason

024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer

Rejection Timestamp

655-01 ETC Trade Rejection Advice 659-01 Contract Note Rejection Advice 660-01 ETC Trade Rejection 668-01 Contract Note Rejection

Remarks

657-01 Contract Note Advice 664-01 Contract Note

Removal Date

104-01 Collateral Removal Notification

Removal Reason

100-01 Trade Removal Notification

Remove Excess Cash Standing Instruction

909-01 Excess Cash Standing Instruction Request 932-01 Excess Cash Standing Instruction Authorisation Request

Reporting End Date

234-03 Reporting Request Detail 503-04 Reporting Request

Reporting Id

234-03 Reporting Request Detail 503-04 Reporting Request

Reporting Id Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Reporting Request Status

234-03 Reporting Request Detail

Reporting Start Date

234-03 Reporting Request Detail 503-04 Reporting Request

Requesting PID

838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection

Requesting Participant

248-01 Change Controlling Participant Authorisation Request

Reschedule Reason

124-01 Rescheduled Settlement Instruction

Residency Indicator

201-04 New Registration Details 203-04 Registration Details Update Request 220-02 Authorised Registration Details 222-04 Holder Detail 224-03 Holder History 512-04 Holding Registration Details 560-01 Top Security Holder Report 844-01 Top Security Fund Holder Report

Response Timestamp

224-03 Holder History

Resultant Cash Balance

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Resultant Excess

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Reversed Levy Value

548-02 Reversed Levy Notification

Revised Delivering HIN

188-02 Full Adjusted Settlement Instruction

Revised Destination Settlement System

448-01 Adjusted Settlement Type

Revised Duty Payable

188-02 Full Adjusted Settlement Instruction

Revised Duty Type

188-02 Full Adjusted Settlement Instruction

Revised Guaranteed Foreign Indicator

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised HIN

448-01 Adjusted Settlement Type

Revised Loan Consideration

274-01 Adjusted Loan

Revised Override Basis of Move 1

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Override Basis of Move 2

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Override Basis of Move 3

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Override Basis of Move 4

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Override Basis of Move 5

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Receiving HIN

188-02 Full Adjusted Settlement Instruction

Revised STP Quantity

922-01 Adjusted Scheduled STP Release

Revised STP Status

922-01 Adjusted Scheduled STP Release

Revised Security Code

050-02 Effected Security Code Change 128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 274-01 Adjusted Loan 430-01 Applied Code Change 583-01 CCMS Collateral Account Adjustment 922-01 Adjusted Scheduled STP Release

Revised Settlement Amount

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 192-01 Part-Settled Settlement Instruction

Revised Settlement Date

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 448-01 Adjusted Settlement Type 922-01 Adjusted Scheduled STP Release

Revised Stamping Consideration

188-02 Full Adjusted Settlement Instruction

Revised Status

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Transaction Basis

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction

Revised Underlying Reference

188-02 Full Adjusted Settlement Instruction

Revised Unit Quantity

128-02 Adjusted Settlement Instruction 188-02 Full Adjusted Settlement Instruction 192-01 Part-Settled Settlement Instruction 274-01 Adjusted Loan

SLS Loan Instruction Status

286-01 Full Loan Instruction

Schedule Transaction for Settlement

444-01 Unmatched Change Settlement Type Request
448-01 Adjusted Settlement Type
481-01 RTGS Dual Entry Notification
484-01 Unmatched RTGS Dual Entry Request
493-01 Maintain RTGS Instruction Request
497-01 Settlement Type Change Request

Scheduled Timestamp

180-02 Full Settlement Instruction

Secondary Matching Flag

005-03 Demand Dual Entry CHESS to CHESS Transfer Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer

Securities Shortfall

544-01 Levy Notification

Security Code

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 022-03 Effected Holding Adjustment 023-01 ACH Collateral Removal Request 025-01 Single Entry Transfer Request 027-03 Collateral Creation Request

029-03 Collateral Removal Request 031-02 Takeover Acceptance 034-04 Effected Takeover Transfer 036-01 Offeror Takeover Acceptance Notification 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 082-01 Adjusted Subposition 085-02 Takeover Acceptance Removal Request 090-03 Full Transferor Submitted Demand Transfer 092-01 Offeror Takeover Acceptance Removal Notification 093-01 Price Registration 096-01 Security Detail 097-02 Price Notification Registration 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 104-01 Collateral Removal Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 108-01 Collateral Creation Acceptance Advice 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 134-01 Scheduled Net Obligation 142-02 Accrued Settlement Instruction 146-03 Effected Net Settlement Movement 148-01 Projected Cum Entitlement Position 152-01 Projected Holding Position 160-01 Collateral Removal Rejection Advice 161-02 Trade Registration Request 164-03 Notified Trade 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 180-02 Full Settlement Instruction 182-01 Collateral Removal to CP Notification 204-01 Locked CHESS Holding 206-01 Unlocked CHESS Holding 271-01 Loan Application 275-01 Loan Return Notification 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 286-01 Full Loan Instruction 401-01 Registry to CHESS Conversion Authorisation 402-02 Certificated to CHESS Conversion Authorisation Request 403-01 Registry to CHESS Conversion Rejection 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 405-01 Registry to CHESS Transfer Authorisation 406-02 Certificated to CHESS Transfer Authorisation Request 407-01 Registry to CHESS Transfer Rejection 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 425-01 Holding Adjustment 431-01 Takeover Transfer 451-01 Participant to CHESS SRN Request 453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 455-01 Registry to CHESS SRN Reject 457-01 Participant to CHESS Holding Balance Request 459-01 Registry to CHESS Holding Balance Response 461-01 Registry to CHESS Holding Balance Reject 466-01 CHESS to Registry Holding Balance Request 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 502-02 Holding Subposition Detail 504-01 Cum Entitlement Daily Balance 506-01 Cum Entitlement Net Movement 508-01 Holding Daily Balance 510-01 Holding Net Movement 512-04 Holding Registration Details 514-01 Aggregated Foreign to Foreign Allocations 516-01 Rights Accepted 520-02 Cum Entitlement Balance 522-02 Holding Balance 524-01 Total Cum Entitlement Balance 528-01 Archived Sub-Register 532-01 Total Security Balance 533-02 Tax File Number / Australian Business Number Advice 534-02 Notified Tax File Number / Australian Business Number 544-01 Levy Notification 546-01 Revised Holder Registration Details 554-01 Close Out Notification 560-01 Top Security Holder Report 561-01 CCMS CHESS Security Message 565-01 CCMS Reconciliation Balance 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 578-01 Position Update 581-01 Accepted Corporate Action Message Set 582-01 Rejected Corporate Action Message Set 583-01 CCMS Collateral Account Adjustment 584-01 CCMS Cum Entitlement Transfer 586-01 Linked Collateral Transfer Request

601-04 Collateral Release Request 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 694-01 Cancelled Transfer or Conversion Request 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification 707-01 Offeror Takeover Acceptance Removal 711-01 Offeror Takeover Acceptance 754-01 RTGS Settlement Movement 757-02 Holding Advice 760-02 Holding Advice Notification 813-01 Income Statement 816-01 Income Statement Advice 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request 868-01 Income Statement Authorisation Request 869-01 Income Statement Request 871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 874-01 Effected Margin Cover Release and Transfer 877-01 Margin Cover Removal Request 882-01 Margin Cover Removal Authorisation Request 883-01 ASXCL Removal Margin Cover 885-01 ASXCL Margin Cover Removal Request 887-01 STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 890-01 Scheduled STP Transfer 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification 927-01 Collateral Statement Notification 952-01 Collateral Statement 957-01 Registry Income Statement Part A 959-01 Registry Income Statement Part B 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD

Security Code Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Security Code Preference

226-01 User Detail 228-01 User History

Security Description

561-01 CCMS CHESS Security Message

Security Holder Reference Number

715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund

Security Type

561-01 CCMS CHESS Security Message

Securityholder Reference Number

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 011-02 CHESS to Issuer Sponsored Conversion Request 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 453-01 Registry to CHESS SRN Response 457-01 Participant to CHESS Holding Balance Request 458-01 CHESS to Participant SRN Response 459-01 Registry to CHESS Holding Balance Response

461-01 Registry to CHESS Holding Balance Reject 466-01 CHESS to Registry Holding Balance Request 718-01 Issuer Sponsored Fund to CHESS Conversion Request 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 837-01 Participant to CHESS Fund Balance Request 838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection

Seller Id

161-02 Trade Registration Request 164-03 Notified Trade

Seller Order Reference Number

161-02 Trade Registration Request 164-03 Notified Trade

Serial Trade Qualifier

161-02 Trade Registration Request

Set Transaction Id

025-01 Single Entry Transfer Request 026-01 Single Entry Transfer Acknowledgement 911-01 Daily Interest Earned Notification 927-01 Collateral Statement Notification 929-01 End Statement Notification 940-01 Daily Interest Earned Statement 952-01 Collateral Statement 954-01 End Statement 957-01 Registry Income Statement Part A 958-01 Accepted Registry Income Statement Set 959-01 Registry Income Statement Part B 960-01 Rejected Registry Income Statement Set 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 971-01 End Registry Income Statement Set 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD 976-01 End Participant Income Statement Set

Settled Timestamp

156-01 Settled Settlement Instruction 180-02 Full Settlement Instruction 192-01 Part-Settled Settlement Instruction 614-01 Cash Subrecord Details

Settlement Advice Timestamp

663-01 ETC Settlement Advice 676-01 ETC Settlement

Settlement Amount

101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 134-01 Scheduled Net Obligation 142-02 Accrued Settlement Instruction 161-02 Trade Registration Reguest 164-03 Notified Trade 166-01 Scheduled Dual Entry Settlement Instruction 170-01 Effected Net Funds Movement 180-02 Full Settlement Instruction 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 500-01 RTGS Instruction Ready to Settle Advice 550-01 Scheduled Payment Instruction 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 731-01 Scheduled Settlement Payment Instruction 756-01 RTGS Funds Movement 917-01 Margin Settlement Notification 921-01 Margin Settlement Amount Change Request 942-01 Margin Settlement Advice 944-01 Margin Settlement Amount Change Authorisation Request

Settlement Counterparty PID

653-02 ETC Trade Allocation Advice 656-02 ETC Trade Allocation 663-01 ETC Settlement Advice 676-01 ETC Settlement

Settlement Date

101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request

107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 124-01 Rescheduled Settlement Instruction 130-02 Requested Settlement Instruction Change 134-01 Scheduled Net Obligation 142-02 Accrued Settlement Instruction 148-01 Projected Cum Entitlement Position 150-01 Projected Funds Obligation 152-01 Projected Holding Position 154-01 Cancelled Funds Obligation 164-03 Notified Trade 170-01 Effected Net Funds Movement 180-02 Full Settlement Instruction 184-01 Trade Registration Acceptance 186-01 Net Trust Amount Movement 192-01 Part-Settled Settlement Instruction 278-01 Scheduled Loan Instruction 300-01 Participant Funds Notification 302-01 Payment Provider Funds Notification 310-02 Participant Funds Obligation 312-01 Payment Provider Funds Obligation 332-01 Payment Provider Transfer Request 350-01 Clearing Account Transfer Request 361-01 Zero Sum Notification 362-01 CHESS DvP Notification 398-01 Settlement Cancellation Notification 410-01 Requested Settlement Type Change 444-01 Unmatched Change Settlement Type Request 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 497-01 Settlement Type Change Request 544-01 Levy Notification 550-01 Scheduled Payment Instruction 551-01 Aggregated Payment Request 552-01 Accepted Payment Set 553-01 Payment Set Total Record 556-01 Cancelled Payment Set Notification 570-01 Pending Equity Settlement Balance 614-01 Cash Subrecord Details 616-01 Cash Subrecord Total 731-01 Scheduled Settlement Payment Instruction 756-01 RTGS Funds Movement 822-01 Cancelled Funds Settlement Payment Instruction 824-01 Change Settlement Date 888-01 STP Collateral Removal Authorisation Request 890-01 Scheduled STP Transfer 894-01 STP Collateral Removal CP Authorisation Request 896-01 STP Collateral Removal CP Notification 926-01 Scheduled STP Collateral Removal

Settlement Instruction Status

121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 164-03 Notified Trade 180-02 Full Settlement Instruction 480-01 Requested RTGS Instruction Change 489-01 Change RTGS Instruction Request

Settlement Matching Date

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Settlement Step

150-01 Projected Funds Obligation 350-01 Clearing Account Transfer Request

Shortfall Valuation

544-01 Levy Notification

Sign

148-01 Projected Cum Entitlement Position 152-01 Projected Holding Position

Source Account Balance

578-01 Position Update

Specific Cover

027-03 Collateral Creation Request 610-04 Collateral Request

Stamping Consideration

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 060-03 Full Issuer Sponsored to CHESS Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 125-01 Maintain Settlement Instruction Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 493-01 Maintain RTGS Instruction Request 601-04 Collateral Release Request

Start Date Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Statement Required

222-04 Holder Detail 224-03 Holder History

Statement Type

929-01 End Statement Notification

Status Code

564-01 CHESS Processing Status Notification

Subposition Type

082-01 Adjusted Subposition 502-02 Holding Subposition Detail

Subposition Type Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Subregister Status

096-01 Security Detail 561-01 CCMS CHESS Security Message

Substitute Collateral

561-01 CCMS CHESS Security Message

Supplementary Reference

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 166-01 Scheduled Dual Entry Settlement Instruction 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 718-01 Issuer Sponsored Fund to CHESS Conversion Request 726-02 Application Request 727-02 Application Order Request 731-01 Scheduled Settlement Payment Instruction 738-01 Participant Investor Details 800-01 Redemption Request 801-01 Redemption Order Request 806-01 Switch Request 807-01 Switch Order Request 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion

Suspension Reason

162-01 Suspended Settlement Instruction

System Code

564-01 CHESS Processing Status Notification

System Id

561-01 CCMS CHESS Security Message 563-01 CCMS CHESS Calendar Message

TFN Withholding

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

Takeover Acceptance Balance

032-01 Effected Takeover Acceptance 034-04 Effected Takeover Transfer 038-01 Reversed Takeover Acceptance 092-01 Offeror Takeover Acceptance Removal Notification

Takeover Acceptance Removal Reason

085-02 Takeover Acceptance Removal Request 092-01 Offeror Takeover Acceptance Removal Notification 702-02 Takeover Acceptance Removal Authorisation Request 707-01 Offeror Takeover Acceptance Removal

Takeover Code

031-02 Takeover Acceptance 034-04 Effected Takeover Transfer 035-01 Offeror Takeover Acceptance Rejection 036-01 Offeror Takeover Acceptance Notification 082-01 Adjusted Subposition 085-02 Takeover Acceptance Removal Request 092-01 Offeror Takeover Acceptance Removal Notification 431-01 Takeover Transfer 502-02 Holding Subposition Detail 546-01 Revised Holder Registration Details 701-01 Takeover Acceptance Rejection 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification 707-01 Offeror Takeover Acceptance Removal 710-01 Rejected Offeror Takeover Acceptance 711-01 Offeror Takeover Acceptance

Takeover Code Parameter

234-03 Reporting Request Detail

503-04 Reporting Request

Target Transaction Id

020-01 ACH Accepted Collateral 030-02 Reduced Collateral 031-02 Takeover Acceptance 035-01 Offeror Takeover Acceptance Rejection 037-01 Demand Dual Entry CHESS to CHESS Transfer Cancellation Request 038-01 Reversed Takeover Acceptance 048-01 Cancelled Demand Dual Entry Transfer Request 050-02 Effected Security Code Change 076-02 Rejected Registry to CHESS Movement 078-02 Rejected Collateral Removal 080-02 Rejected Registration Details Update 088-01 Rejected Takeover Acceptance Removal Request 103-01 CP Collateral Removal Authorisation 109-01 CP Collateral Removal Rejection 110-01 CP Collateral Removal Acceptance Advice 111-01 External Delivery Fail Notification 112-01 Notified External Delivery Failure 113-01 External Delivery Fail Cancellation 114-01 Cancelled External Delivery Failure 116-01 Cancelled Settlement Instruction 118-01 Cancelled Change Settlement Instruction Request 119-01 Single Entry Settlement CHESS to CHESS Transfer Cancellation Request 120-01 CP Collateral Removal Rejection Advice 121-02 Change Settlement Instruction Request 122-01 Unmatched Change Settlement Instruction Request 123-01 Change Settlement Instruction Cancellation Request 124-01 Rescheduled Settlement Instruction 125-01 Maintain Settlement Instruction Request 126-01 Updated Settlement Instruction 128-02 Adjusted Settlement Instruction 129-01 Dual Entry Settlement Cancellation Request 130-02 Requested Settlement Instruction Change 131-01 Dual Entry Settlement Instruction Cancellation Removal 132-01 Removed Dual Entry Settlement Instruction Cancellation Request 135-01 Dual Entry Settlement Notification Cancellation Request 136-01 Reinstated Trade 138-01 Netted Trade 139-01 Isolate Counterparty Request 140-01 Cancelled Net Obligation 160-01 Collateral Removal Rejection Advice 162-01 Suspended Settlement Instruction 172-02 Effected Registry to CHESS Conversion 174-02 Effected Registry to CHESS Transfer 178-01 Unmatched Dual Entry Settlement Instruction Cancellation Request 190-01 Predicted Partial Fail Advice 195-01 Block Trade Request 196-01 Blocked Trade 197-01 Unblock Trade Request 198-01 Unblocked Trade 220-02 Authorised Registration Details

247-01 Change Controlling Participant Cancellation Request 250-01 Cancelled Change Controlling Participant Request 251-01 Change Controlling Participant Authorisation 252-01 Effected Controlling Participant Change 253-01 Change Controlling Participant Rejection 254-01 Rejected Change Controlling Participant 273-01 Loan Application Cancellation Request 277-01 Loan Return Cancellation Request 281-01 Bulk Loan Approval 282-01 Rejected Loan Application 284-01 Cancelled Loan Instruction 311-01 Participant Funds Obligation Acknowledgement 313-01 Participant Funds Obligation Rejection 333-01 Payment Provider Transfer Response 340-01 Effected Create Net Position 343-01 Create Net Position Authorisation 345-01 Create Net Position Rejection 348-01 Rejected Create Net Position 353-01 Create Cash Subrecord Authorisation 356-01 Effected Create Cash Subrecord 357-01 Create Cash Subrecord Rejection 360-01 Rejected Create Cash Subrecord 377-01 Participant Change Cash Subrecord Attributes Authorisation 379-01 Participant Change Cash Subrecord Attributes Rejection 382-01 Effected Participant Change Cash Subrecord Attributes 386-01 Rejected Participant Change Cash Subrecord Attributes 399-01 Settlement Cancellation Acknowledgement 401-01 Registry to CHESS Conversion Authorisation 403-01 Registry to CHESS Conversion Rejection 405-01 Registry to CHESS Transfer Authorisation 407-01 Registry to CHESS Transfer Rejection 410-01 Requested Settlement Type Change 441-01 Cancel Settlement Type Change Request 442-01 Cancelled Change RTGS Instruction Request 444-01 Unmatched Change Settlement Type Request 446-01 Updated RTGS Instruction 448-01 Adjusted Settlement Type 450-01 Cancelled Request to Change Settlement Type 453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 455-01 Registry to CHESS SRN Reject 458-01 CHESS to Participant SRN Response 459-01 Registry to CHESS Holding Balance Response 461-01 Registry to CHESS Holding Balance Reject 462-01 CHESS to Participant SRN Reject 466-01 CHESS to Registry Holding Balance Request 470-01 CHESS to Participant Holding Balance Response 474-01 CHESS to Participant Holding Balance Reject 476-01 Authorise RTGS Instruction Confirmation 478-01 Unmatched Change RTGS Instruction Request 480-01 Requested RTGS Instruction Change 483-01 RTGS Notification Cancellation Request 485-01 RTGS Dual Entry Cancellation Request 487-01 RTGS Dual Entry Cancellation Removal

489-01 Change RTGS Instruction Request 490-01 Unmatched RTGS Instruction Cancellation Request 491-01 Change RTGS Instruction Cancellation Request 492-01 Removed RTGS Instruction Cancellation Request 493-01 Maintain RTGS Instruction Request 495-01 Authorise Scheduled RTGS Instruction 496-01 Checking RBA Funds Queue Advice 497-01 Settlement Type Change Request 500-01 RTGS Instruction Ready to Settle Advice 505-01 Reporting Request Cancellation 544-01 Levy Notification 548-02 Reversed Levy Notification 554-01 Close Out Notification 585-01 Collateral Transfer Request Cancellation 603-01 Collateral Removal Authorisation 605-02 Collateral Removal Rejection 607-01 Accepted Collateral 609-02 Rejected Collateral 653-02 ETC Trade Allocation Advice 655-01 ETC Trade Rejection Advice 656-02 ETC Trade Allocation 657-01 Contract Note Advice 659-01 Contract Note Rejection Advice 660-01 ETC Trade Rejection 661-01 Allocation Cancellation Advice 664-01 Contract Note 665-01 ETC Settlement Cancellation Advice 667-01 ETC Trade Cancellation Advice 668-01 Contract Note Rejection 669-01 ETC Contract Note Cancellation Advice 672-01 Allocation Cancellation 680-01 ETC Settlement Cancellation 684-01 ETC Trade Cancellation 688-01 ETC Contract Note Cancellation 701-01 Takeover Acceptance Rejection 703-01 Takeover Acceptance Removal Authorisation 705-01 Takeover Acceptance Removal Rejection 710-01 Rejected Offeror Takeover Acceptance 759-01 Holding Advice Acceptance 761-01 Holding Advice Rejection 764-01 Accepted Holding Advice 766-01 Rejected Holding Advice 804-01 Funds Order Cancellation Request 805-01 Order Cancellation Request 810-01 Update Order 811-01 Effected Update Order 812-01 Reminder Notice 824-01 Change Settlement Date 873-01 Margin Cover Creation Authorisation 875-01 Margin Cover Creation Rejection 876-01 Accepted Margin Cover Creation 878-01 Reduced Margin Cover 879-01 Margin Cover Removal Authorisation 889-01 STP Collateral Removal Authorisation

891-01 STP Collateral Removal Rejection 892-01 Rejected STP Collateral Removal Request 893-01 STP CP Collateral Removal Authorisation 895-01 STP CP Collateral Removal Rejection 897-01 STP Collateral Removal Cancellation Request 900-01 STP Collateral Removal CP Rejection Advice 903-01 STP CP Collateral Removal Cancellation Authorisation 904-01 STP Collateral Removal Cancellation Notification 905-01 STP CP Collateral Removal Cancellation Rejection 906-01 Effected STP Collateral Removal Cancellation 908-01 Accepted STP Collateral Removal Cancellation Request 910-01 STP Collateral Removal CP Cancellation Authorisation Request 912-01 STP Collateral Removal CP Cancellation Notification 913-01 Excess Cash Standing Instruction Authorisation 915-01 Excess Cash Standing Instruction Rejection 916-01 Rejected STP Collateral Removal Cancellation 920-01 STP Collateral Removal Cancellation Rejection Advice 922-01 Adjusted Scheduled STP Release 923-01 Margin Settlement Amount Change Authorisation 925-01 Margin Settlement Amount Change Rejection 926-01 Scheduled STP Collateral Removal 928-01 Scheduled STP Collateral Removal CP Advice 930-01 Scheduled STP Collateral Rejection CP Advice 931-01 Margin Cover Removal Rejection 936-01 Effected Excess Cash Standing Instruction Request 938-01 Rejected Excess Cash Standing Instruction Request 948-01 Effected Margin Settlement Amount Change 950-01 Rejected Margin Settlement Amount Change 956-01 Rejected Margin Cover Removal Request

Target UIC

453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 455-01 Registry to CHESS SRN Reject 459-01 Registry to CHESS Holding Balance Response 461-01 Registry to CHESS Holding Balance Reject 466-01 CHESS to Registry Holding Balance Request 759-01 Holding Advice Acceptance 760-02 Holding Advice Notification 761-01 Holding Advice Rejection 865-01 Distribution Election Registry Authorisation 867-01 Distribution Election Registry Rejection 881-01 Income Statement Authorisation 907-01 Income Statement Rejection

Tax Credit Amount

813-01 Income Statement 816-01 Income Statement Advice

Tax Deducted

802-01 Redemption Order Response

803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 813-01 Income Statement 816-01 Income Statement Advice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice

Tax Deferred

959-01 Registry Income Statement Part B 964-01 Participant Income Statement Part B

Tax File Number / ABN 1

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 054-04 Full CHESS to Certificated Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 414-04 CHESS to Certificated Transfer 418-04 CHESS to Issuer Sponsored Transfer 533-02 Tax File Number / Australian Business Number Advice 534-02 Notified Tax File Number / Australian Business Number 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS to Issuer Sponsored Fund Conversion

Tax File Number / ABN 2

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 054-04 Full CHESS to Certificated Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 414-04 CHESS to Certificated Transfer 418-04 CHESS to Issuer Sponsored Transfer 533-02 Tax File Number / Australian Business Number Advice 534-02 Notified Tax File Number / Australian Business Number 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS to Issuer Sponsored Fund Conversion

Tax File Number / ABN 3

007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 054-04 Full CHESS to Certificated Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 414-04 CHESS to Certificated Transfer 418-04 CHESS to Issuer Sponsored Transfer 533-02 Tax File Number / Australian Business Number Advice 534-02 Notified Tax File Number / Australian Business Number 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS to Issuer Sponsored Fund Conversion

Tax Residence 1

Tax Residence 2

Tax Residence 3

Timestamp

188-02 Full Adjusted Settlement Instruction 224-03 Holder History 228-01 User History 232-01 Payment Facility History

Total Fund Movements Off

844-01 Top Security Fund Holder Report

Total Fund Movements On

844-01 Top Security Fund Holder Report

Total Fund Unit Balance

832-01 Holding Fund Balance

Total Fund Units on Register

833-01 Total Security Fund Balance

Total Margin Cover

870-01 Accepted Margin Cover Creation Request 878-01 Reduced Margin Cover

Total Message Count

134-01 Scheduled Net Obligation
140-01 Cancelled Net Obligation
146-03 Effected Net Settlement Movement
170-01 Effected Net Funds Movement
302-01 Payment Provider Funds Notification
312-01 Payment Provider Funds Obligation
538-01 End of Reporting
562-01 CCMS End Message
587-01 End of Linked Transfer Message Set
958-01 Accepted Registry Income Statement Set
960-01 Rejected Registry Income Statement Set
971-01 End Registry Income Statement Set
976-01 End Participant Income Statement Set

Total Messages in Set

025-01 Single Entry Transfer Request

Total Movements Off

560-01 Top Security Holder Report

Total Movements On

560-01 Top Security Holder Report

Total Options Cover

028-01 Created Collateral 030-02 Reduced Collateral 924-01 STP Reduced Collateral Notification

Total Payment Records

553-01 Payment Set Total Record

Total Reminder Count

812-01 Reminder Notice

Total Statement Count

929-01 End Statement Notification 954-01 End Statement

Total Unit Balance

522-02 Holding Balance

Total Units On Sub-Register

532-01 Total Security Balance

Trade Amount

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Trade Date

101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 161-02 Trade Registration Request 164-03 Notified Trade 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement

Trade Execution Time

161-02 Trade Registration Request 164-03 Notified Trade

Trade Price

161-02 Trade Registration Request

Trade Reason

164-03 Notified Trade

Trade Serial Number

161-02 Trade Registration Request

Trade Timestamp

651-01 ETC Trade Advice 652-01 ETC Trade

Trading Broker

651-01 ETC Trade Advice 652-01 ETC Trade

Transaction Basis

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 060-03 Full Issuer Sponsored to CHESS Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 142-02 Accrued Settlement Instruction 164-03 Notified Trade 180-02 Full Settlement Instruction 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 554-01 Close Out Notification 601-04 Collateral Release Request 651-01 ETC Trade Advice 652-01 ETC Trade 663-01 ETC Settlement Advice 676-01 ETC Settlement

Transaction Class Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Transaction Date

544-01 Levy Notification

Transaction Id

001-02 Demand Single Entry CHESS to CHESS Transfer Request 002-02 Effected Demand Single Entry CHESS to CHESS Transfer 003-02 Transferor Submitted Demand Transfer 004-02 Effected Transferor Submitted Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 006-02 Effected Demand Dual Entry CHESS to CHESS Transfer 007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 016-01 Accepted Registry to CHESS Movement Request 017-03 Issuer Sponsored to CHESS Conversion Request 018-02 Effected Holding Transformation 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request

022-03 Effected Holding Adjustment 023-01 ACH Collateral Removal Request 024-01 Rejected Demand Dual Entry CHESS to CHESS Transfer 025-01 Single Entry Transfer Request 026-01 Single Entry Transfer Acknowledgement 027-03 Collateral Creation Request 028-01 Created Collateral 029-03 Collateral Removal Request 031-02 Takeover Acceptance 032-01 Effected Takeover Acceptance 034-04 Effected Takeover Transfer 035-01 Offeror Takeover Acceptance Rejection 036-01 Offeror Takeover Acceptance Notification 037-01 Demand Dual Entry CHESS to CHESS Transfer Cancellation Request 040-01 Accepted Collateral Removal Request 042-05 Collateral Release 050-02 Effected Security Code Change 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 082-01 Adjusted Subposition 084-01 Effected Participant Transaction 085-02 Takeover Acceptance Removal Request 086-01 Accepted Takeover Acceptance Removal Request 090-03 Full Transferor Submitted Demand Transfer 092-01 Offeror Takeover Acceptance Removal Notification 093-01 Price Registration 097-02 Price Notification Registration 098-01 Price Notification Acceptance 100-01 Trade Removal Notification 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 103-01 CP Collateral Removal Authorisation 104-01 Collateral Removal Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 106-01 Scheduled Single Entry Settlement CHESS to CHESS Transfer 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 108-01 Collateral Creation Acceptance Advice 109-01 CP Collateral Removal Rejection 110-01 CP Collateral Removal Acceptance Advice 111-01 External Delivery Fail Notification 113-01 External Delivery Fail Cancellation 119-01 Single Entry Settlement CHESS to CHESS Transfer Cancellation Request 120-01 CP Collateral Removal Rejection Advice 121-02 Change Settlement Instruction Request 123-01 Change Settlement Instruction Cancellation Request 125-01 Maintain Settlement Instruction Request

129-01 Dual Entry Settlement Cancellation Request 131-01 Dual Entry Settlement Instruction Cancellation Removal 134-01 Scheduled Net Obligation 135-01 Dual Entry Settlement Notification Cancellation Request 136-01 Reinstated Trade 138-01 Netted Trade 139-01 Isolate Counterparty Request 142-02 Accrued Settlement Instruction 144-01 Effected CP Transaction 146-03 Effected Net Settlement Movement 156-01 Settled Settlement Instruction 160-01 Collateral Removal Rejection Advice 161-02 Trade Registration Request 164-03 Notified Trade 166-01 Scheduled Dual Entry Settlement Instruction 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 180-02 Full Settlement Instruction 182-01 Collateral Removal to CP Notification 184-01 Trade Registration Acceptance 188-02 Full Adjusted Settlement Instruction 192-01 Part-Settled Settlement Instruction 194-01 Unmatched Dual Entry Request 195-01 Block Trade Request 197-01 Unblock Trade Request 201-04 New Registration Details 202-01 Accepted New Registration Details 203-04 Registration Details Update Request 218-01 Accepted Registration Details Update 234-03 Reporting Request Detail 240-01 Created Payment Facility 242-01 Applied Payment Facility Update 244-01 Cancelled Payment Facility 245-01 Change Controlling Participant Request 246-01 Accepted Change Controlling Participant Request 247-01 Change Controlling Participant Cancellation Request 248-01 Change Controlling Participant Authorisation Request 251-01 Change Controlling Participant Authorisation 252-01 Effected Controlling Participant Change 253-01 Change Controlling Participant Rejection 256-01 Applied Change Controlling Participant Reject 271-01 Loan Application 272-01 Accepted Loan Instruction 273-01 Loan Application Cancellation Request 275-01 Loan Return Notification 277-01 Loan Return Cancellation Request 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 281-01 Bulk Loan Approval 286-01 Full Loan Instruction 300-01 Participant Funds Notification 310-02 Participant Funds Obligation 311-01 Participant Funds Obligation Acknowledgement 313-01 Participant Funds Obligation Rejection

332-01 Payment Provider Transfer Request 333-01 Payment Provider Transfer Response 340-01 Effected Create Net Position 341-01 Create Net Position Request 342-01 Create Net Position Record Authorisation Request 343-01 Create Net Position Authorisation 344-01 Accepted Create Net Position Response 345-01 Create Net Position Rejection 346-01 Applied Create Net Position Response 348-01 Rejected Create Net Position 351-01 Create Cash Subrecord Request 352-01 Create Cash Subrecord Authorisation Request 353-01 Create Cash Subrecord Authorisation 354-01 Accepted Create Cash Subrecord Response 356-01 Effected Create Cash Subrecord 357-01 Create Cash Subrecord Rejection 358-01 Applied Create Cash Subrecord Response 360-01 Rejected Create Cash Subrecord 361-01 Zero Sum Notification 371-01 Change Net Position Attributes Request 372-01 Changed Net Position Attributes Notification 373-01 Payment Provider Change Cash Subrecord Attributes Request 374-01 Changed Net Position Attributes Confirmation 375-01 Participant Change Cash Subrecord Attributes Request 376-01 Payment Provider Change Cash Subrecord Attributes Confirmation 377-01 Participant Change Cash Subrecord Attributes Authorisation 378-01 Accepted Participant Change Cash Subrecord Attributes 379-01 Participant Change Cash Subrecord Attributes Rejection 380-01 Participant Change Cash Subrecord Attributes Authorisation Request 382-01 Effected Participant Change Cash Subrecord Attributes 384-01 Applied Participant Change Cash Subrecord Attributes 386-01 Rejected Participant Change Cash Subrecord Attributes 398-01 Settlement Cancellation Notification 399-01 Settlement Cancellation Acknowledgement 401-01 Registry to CHESS Conversion Authorisation 402-02 Certificated to CHESS Conversion Authorisation Request 403-01 Registry to CHESS Conversion Rejection 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 405-01 Registry to CHESS Transfer Authorisation 406-02 Certificated to CHESS Transfer Authorisation Request 407-01 Registry to CHESS Transfer Rejection 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 421-01 Holding Transformation 422-02 Applied Registry Transaction 425-01 Holding Adjustment 426-02 Applied Registry Authorisation Response 431-01 Takeover Transfer 432-01 Cancelled Offeror Initiated TKO Acceptance Request 441-01 Cancel Settlement Type Change Request 451-01 Participant to CHESS SRN Request

452-01 CHESS to Participant SRN Request Acknowledgement 453-01 Registry to CHESS SRN Response 454-01 CHESS to Registry SRN Request 455-01 Registry to CHESS SRN Reject 456-01 CHESS to Registry SRN Response Acknowledgement 457-01 Participant to CHESS Holding Balance Request 458-01 CHESS to Participant SRN Response 459-01 Registry to CHESS Holding Balance Response 460-01 CHESS to Registry SRN Reject Acknowledgement 461-01 Registry to CHESS Holding Balance Reject 462-01 CHESS to Participant SRN Reject 464-01 CHESS to Participant Holding Balance Request Acknowledgement 466-01 CHESS to Registry Holding Balance Request 468-01 CHESS to Registry Holding Balance Response Acknowledgement 470-01 CHESS to Participant Holding Balance Response 472-01 CHESS to Registry Holding Balance Reject Acknowledgement 474-01 CHESS to Participant Holding Balance Reject 476-01 Authorise RTGS Instruction Confirmation 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 483-01 RTGS Notification Cancellation Request 484-01 Unmatched RTGS Dual Entry Request 485-01 RTGS Dual Entry Cancellation Request 487-01 RTGS Dual Entry Cancellation Removal 489-01 Change RTGS Instruction Request 491-01 Change RTGS Instruction Cancellation Request 493-01 Maintain RTGS Instruction Request 495-01 Authorise Scheduled RTGS Instruction 496-01 Checking RBA Funds Queue Advice 497-01 Settlement Type Change Request 500-01 RTGS Instruction Ready to Settle Advice 503-04 Reporting Request 505-01 Reporting Request Cancellation 518-01 Rejected Transaction 526-01 Accepted Reporting Request 528-01 Archived Sub-Register 530-01 Cancelled Reporting Request 533-02 Tax File Number / Australian Business Number Advice 536-01 Accepted Tax File Number / Australian Business Number Advice 544-01 Levy Notification 548-02 Reversed Levy Notification 550-01 Scheduled Payment Instruction 551-01 Aggregated Payment Request 553-01 Payment Set Total Record 554-01 Close Out Notification 561-01 CCMS CHESS Security Message 562-01 CCMS End Message 563-01 CCMS CHESS Calendar Message 564-01 CHESS Processing Status Notification 565-01 CCMS Reconciliation Balance 566-01 Recorded Collateral Registration Details 567-01 Collateral Giver Registration Details 568-01 Cancelled Collateral Registration Details 569-01 Collateral Giver Registration Cancellation

570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 572-01 Collateral Transfer Request 573-01 Successful Collateral Transfer 574-01 Rejected Collateral Transfer 575-01 Pending Collateral Transfer 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 578-01 Position Update 579-01 Collateral Acount Details 580-01 Collateral Acount Details Verification 581-01 Accepted Corporate Action Message Set 582-01 Rejected Corporate Action Message Set 583-01 CCMS Collateral Account Adjustment 584-01 CCMS Cum Entitlement Transfer 585-01 Collateral Transfer Request Cancellation 586-01 Linked Collateral Transfer Request 587-01 End of Linked Transfer Message Set 588-01 Rejected Linked Collateral Transfer 589-01 Pending Linked Collateral Transfer 590-01 Finalise Linked Collateral Transfer 591-01 Successful Linked Collateral Transfer 592-01 Reject Linked Collateral Transfer Request 601-04 Collateral Release Request 602-02 Effected ACH Transaction 603-01 Collateral Removal Authorisation 605-02 Collateral Removal Rejection 607-01 Accepted Collateral 609-02 Rejected Collateral 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 614-01 Cash Subrecord Details 651-01 ETC Trade Advice 652-01 ETC Trade 653-02 ETC Trade Allocation Advice 654-01 ETC Trade Advice Acknowledgement 655-01 ETC Trade Rejection Advice 656-02 ETC Trade Allocation 657-01 Contract Note Advice 658-01 ETC Trade Allocation Acknowledgement 659-01 Contract Note Rejection Advice 660-01 ETC Trade Rejection 661-01 Allocation Cancellation Advice 662-01 ETC Trade Rejection Acknowledgement 663-01 ETC Settlement Advice 664-01 Contract Note 665-01 ETC Settlement Cancellation Advice 666-01 Contract Note Advice Acknowledgement 667-01 ETC Trade Cancellation Advice 668-01 Contract Note Rejection 669-01 ETC Contract Note Cancellation Advice 670-01 Contract Note Rejection Acknowledgement 672-01 Allocation Cancellation 674-01 Allocation Cancellation Acknowledgement

676-01 ETC Settlement 678-01 ETC Settlement Advice Acknowledgement 680-01 ETC Settlement Cancellation 682-01 ETC Settlement Cancellation Acknowledgement 684-01 ETC Trade Cancellation 686-01 ETC Trade Cancellation Acknowledgement 688-01 ETC Contract Note Cancellation 690-01 ETC Contract Note Cancellation Acknowledgement 691-01 Controlling PID and Holder Status Request 692-01 Controlling PID and Holder Status Response 694-01 Cancelled Transfer or Conversion Request 701-01 Takeover Acceptance Rejection 702-02 Takeover Acceptance Removal Authorisation Request 703-01 Takeover Acceptance Removal Authorisation 704-02 Takeover Acceptance Notification 705-01 Takeover Acceptance Removal Rejection 706-02 Effected Offeror Transaction 707-01 Offeror Takeover Acceptance Removal 711-01 Offeror Takeover Acceptance 715-01 CHESS to Issuer Sponsored Fund Conversion Request 716-01 CHESS Conversion Request to Issuer Sponsored Fund 717-01 Effected CHESS Conversion to Issuer Sponsored Fund 718-01 Issuer Sponsored Fund to CHESS Conversion Request 719-01 Issuer Sponsored Fund to CHESS Conversion Authorisation Request 720-01 Accepted Participant Request 721-01 Conversion Authorisation Issuer Sponsored Fund to CHESS 722-01 Fund Response 723-01 Effected Conversion Issuer Sponsored Fund to CHESS 724-01 Conversion Rejection Issuer Sponsored Fund to CHESS 725-01 Rejected Conversion Issuer Sponsored Fund to CHESS 726-02 Application Request 727-02 Application Order Request 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 731-01 Scheduled Settlement Payment Instruction 732-01 Unit Adjustment 733-01 Effected Fund Unit Adjustment 738-01 Participant Investor Details 752-01 Requesting Funds Approval 754-01 RTGS Settlement Movement 756-01 RTGS Funds Movement 757-02 Holding Advice 758-01 Holding Advice Acknowledgement 759-01 Holding Advice Acceptance 760-02 Holding Advice Notification 761-01 Holding Advice Rejection 762-01 Effected Registry Transaction 764-01 Accepted Holding Advice 766-01 Rejected Holding Advice 800-01 Redemption Request 801-01 Redemption Order Request 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 804-01 Funds Order Cancellation Request

805-01 Order Cancellation Request 806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 810-01 Update Order 811-01 Effected Update Order 812-01 Reminder Notice 813-01 Income Statement 816-01 Income Statement Advice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice 822-01 Cancelled Funds Settlement Payment Instruction 824-01 Change Settlement Date 834-01 Full Issuer Sponsored Fund to CHESS Conversion 835-01 Full CHESS to Issuer Sponsored Fund Conversion 837-01 Participant to CHESS Fund Balance Request 838-01 CHESS to Registry Fund Balance Request 839-01 Registry to CHESS Fund Balance Response 840-01 CHESS to Participant Fund Balance Response 841-01 Registry to CHESS Fund Balance Rejection 842-01 CHESS to Participant Fund Balance Reject 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 860-01 Rejected Registry Authorisation 863-01 Distribution Election Request 864-01 Distribution Election Authorisation Request 865-01 Distribution Election Registry Authorisation 866-01 Accepted Distribution Election Request 867-01 Distribution Election Registry Rejection 868-01 Income Statement Authorisation Request 869-01 Income Statement Request 870-01 Accepted Margin Cover Creation Request 871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 873-01 Margin Cover Creation Authorisation 874-01 Effected Margin Cover Release and Transfer 875-01 Margin Cover Creation Rejection 877-01 Margin Cover Removal Request 879-01 Margin Cover Removal Authorisation 880-01 Accepted Margin Cover Removal Request 881-01 Income Statement Authorisation 882-01 Margin Cover Removal Authorisation Request 883-01 ASXCL Removal Margin Cover 884-01 Accepted Income Statement Request 885-01 ASXCL Margin Cover Removal Request 886-01 Accepted STP Collateral Removal Request 887-01 STP Collateral Removal Request 888-01 STP Collateral Removal Authorisation Request 889-01 STP Collateral Removal Authorisation 890-01 Scheduled STP Transfer 891-01 STP Collateral Removal Rejection 893-01 STP CP Collateral Removal Authorisation 894-01 STP Collateral Removal CP Authorisation Request 895-01 STP CP Collateral Removal Rejection 896-01 STP Collateral Removal CP Notification 897-01 STP Collateral Removal Cancellation Request 900-01 STP Collateral Removal CP Rejection Advice 903-01 STP CP Collateral Removal Cancellation Authorisation 905-01 STP CP Collateral Removal Cancellation Rejection 907-01 Income Statement Rejection 909-01 Excess Cash Standing Instruction Request 911-01 Daily Interest Earned Notification 913-01 Excess Cash Standing Instruction Authorisation 915-01 Excess Cash Standing Instruction Rejection 917-01 Margin Settlement Notification 921-01 Margin Settlement Amount Change Request 923-01 Margin Settlement Amount Change Authorisation 924-01 STP Reduced Collateral Notification 925-01 Margin Settlement Amount Change Rejection 927-01 Collateral Statement Notification 929-01 End Statement Notification 930-01 Scheduled STP Collateral Rejection CP Advice 931-01 Margin Cover Removal Rejection 932-01 Excess Cash Standing Instruction Authorisation Request 934-01 Accepted Excess Cash Standing Instruction Request 940-01 Daily Interest Earned Statement 942-01 Margin Settlement Advice 944-01 Margin Settlement Amount Change Authorisation Request 946-01 Accepted Margin Settlement Amount Change Request 952-01 Collateral Statement 954-01 End Statement 957-01 Registry Income Statement Part A 958-01 Accepted Registry Income Statement Set 959-01 Registry Income Statement Part B 960-01 Rejected Registry Income Statement Set 961-01 Registry Income Statement Part C AI 962-01 Participant Income Statement Part A 963-01 Registry Income Statement Part C CG 964-01 Participant Income Statement Part B 965-01 Registry Income Statement Part C FI 966-01 Participant Income Statement Part C AI 967-01 Registry Income Statement Part C NA 968-01 Participant Income Statement Part C CG 969-01 Registry Income Statement Part C OD 970-01 Participant Income Statement Part C FI 971-01 End Registry Income Statement Set 972-01 Participant Income Statement Part C NA 974-01 Participant Income Statement Part C OD 976-01 End Participant Income Statement Set

Transaction Id Parameter

234-03 Reporting Request Detail 503-04 Reporting Request

Transaction Status

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request 810-01 Update Order 811-01 Effected Update Order 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

Transferee Balance

577-01 CMAX Settlement Balance Update

Transferee Holding Balance

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 874-01 Effected Margin Cover Release and Transfer

Transferor Balance

577-01 CMAX Settlement Balance Update

Transferor Holding Balance

002-02 Effected Demand Single Entry CHESS to CHESS Transfer 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 874-01 Effected Margin Cover Release and Transfer

Transferor Margin Cover

874-01 Effected Margin Cover Release and Transfer

Transferor Options Cover

042-05 Collateral Release

Trust Amount

107-01 Scheduled Settlement CHESS to CHESS Transfer Request 186-01 Net Trust Amount Movement 310-02 Participant Funds Obligation

Trust Franked Deductions

957-01 Registry Income Statement Part A 962-01 Participant Income Statement Part A

UIC

226-01 User Detail 228-01 User History

Unblocking Transaction Id

198-01 Unblocked Trade

Underlying Reference

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 015-03 Issuer Sponsored to CHESS Transfer Request 021-02 Certificated to CHESS Transfer Request 025-01 Single Entry Transfer Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 060-03 Full Issuer Sponsored to CHESS Transfer 068-04 Full CHESS to Issuer Sponsored Transfer 074-03 Full Single Entry CHESS to CHESS Transfer 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 121-02 Change Settlement Instruction Request 125-01 Maintain Settlement Instruction Request 142-02 Accrued Settlement Instruction 180-02 Full Settlement Instruction 431-01 Takeover Transfer 481-01 RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 493-01 Maintain RTGS Instruction Request 601-04 Collateral Release Request 718-01 Issuer Sponsored Fund to CHESS Conversion Request 835-01 Full CHESS to Issuer Sponsored Fund Conversion 874-01 Effected Margin Cover Release and Transfer 885-01 ASXCL Margin Cover Removal Request

Unit Allotment Date

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 808-01 Switch Order Response 809-01 Effected Switch Order Request 810-01 Update Order 811-01 Effected Update Order 812-01 Reminder Notice 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice

Unit Price

651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 732-02 Unit Adjustment 733-02 Effected Fund Unit Adjustment 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 817-01 Distribution Re-investment Notification 818-01 Effected Distribution Re-investment Plan Advice 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification 927-01 Collateral Statement Notification 952-01 Collateral Statement

EXTERNAL INTERFACE SPECIFICATION VERSION 10.7 – NOV 2024

Unit Pricing Date

729-01 Application Order/Payment Plan Application Response 730-01 Effected Application Order/Payment Plan Application Response 802-01 Redemption Order Response 803-01 Effected Redemption Order Request 845-01 Unit Reversal Notification 846-01 Effected Unit Reversal Notification

Unit Quantity

001-02 Demand Single Entry CHESS to CHESS Transfer Request 003-02 Transferor Submitted Demand Transfer 005-03 Demand Dual Entry CHESS to CHESS Transfer Request 007-03 Demand CHESS to Issuer Sponsored Transfer Request 008-03 Effected CHESS to Registry Movement 009-03 Demand CHESS to Certificated Transfer Request 010-03 Applied Transferor Submitted Transfer 011-02 CHESS to Issuer Sponsored Conversion Request 012-03 Unmatched Demand Dual Entry CHESS to CHESS Transfer 013-02 CHESS to Certificated Conversion Request 015-03 Issuer Sponsored to CHESS Transfer Request 017-03 Issuer Sponsored to CHESS Conversion Request 019-02 Certificated to CHESS Conversion Request 021-02 Certificated to CHESS Transfer Request 022-03 Effected Holding Adjustment 023-01 ACH Collateral Removal Request 025-01 Single Entry Transfer Request 027-03 Collateral Creation Request 029-03 Collateral Removal Request 034-04 Effected Takeover Transfer 042-05 Collateral Release 050-02 Effected Security Code Change 052-03 Full Dual Entry CHESS to CHESS Transfer 054-04 Full CHESS to Certificated Transfer 056-03 Full Certificated to CHESS Transfer 058-03 Full Certificated to CHESS Conversion 060-03 Full Issuer Sponsored to CHESS Transfer 062-03 Full Issuer Sponsored to CHESS Conversion 068-04 Full CHESS to Issuer Sponsored Transfer 070-03 Full CHESS to Certificated Conversion 072-03 Full CHESS to Issuer Sponsored Conversion 074-03 Full Single Entry CHESS to CHESS Transfer 082-01 Adjusted Subposition 090-03 Full Transferor Submitted Demand Transfer 101-02 Dual Entry Settlement Notification 102-02 Unmatched Dual Entry Settlement Notification 105-02 Single Entry Settlement CHESS to CHESS Transfer Request 107-01 Scheduled Settlement CHESS to CHESS Transfer Request 108-01 Collateral Creation Acceptance Advice 121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 134-01 Scheduled Net Obligation 139-01 Isolate Counterparty Request

142-02 Accrued Settlement Instruction 146-03 Effected Net Settlement Movement 160-01 Collateral Removal Rejection Advice 161-02 Trade Registration Request 164-03 Notified Trade 168-01 CP Collateral Removal Authorisation Request 176-01 Collateral Creation Rejection Advice 180-02 Full Settlement Instruction 182-01 Collateral Removal to CP Notification 271-01 Loan Application 275-01 Loan Return Notification 276-02 Accrued Loan 278-01 Scheduled Loan Instruction 280-01 Bulk Loan Application 281-01 Bulk Loan Approval 286-01 Full Loan Instruction 402-02 Certificated to CHESS Conversion Authorisation Request 404-03 Issuer Sponsored to CHESS Conversion Authorisation Request 406-02 Certificated to CHESS Transfer Authorisation Request 408-03 Issuer Sponsored to CHESS Transfer Authorisation Request 412-03 CHESS to Certificated Conversion 414-04 CHESS to Certificated Transfer 416-03 CHESS to Issuer Sponsored Conversion 418-04 CHESS to Issuer Sponsored Transfer 425-01 Holding Adjustment 431-01 Takeover Transfer 480-01 Requested RTGS Instruction Change 481-01 RTGS Dual Entry Notification 482-01 Unmatched RTGS Dual Entry Notification 489-01 Change RTGS Instruction Request 502-02 Holding Subposition Detail 516-01 Rights Accepted 524-01 Total Cum Entitlement Balance 570-01 Pending Equity Settlement Balance 571-01 Collateral Source Account Movement Notification 572-01 Collateral Transfer Request 576-01 CCMS Collateral Transfer Notification 577-01 CMAX Settlement Balance Update 584-01 CCMS Cum Entitlement Transfer 586-01 Linked Collateral Transfer Request 601-04 Collateral Release Request 610-04 Collateral Request 612-04 Collateral Removal Authorisation Request 651-01 ETC Trade Advice 652-01 ETC Trade 657-01 Contract Note Advice 663-01 ETC Settlement Advice 664-01 Contract Note 676-01 ETC Settlement 754-01 RTGS Settlement Movement 871-01 Margin Cover Creation Request 872-01 Margin Cover Creation Authorisation Request 874-01 Effected Margin Cover Release and Transfer 877-01 Margin Cover Removal Request

882-01 Margin Cover Removal Authorisation Request
883-01 ASXCL Removal Margin Cover
885-01 ASXCL Margin Cover Removal Request
887-01 STP Collateral Removal Request
888-01 STP Collateral Removal Authorisation Request
890-01 Scheduled STP Transfer
894-01 STP Collateral Removal CP Authorisation Request
896-01 STP Collateral Removal CP Notification
927-01 Collateral Statement Notification
952-01 Collateral Statement

Unit Quantity Accepted

031-02 Takeover Acceptance 036-01 Offeror Takeover Acceptance Notification 085-02 Takeover Acceptance Removal Request 092-01 Offeror Takeover Acceptance Removal Notification 702-02 Takeover Acceptance Removal Authorisation Request 704-02 Takeover Acceptance Notification 707-01 Offeror Takeover Acceptance Removal 711-01 Offeror Takeover Acceptance

Units Participating

813-01 Income Statement816-01 Income Statement Advice817-01 Distribution Re-investment Notification818-01 Effected Distribution Re-investment Plan Advice

Units Redeemed

806-01 Switch Request 807-01 Switch Order Request 808-01 Switch Order Response 809-01 Effected Switch Order Request

Update Guaranteed Foreign Indicator

121-02 Change Settlement Instruction Request 130-02 Requested Settlement Instruction Change 480-01 Requested RTGS Instruction Change 489-01 Change RTGS Instruction Request

Updating Transaction Id

122-01 Unmatched Change Settlement Instruction Request
124-01 Rescheduled Settlement Instruction
126-01 Updated Settlement Instruction
128-02 Adjusted Settlement Instruction
130-02 Requested Settlement Instruction Change
142-02 Accrued Settlement Instruction
162-01 Suspended Settlement Instruction
188-02 Full Adjusted Settlement Instruction
274-01 Adjusted Loan

276-02 Accrued Loan
446-01 Updated RTGS Instruction
448-01 Adjusted Settlement Type
478-01 Unmatched Change RTGS Instruction Request
480-01 Requested RTGS Instruction Change

User Status

226-01 User Detail 228-01 User History

User Type

226-01 User Detail 228-01 User History

Utilised Non-Cash Collateral

917-01 Margin Settlement Notification 942-01 Margin Settlement Advice

Verification Name

457-01 Participant to CHESS Holding Balance Request 461-01 Registry to CHESS Holding Balance Reject 466-01 CHESS to Registry Holding Balance Request 837-01 Participant to CHESS Fund Balance Request 838-01 CHESS to Registry Fund Balance Request 841-01 Registry to CHESS Fund Balance Rejection

Yield

927-01 Collateral Statement Notification 952-01 Collateral Statement

10 NETWORK DEFINITION

10.1 Introduction

This section of the specification defines the network. The network definition provides the physical connection options and the required communication protocols that a participant must use to transmit messages to and from the Clearing House.

10.2 Network Principles

The CHESS network is not terminal based. It supports computer-to-computer communications.

A computer system communicating with CHESS could be either a simple personal computer or, for larger volume users, an application system on a mainframe or mini-computer.

Communication by the users with the CHESS system will be via one of the supported TCP/IP networks. The supported networks and their connectivity options are listed in the following section.

The use of the Telstra Austpac network will be discontinued as of 31st of March 2003.

The CHESS network is defined on layered principles according to the ISO/OSI model. The lower layers up to the network layer are provided by the TCP/IP network connection. A CHESS specific application protocol controls the connection between the user and CHESS application systems.

10.3 Supported TCP/IP Network Providers

The following information is subject to change without notice. For the latest information and also to obtain contact numbers for representatives of the respective network providers, please contact Clearing and Settlement Operations.

Provider	Options	Restrictions
ASX	1.Internet (using Cisco 3000 VPN client software and customer's choice of ISP(s))	 May be used as a BCP (i.e. back-up) connectivity option for all CHESS Participants. May be used as a primary connectivity option but subject to approval from the Clearing and Settlement Operations Manager and where Participant daily value and volume represents less than 1% of the overall market. Only available on selected platforms, including Windows, Solaris and Red Hat Linux.
ASX	1. LAN	1. Available only to customers hosted at the ASX premises.
Optus eFinity	 1.Dial-up (56K modem) 2.Frame relay with single router. 3.Frame relay, single router with ISDN back-up. 4.Dual frame relay, dual router 	
RadianzNet	 Frame relay with single router. Dual frame relay with dual router. 	
Telstra	T.B.A	

10.4 Application Development

This section should be read in conjunction with other parts of Section 10 that describe the meaning of the "Length", "Pad", "Logon Confirm Status Flag" and "Mac" fields.

Unlike X.25 (the previous method of communicating with CHESS), TCP/IP is not a packet orientated protocol. Rather, TCP/IP transmits data as a logical byte stream. When sending CHESS messages over TCP/IP, the concept of a discrete message is lost since all messages are appended one after another in a continuous byte stream. This means that the application at the other end of the transmission must reassemble the incoming stream back into discrete CHESS messages suitable for processing.

The implementation of CHESS over TCP/IP requires that the existing "Length" field be used for the purpose of message reassembly. The "Length" field is present in every possible CHESS protocol message. By analysing the contents of the "Length" field, an application can determine how many bytes must be read from the incoming TCP/IP data stream before a complete CHESS message has been received.

However, the length specified in the "Length" field is not always the TRUE length of the message. Therefore, the application must make some adjustments based on the following rules in order to correctly reassemble CHESS messages:

CHESS Data messages may contain from 0 to 7 Pad bytes in order to make the encrypt-able part of the message a multiple of 8 bytes. These Pad bytes are NOT counted in the "Length" field so an adjustment must be made to calculate the TRUE length. The following pseudo code will make the necessary adjustment. Note that "messageLength" is initially the value in the "Length" field of the incoming message.

```
IF ( protocol = chessData ) THEN
BEGIN
remainder = (( messageLength – 18 ) MOD 8 )
if (remainder > 0) THEN
BEGIN
messageLength = messageLength + ( 8 – remainder )
END
```

END

If encryption has been requested for the session then some incoming messages will contain a "MAC" field. The MAC field is NOT counted in the "Length" field so an adjustment must be made to calculate the TRUE length. The following pseudo code will make the necessary adjustment.

```
IF ( sessionIsEncrypted ) THEN
BEGIN
CASE protocol OF
logonConfirm,
logoff,
logoffConfirm,
data : messageLength = messageLength + 4
OTHERWISE
/* do nothing */
END
END
```

If encryption was requested but CHESS encryption was not available AND CHESS encryption is not mandatory for this environment, then CHESS will send back a Logon Confirm message that does not have a MAC field. This situation can be detected by checking the value of the security flag bit in the "Logon Confirm Status Flag" field. In the event that this happens, the application must not expect a MAC on the Logon Confirm or any subsequent messages during the session. This situation cannot happen in production since encryption is always mandatory but can happen in the various CHESS test environments.

10.5 Application Protocol

The purpose of the application protocol is to ensure a reliable error free transmission of data between applications irrespective of the state of the underlying networks, the hardware and intervening software on and through which the messages are travelling.

The application protocol is used to control the connection with CHESS through the use of transactions that, for example, "logon" to CHESS, transfer CHESS data messages and "logoff" from CHESS.

The protocol includes facilities to minimise any duplicate transactions and eliminate the possibility of lost transactions. Furthermore, the protocol and network encompass security features which ensure that the application originating the transaction is valid and that the data has indeed originated from the application that initiated the transfer. These features are addressed through sequence numbering, authentication codes and security keys.

This section defines the following requirements:

- the format and coding of the application protocol transaction;
- the addressing between CHESS and the User's application protocol;

the application protocol transactions between CHESS and the User systems.

The communications security is addressed in Section 11 of the specification.

The Figure 10.1 shows the place of the application protocol between the Clearing House and the user.



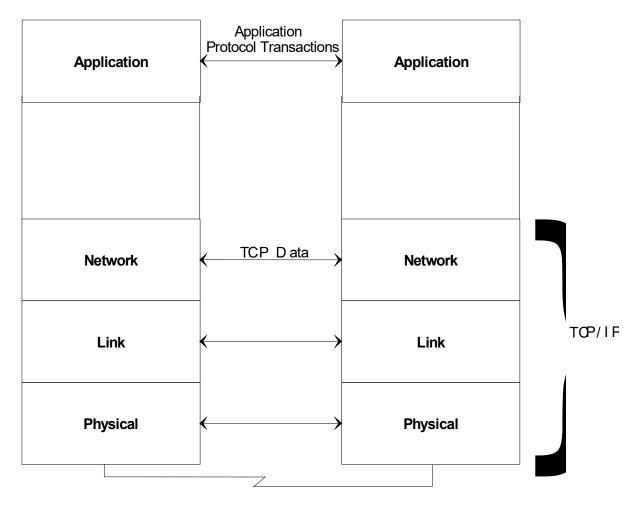


Figure 10.1 Summary View of CHESS Protocols

10.6 Application Protocol Transaction

10.6.1 General

An application protocol transaction may be either a **control** transaction, such as a logon message, or a transaction that transfers a CHESS **data** message.

As a result of CHESS 10 release the maximum size of an application protocol transaction (control or CHESS data message) has been increased from 900 bytes to 1,000 bytes.

Although the maximum size of a CHESS message is 1,000 bytes, in 'length' field was defined as 4 numeric digits which implies a maximum value of 9,999. The data type of the length field has been specified as such to accommodate the future expansion of CHESS data messages.

Figure 10.2 shows the relationship between the CHESS message, the application protocol transaction, and a TCP data stream segment and their respective formats.

10.6.2 Version Control

10.6.2.1 General

During the life of CHESS there will be changes to the various message formats. These may be to the 'header' section of the message or to the body of the CHESS data message.

Changes to the header section of the message influence the way in which fields relating to the application protocol are interpreted. Changes to the format of these fields or their interpretation will be controlled by the **Protocol Version**.

Changes to CHESS messages will add, remove, change or cause new interpretation of fields within the User data section of the messages. These changes will be controlled by the **Message Version Number**.

The use of these version control numbers will greatly assist on-going testing for both CHESS and users, as well as assisting the migration of software to production.

10.6.2.2 Protocol Version

Each time the application protocol is changed, a new Protocol Version Number is allocated. Where possible, there will be a changeover period during which both the old and the new protocols will be supported. In this case, CHESS will examine the Protocol Version Number in each message and providing it is one of those currently supported, will decode the message accordingly. For output messages, CHESS will retrieve the pre-determined Protocol Version number requested by the user and code messages accordingly.

In this way, individual users may schedule their conversion to the new application protocol independently of each other. Users will notify Clearing and Settlement Operations of the desired changeover schedules. More details of these procedures will be provided in operational procedure documentation published separately.

If there are changes to the application protocol, regardless of how many messages actually have changes to their header sections, all messages from a User must specify a consistent Protocol Version Number (i.e., either the old or the new version). This means that where multiple changes have occurred, a User must implement all of the changes in order to move to the new version. Similarly, CHESS will use a consistent Protocol Version for all output messages to a given user.

The initial Protocol Version Number will be '01' and further versions will be described and notified as appropriate.

10.6.2.3 Message Version Number

All CHESS Data messages have an associated Message Version Number. This allows differentiation of concurrently supported versions of a message (this concept is not supported at this time). CHESS Data messages do not all necessarily have the identical Message Version Number as some messages will change in a release while others may not. These version numbers are shown in section 4. For example, message 126 at Message Version Number 04 would be shown as 126-04.

The initial release of CHESS software will have all messages at version 01.

Whenever new CHESS software is released, all messages that change in that release will receive the next highest unused number.

For example, following the initial release of CHESS software where all messages were at version 01, if messages 001, 002 and 003 changed in the next release, they would have Message Version Numbers of 02. The set of CHESS Data messages would then be :

001-02 (perhaps still also supporting 001-01) 002-02 (perhaps still also supporting 002-01) 003-02 (perhaps still also supporting 003-01) 004-01 005-01 and all other messages also having Message Version Number 01.

(See the examples at the end of this subsection.)

This will provide 'self-documenting' history as to which messages changed together with which other messages (i.e., in common with a given CHESS Release Number) and in what sequence. Where a message does not change,

or at least has not changed for several releases, its version number will remain constant and lag behind the main CHESS Release Number.

Thus, an incoming message will contain the actual Message Version Number for that message, rather than the current CHESS Release Number and the CHESS central system will detect the Message Version Number and interpret and process that message appropriately.

Relationship of Input and Output Message Version Numbers

Where an incoming message to CHESS produces an output message back to the originator, the output message's Message Version Number will be chosen by CHESS as the one appropriate for the incoming message's Message Version Number. This will be independent of the versions of other messages. Thus, the User may enter any currently supported version of a message at any time.

There will of course be times when there will be changes to messages which have relationships to other messages and thus there will be restrictions to the flexibility of the versioning system. Groups of related messages may have to change as a whole from time to time, but details of these will be published by CHESS with each software release depending on the nature of the change. In certain conditions all Users may have to convert to a new release concurrently without any previous versions remaining supported. (This may be due to legislative changes, message interdependencies, etc.)

Unsolicited Output

When CHESS generates unsolicited output for a User as a result of internal processing (e.g., settlement, diary adjustments, general or standing reports, etc.) as opposed to a response to a User's input message, there is no obvious Message Version Number to select for the output messages. To overcome this, the User will notify Clearing and Settlement Operations of the desired CHESS Release Number to use as that User's single Unsolicited Output Message Version Number. In this way, Users can move to a new general level of unsolicited output messages at their individual convenience. The initial Unsolicited Output Message Version Number for each User will default to '01'.

Where there is no corresponding Message Version Number (for a specific unsolicited output message) to the User's specified Unsolicited Output Message Version Number, the **highest preceding existing version** for that message will be used. This also implies that, when a User moves to a higher level of output messages, that User must be able to accept all output messages at that notional higher level. Further, it implies that for all possible unsolicited output messages, a version at or below the nominated Unsolicited Output Message Version Number must exist. This will be checked at the time of registering a new Unsolicited Output Message Version Number for a User.

Examples of Message Versioning

Consider the following messages as used in CHESS :

- Message 1 (Demand Single Entry CHESS to CHESS Transfer) sent by the User to CHESS with message 2 (Effected Demand Single Entry CHESS to CHESS Transfer) being the CHESS response.
- Message 125 (Change Settlement HIN Request) sent by the User to CHESS with message 126 (Updated Settlement HIN) being CHESS's response.
- Message 60 (Full Issuer Sponsored to CHESS Transfer) being a message CHESS generates and sends unsolicited to the User. (That is, the message is not the direct response for an input message. In this case, it is the result of a reporting request, either standing or ad hoc. Note that the reporting request had its own specific response.)
- Message 156 (Settled Settlement Instruction) being a message CHESS generates and sends unsolicited to the User. (This example is a result of settlement processing by CHESS.)

This is represented in the initial implementation of CHESS as :

CHESS Release No.	Message Numbers					
	1 Þ 2	125 Þ 126	60	156		
	(Input) (Response)	(Input) (Response)	(Unsolicited Output)	(Unsolicited Output)		
01	001-01 002-01	125-01Þ 126-01	060-01	156-01		

For the next CHESS release (Release Number 2):

- Message 1 is changed together with corresponding new fields in the response message 2. The old formats of the messages are also still supported.
- Message 125 is changed with no changes to its response message 126. Both formats of message 125 are supported.
- The unsolicited CHESS to User message 60 is changed, but the old format is also supported.

This leads to CHESS Release Number 2 as follows :

CHESS Release No.	Message Numbers						
	1 Þ 2 (Input) (Response)	125 Þ 126 (Input) (Response)	60 (Unsolicited Output)	156 (Unsolicited Output)			
02	001-01⊧ 002-01 001-02⊧ 002-02	125-01Þ 126-01 125-02ì	060-01 060-02	156-01			

Thus the following applies for CHESS Release Number 2:

- If a User submits the old format message 001-01, the response is the old format 002-01.
- If a User submits the new format message 001-02, the response is the new 002-02.
- Regardless of whether the old 125-01 or the new 125-02 is submitted, the response is 126-01.
- If the User has left Version number 1 as the *Unsolicited Output Message Version Number*, then when CHESS sends message 60 to the User, it will use 060-01.

However, if the User has specified CHESS Release Number 2 to Clearing and Settlement Operations, message 060-02 will be sent.

In the latter case, when CHESS sends message 156 to the User, it first sees if a message 156-02 exists (as the User selected Version number 2 as the version for unsolicited output), but as such a message does not exist, CHESS selects 156-01 as the highest existing version for message 156 at or below Version number 2.

Now consider the following changes to be introduced in CHESS Release Number 3:

- The old formats of messages 1, 125 and 60 will be decommissioned.
- Message 125 stays unchanged, but has a new output response message 126. The previous version of message 126 is still supported

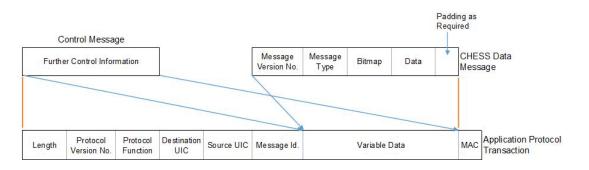
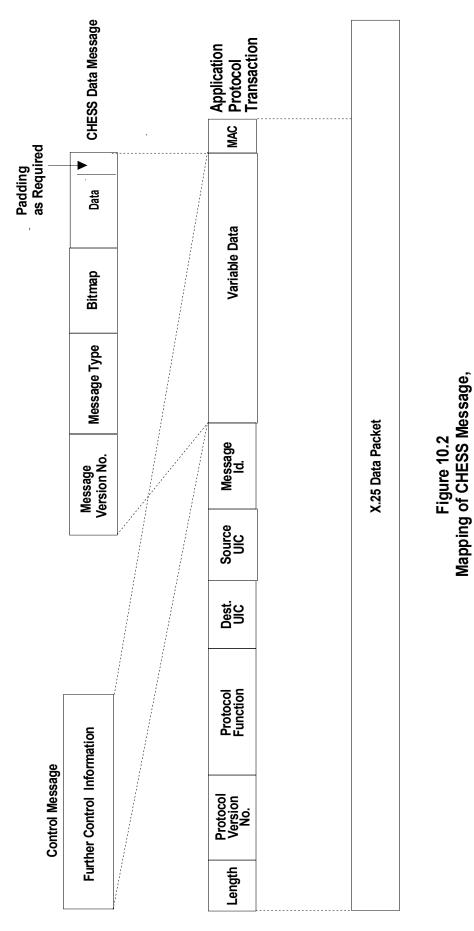
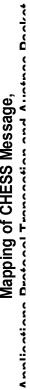


Figure 10.2 Mapping of a CHESS Application Protocol Transaction





EXTERNAL INTERFACE SPECIFICATION VERSION 10.7 – NOV 2024

10.6.3 The Format of the Application Protocol Transaction

A transaction contains the following information in order:

- the length of the transaction;
- the version of the application protocol;
- a protocol function code;
- a destination address (the User Identification Code (UIC) of CHESS or the User, or zero for a control message);
- a source address (format as for destination address);
- the message identifier consisting of the Access Identification Code (AIC), which is always present, and a sequence number (set for CHESS Data messages only, zero otherwise);
- the variable data (the CHESS Data message or control information);
- the Message Authentication Code (MAC) (for security refer to Section 11).

The six initial fields are of a fixed length and are present in all transactions sent to or from CHESS. The meanings of these fields are given in section 10.8.2 of this document.

The **variable data** may contain a CHESS Data message (e.g. a trade notification) or detail for control transactions such as the "logon".

The Message Authentication Code (MAC) is defined in Section 11.

10.6.4 Addressing and Identification of Participants and Registries

The following codes are used to identify the transactions received as coming from a valid User and as being from a valid processing site:

- User Identification Code;
- Access Identification Code.

10.6.5 User Identification Code

The first is the User Identification Code (UIC) and is a 5 byte numeric field. It is this field which is used for the source and destination addresses in the transaction header.

It identifies a CHESS User, for example:

- a CHESS Participant;
- an issuer;
- Clearing and Settlement Operations;

• other ancillary Users such as the Australian Clearing House.

The UIC may be the current broker number, IPN for FAST, or the SIN. Each User may have multiple UICs.

The codes are allocated by Clearing and Settlement Operations.

10.6.6 Access Identification Code

The AIC identifies the physical access point to a User system. The AIC is included in application protocol transactions as part of the Message Identifier.

The AIC is allocated by Clearing and Settlement Operations.

An access point for a User may be:

- a single application system;
- a Participant's branch office with its own autonomous application system;
- a bureau operating on behalf of many Participants with a single application system communicating with CHESS;
- a single registry operating autonomously with its own application system;
- a registry processor operating on behalf of several issuers and/or commercial share registries communicating with CHESS through a single application.

The AIC has a one-to-one relationship with the application system with which CHESS is communicating.

For each AIC there may be many UICs.

The same UIC cannot be used for different access points (AICs) and thus a UIC has one and only one AIC.

For a typical User with a single application system there will be one UIC and one AIC.

For a typical User with multiple application systems, the User will have multiple AICs.

Example: ABC Ltd, a trustee company, with three branch offices each with their own computer systems communicating with CHESS may have three (3) different AICs, one for each computer system.

If a User has multiple autonomous branch systems and hence multiple AICs, then it has one or more different UICs for each branch.

A registry processor could have multiple UICs, with one for each issuer registry handled, but a single AIC. A similar scenario will apply to a bureau that processes CHESS transactions on behalf of multiple brokers.

10.7 Application Protocol Transactions and Session Management

The control transactions associated with the application protocol are based on the principle of an application session.

A session is opened by an application with another party to transfer CHESS messages. A session may be open, in theory, for an indefinite duration. In practice, CHESS will close down at least once a day for housekeeping functions such as backup. While the session is open, both parties may exchange data.

The User is responsible for opening a session and establishing the TCP/IP connection Note that if a connection is created and then not used (i.e. a session is not established) or a connection is left open after a session is terminated, **CHESS will close idle connections shortly after.**

Only one session may be opened for a single access point (identified by the unique AIC) at one time. In other words, CHESS does not support "parallel" sessions for the same AIC.(Some users have requested this in order to test a new system in a live environment alongside their existing system but it is not feasible since CHESS is a deliver-once-and-once-only messaging system.)

Many CHESS Environments (Production, Unscripted, Accreditation, ...) may share the same target TCP/IP address, but each will be identified by a unique TCP port number. The target TCP/IP addresses and port number for each CHESS environment will be issued to the User on installation of their TCP/IP infrastructure.

A user may establish multiple sessions to different AICs (which may be in different CHESS Environments) originating from the same TCP/IP address.

The CHESS application protocol provides the following control transactions:-

- Logon; for a User to initiate a session with CHESS;
- Logon Confirm; sent by CHESS to agree to establish a session;
- Logon Deny; sent by CHESS to refuse a request to establish a session.
 Note: Some Logon Deny reason codes indicate that manual action is required before a Logon will succeed. Refer to Section 10.8.4 for these codes;
- Logoff; for either CHESS or the User to terminate a session;
- Logoff Confirm; for the User or CHESS to acknowledge a logoff and agree to terminate a session in an orderly manner;

- Request Acknowledge; request by either party for the other to acknowledge the highest number of a transaction validly received and secured within their system, and hence by implication, of all CHESS Data messages up to that transaction;
- Transaction Acknowledge; either sent unsolicited or in reply to a Request Acknowledge to acknowledge the receipt and secure storage of all transactions up to the specified number;
- Retransmit; for either party to request retransmission to commence from a certain numbered transaction previously sent. The retransmission cannot commence from a transaction prior to any transaction that has been acknowledged;
- Shutdown; sent by CHESS to terminate a session with the User unconditionally (rarely used);
- Transaction Error; to inform the sending party of an error in a rejected application protocol transaction.

Table 10.1 describes how the control transactions associated with the application protocol address the functionality required to provide a reliable communications transfer.

For phases 1 and 2 of the CHESS development, sessions will not be initiated by CHESS. The User will always initiate a session.

When a session has been successfully established by the logon/logon confirm handshake, the User may send CHESS messages.

Any messages that are waiting to be sent to that access point will be sent by CHESS when the session is established and a valid transaction, apart from the original logon, has been received by CHESS. In other words, at the start of a session, waiting transactions will not be sent to the User until the first transaction sent by the User has been received by the CHESS. This transaction may simply be a Transaction Acknowledge if no other messages are required to be sent by the User. The reason for this is to prevent problems in communications security synchronisation.

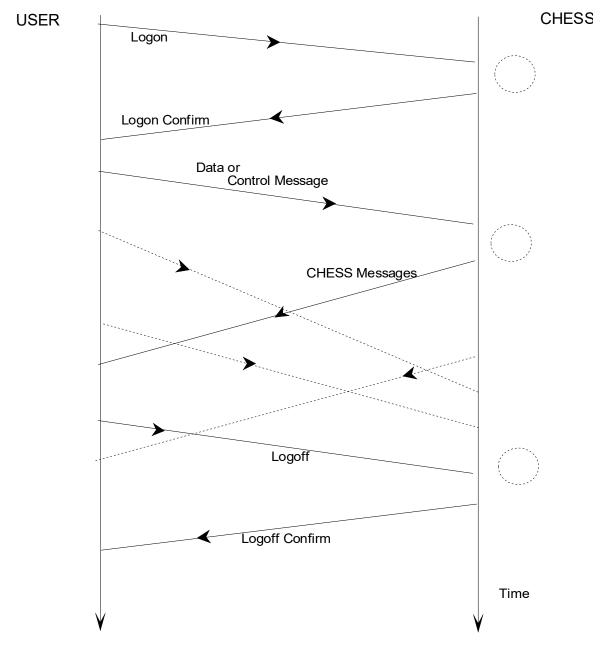
The session connection is full duplex so that messages can be sent and received simultaneously.

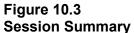
Messages for different Users that are valid for that access point will be sent and received during the same session.

The sequence of session establishment, transmission and subsequent disconnection is illustrated by Figure 10.3.

During session establishment, there may be negotiation of session parameters. Currently, the only parameter which has been defined is the use (or not) of data security. The negotiation procedure is defined in the sections dealing with the Logon and Logon Confirm messages.

Function	Logon	Logon Confirm	Logon Deny	Logoff	Logoff Confirm	Request Acknow- ledge	Transaction Acknow- ledge	Retransmit
Connection establishment/refusal	*	*	*	*	*			
Assignment to network connection	*	*		*	*			
Association of transactions	*							
Release of connections				*	*			
Handling of protocol errors			*					
Transaction numbering	*	*				*	*	*
Resynchronisation								*
Retention of sent transactions					*		*	
Re-establishment of network	*	*						
Uniquely reference transactions	*	*		*	*	*	*	*
Session security key establishment	*	*						
Table 10.1 Relationship Between Functional Elements and Control Transaction (* represents the relationship)	S							





Notes:

A User should not send CHESS messages until the logon confirm has been received otherwise the transactions could be rejected.

Neither party may send CHESS transactions after sending a logoff, but may still receive transactions until a Logoff Confirm has been received from the other party.

10.8 Application Protocol Transactions - Detailed Description

10.8.1 General

This section provides the detailed description of the application protocol transactions. Where appropriate, diagrams have been provided for illustration of the interactions between both parties.

Where the contents of a particular field have been specified as "variable", then it should be assumed to have the following default values:

- ASCII numeric zero for numeric fields; and
- spaces for an alphabetic or alphanumeric field.

10.8.2 Meanings of Fields

The following is an alphabetical list of all of the fields used within the detailed transaction definitions.

AIC

The AIC is always set to be the value assigned to the **User's** access point. It does not imply and is not related to the direction of the message.

AICs will be allocated by Clearing and Settlement Operations.

Bit Map

Within a CHESS Data message, the presence or absence of 'standard fields' is specified by the Bit Map. See Section 3 for a full discussion on the use of bit maps.

CHESS Data

This forms part of the CHESS Data message. Its components are defined within this section.

CHESS Message Type

This is a code to distinguish different types of CHESS Data messages.

CHESS Release Number

Each CHESS Data message contains a version field which identifies which CHESS release is being used.

CHESS Session Keys

These fields contain the keys which CHESS will use to encrypt messages (using the KDX key) and generate an authentication code (using the KMACX key) for all messages from CHESS to the User. They are sent in the Logon Confirm message, themselves encrypted with the appropriate master key. See section 11 for a full discussion and specification of security keys.

(These keys are also used by the User to perform decryption of messages and check authentication codes of messages received from CHESS.)

Destination UIC

This field contains the UIC to which a message is directed.

All messages directed to CHESS have the 'CHESS UIC'. Note, however, that it is anticipated that as well as a CHESS Production system, there will be available a CHESS Test system with these systems being allocated unique UICs. Therefore, in the following specifications of the functions, where the term CHESS UIC is used, the appropriate system must be referenced.

Messages directed to a User have a zero UIC if they are "control" messages, or contain the User's UIC if they are CHESS Data messages.

UICs will be allocated by Post Trade Operations.

Last MSN Received

This field is present in most control messages and explicitly acknowledges to the recipient that the sender has received and securely stored all messages from the other party up to and including the message referred to with this MSN value.

This indicates that the sender of this message has taken full responsibility for securing those messages and will not require further re transmission of them. Further messages may have been received, but may still be in the process of being secured and thus must not be included in the range of messages referred to by this number.

Where no new messages have been securely received since the last time a Last Received MSN field has been sent, the previous value is repeated.

Last MSN Sent

This field is present in most control messages and is for information only. It notifies the recipient of the most recent MSN used in a message from this sender to that recipient.

The value does not imply anything about message security or any assumption that the recipient has secured all such messages. This field is included simply as an aid to problem determination, validity and cross checking.

Length

The length field is present in all messages and specifies the length in bytes of the message inclusive of all fields from the length field itself up to and including the last defined field prior to the MAC field at the end of the message, but does not include the PAD field of the CHESS Data message.

In the case of the **CHESS Data message**, there is a requirement to pad the message between the last defined field and the MAC with binary zeros. This is to ensure that the length of data being encrypted or being used to generate a MAC is a multiple of 8 bytes (i.e., from and including the AIC up to but not including the MAC) as this is a requirement of CHESS's security processing. In these cases, the **length field remains unaltered and does not include the variable length padded characters**.

Note that other application protocol messages may have 'Reserved Fields'. These are fixed length defined fields and are thus **included** in the length count.

Logon Confirm Status Flag

At the time of receiving a User logon, CHESS may have a set of variable session parameters which need to be sent to the User, as well as possibly confirming User session parameters. These are embedded within this status flag. The flag consists of independent bit settings in a bit stream (just as for the Bitmap).

Bits which are undefined are to be set to zero. Currently the only defined bit is as follows :

• Bit 1 Set to 0 to indicate that security is **not** to be used. Set to 1 to indicate that security **is** to be used.

Note: if the User has requested the use of security (encryption and authentication) in the logon message as would be the normal case, CHESS may have some reason for disabling security and indicating that security is **not** to be used. **In this case, the User has the choice of proceeding in this manner or abandoning the session.**

Logon Status Flag

At the time of logging on to CHESS, the User may have a set of variable session parameters which need to be sent to CHESS. These are embedded within this status flag. The flag consists of independent bit settings in a bitmap.

Bits which are undefined are to be set to zero. Currently the only defined bit is as follows :

• Bit 1

Set to 0 to request that security is **not** to be used. Set to 1 to request that security **is** to be used.

MAC (MESSAGE AUTHENTICATION CODE)

As described in Section 11 on communications security, messages incorporate a MAC field. This is generated by passing the message (from and including the Message Identifier up to and including any required padding at the end of the message, but not including the MAC itself) through an algorithm to produce a 'checksum' based on a certain key.

The appropriate key to use for generating and for checking the MAC and any requirements for padding are described in section 11.

Note that if security has been disabled (as specified in the Logon and Logon Confirm messages), then the MAC field is not sent in any message. All other fields (including Reserved and Pad fields) are still sent.

Message Identifier

This is a combination of the AIC and MSN fields and forms the identifier for the message. In the case of control messages, the MSN is set to zero and hence control messages are not uniquely identified within any one access point.

See the definitions in this section for AIC and MSN.

MSN

The Message Sequence Number (MSN) is used to number all CHESS Data messages per AIC or CHESS itself. These are incremented by 1 for each successive data message. The initial data message to or from a User will commence at MSN 1 on the first day of operation for that User.

Control messages are not numbered and hence have an MSN field of zero.

The size of the field has been set so that it will not need to be reset or rolled over for the foreseeable life of CHESS.

There is a separate sequence of MSN for transactions from the User to CHESS and vice versa. Note that Production and Test systems will have different MSN sets.

The MSN is used to detect missing or duplicate transactions and forms the basis for message synchronisation between the User and CHESS. See the definitions for 'Last MSN Sent' and 'Last MSN Received' as well as the 'Retransmit' function for further discussion on the use of the MSN.

Protocol Function Code

Each different application protocol transaction is assigned a unique function code. Note that CHESS Data messages are one form of function and have their own internal Message Type fields to distinguish the different data messages.

Protocol Version

Each message contains a version field which identifies which version of the application protocol is being used within the message. A given User will only be using one version of a particular application protocol at a point in time. Clearing and Settlement Operations needs to identify which version of the application protocol is being used when different Users utilise different versions or which was used in the event Clearing and Settlement Operations has to read archived or logged transactions.

Reason Code

This field contains a numeric code including the reason an action has occurred. For example, to explain the rejection of a message.

Source UIC

This field contains the UIC from which a message is sent.

All messages sent from CHESS have the 'CHESS UIC'.

Messages sent from a User have a zero UIC if they are 'control' functions, or contain the User's UIC if they are CHESS Data messages.

See the 'Destination UIC' definition above for more discussion on the use of UICs.

Transaction in Error

Where a Transaction Error message is returned to the other party to reject a particular application protocol transaction, the complete (or as much as fits into a maximum length message) offending transaction (from its Length field to its MAC inclusive) is returned within this message. If the message being rejected is a CHESS Data message, it should be returned in its original state, i.e., encrypted if it was sent encrypted.

User Session Keys

These fields contain the keys which the User will use to encrypt messages (using the KDY key) and generate an authentication code (using the KMACY key) for all messages from the User to CHESS. They are sent in the Logon message, themselves encrypted with the appropriate master keys. See section 11 for a full discussion and specification of security keys.

(These keys are also used by CHESS to perform decryption of messages and check authentication codes of messages received from the User.)

Variable Data

Within a CHESS Data message, there is a section whose length and contents are dependent on the particular Message Type of the message. See Section 4 for a full specification of the contents of these messages.

10.8.3 Specifications of Functions

Each individual function is specified in the following pages.

Note that each section on "Error Conditions" refers to the validity checking which the recipient will perform prior to accepting the message. The order in which the error conditions are given does not imply any particular order of checking by CHESS or a User.

Within the function specifications only constant values, under "contents", are described. Variable contents are not described.

Where the term "numeric" is used in the "Format" column, an ASCII numeric character is implied.

Logon

Field Name	Size	Format	Contents
Length	4	numeric	0074
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	01
Destination UIC	5	numeric	CHESS UIC
Source UIC	5	numeric	00000
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable
Logon Status Flag	16	bits	Variable
User Session Encryption Key (KDY)	64	bits	Variable - encrypted with appropriate variant of Master Key. Binary zeros if security not in use.
User Session MAC Key (KMACY)	64	bits	Variable - encrypted with appropriate variant of Master Key. Binary zeros if security not in use.
Reserved Field	6	bytes	Binary zeros
MAC	32	bits	Variable (Generated with User Session MAC Key - KMACY) (Not sent if security is off)

Sender: User

Recipient: CHESS

Description:

- 1. This message is used to initiate a new session with CHESS.
- 2. It is the responsibility of the User to establish the TCP/IP connection before sending the Logon message; Either CHESS or the User can close the TCP/IP connection.
- 3. If security (encryption and authentication) is not to be used for this session then the status flag should be set accordingly. The use of security can only be avoided if a prior arrangement has been made with Clearing and Settlement Operations. If such an arrangement is not in place then the Logon will be denied. If for any reason CHESS is not using security and the User requests security, the Logon Confirm will show 'no security'.

4. The "last MSN sent" field in this (and other) message(s) is present for information only. It signifies the last message sent by the initiator of the message but does not imply that the other party has securely received it or previous messages.

CHESS will subsequently transmit a message (in this case a logon confirm) which will include a "last MSN received" field. It is that field which determines the point from which the User should recommence the session, i.e. by sending messages with the next MSN and onwards.

- 5. The "last MSN received" field in this message specifies to CHESS the point from which CHESS should resume sending messages, i.e. messages commencing with the next MSN.
- 6. In exceptional circumstances and with prior arrangement with Clearing and Settlement Operations, a User may logon with a "last MSN received" field which has already been acknowledged as securely received. This is an emergency measure only, and may not always be possible.
- 7. For explanation of security and variants of keys, see Section 11.

- Format is incorrect.
 Action: Logon Deny sent with appropriate reason code to originator.
- MSN is incorrect (non-zero).
 Action: Logon Deny sent with appropriate reason code to originator.
- Source UIC invalid. Action: Logon Deny sent with appropriate reason code to originator.
- Protocol Version invalid.
 Action: Logon Deny sent with appropriate reason code to originator.
- MAC incorrect. Action: Logon Deny sent with appropriate reason code to originator.
- A session is already established or being established by initiating access point. Action: Logon Deny sent with appropriate reason code to originator if this new Logon request is on a different connection to the session already established. Shutdown sent with appropriate reason code to originator if this new Logon request is on the same connection as the session already established.
- Length incorrect. Action : Logon Deny sent with appropriate reason code to originator.
- AIC and/or CHESS UIC invalid. Action: Logon Deny sent with appropriate reason code to originator.

- "Last MSN received" field invalid. Invalid if either:
 - number has been previously acknowledged as being securely received unless Clearing and Settlement Operations has been informed that a previously acknowledged message number is to be presented;
 - it is higher than any number previously sent by CHESS.
 - Action: Logon Deny sent with appropriate reason code to originator.
- Session key missing (zero, semi-weak or weak key) and "status field indicates security on".
 Action: Logon Deny message sent with appropriate reason code to originator. (Weak keys are described in section 11.)
- Invalid AIC for sending TCP/IP address.
 Action: Logon Deny sent with appropriate reason code to originator.
- System busy.
 Action: Logon Deny sent with appropriate reason code to originator.
- AIC disabled.
 Action: Logon Deny sent with appropriate reason code to originator.

Timeout Period:

Minimum 30 seconds. If the User does not receive a reply (either a Logon Confirm or Logon Deny) within this timeout period, the User should re-send this transaction.

Retries:

While a User system may attempt to establish a new session immediately after receiving a Logon Deny, it is recommended that the successive Logon not be attempted for some minimum period of time.

Logon Confirm

Field Name	Size	Format	Contents
	0120	i onnat	contento
Length	4	numeric	0074
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	02
Destination UIC	5	numeric	00000
Source UIC	5	numeric	CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable
Logon Confirm Status Flag	16	bits	Variable (See notes in section 10.8.2 re security flag in this field.)
CHESS Session Encryption Key (KDX)	64	bits	Variable - encrypted with appropriate variant of Master Key. Binary zeros if security not in use.
CHESS Session MAC Key (KMACX)	64	bits	Variable - encrypted with appropriate variant of Master Key. Binary zeros if security not in use.
Reserved Field	6	bytes	Binary zeros
MAC	32	bits	Variable (Generated with CHESS Session MAC Key - KMACX) (Not sent if security is off)

Sender: CHESS

Recipient: User

Description: To confirm receipt of a logon and the establishment of a new session. Following receipt of this message, the User must send a valid application protocol transaction (control or data) to CHESS within 30 seconds to complete the synchronisation procedure for the session.

- Format incorrect. Action: Discarded by receiver; no response to sender.
- MSN is incorrect (non-zero). Action: Discarded by receiver; no response to sender.

- Destination UIC invalid. Action: Discarded by receiver; no response to sender.
- Protocol Version invalid. Action: Discarded by receiver; no response to sender.
- MAC incorrect. Action: Discarded by receiver; no response to sender.
- Session already established with CHESS. Action: Discarded by receiver; Transaction Error sent to sender.
- Length incorrect.
 Action: Discarded by receiver; no response to sender.
- AIC and/or CHESS UIC invalid. Action: Discarded by receiver; no response to sender.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS unless a prior arrangement has been made by Clearing and Settlement Operations to restart from an earlier number
 - or if it is higher than any number previously sent to CHESS:
 - Action: Discarded by receiver; no response to sender.
- Logon transaction not sent. Action: Discarded by receiver; no response to sender.

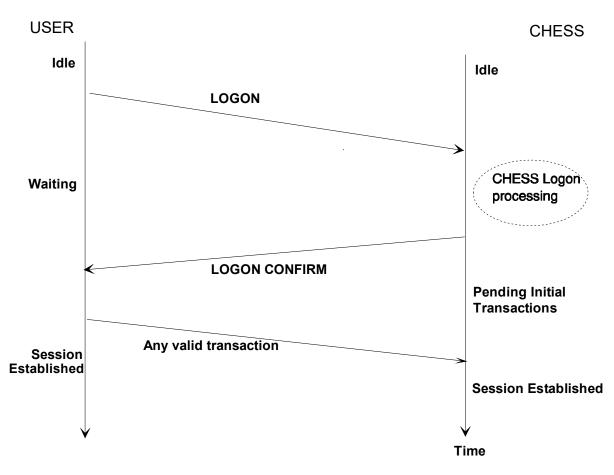


Figure 10.4 The Logon/Logon Confirm Transaction Pair Interchange

Logon Deny

	Field Name		Size	Format	Contents		
	Length		4	numeric	0037		
	Protocol Vers	sion	2	numeric	Variable		
	Protocol Function Code		2	numeric	03		
	Destination L	JIC	5	numeric	00000		
	Source UIC		5	numeric	CHESS UIC		
	AIC		5	numeric	Variable		
	MSN		9	numeric	00000000		
	Reason Code	e	5	numeric	Variable (see Section 10.8.4)		
Send	ler:	CHESS					
Reci	pient:	User					
Desc	ription:	on: To deny an attempt to establish a new session.					
Erroi	Error Conditions:						
•		Format incorrect. Action: Discarded by receiver; no response to sender.					
•		MSN is inco Action: Disc	•	,	o response to sender.		
•		Destination Action: Disc			o response to sender.		
•		Protocol Ver Action: Disc			o response to sender.		
•			Session already established with CHESS. Action: Discarded by receiver; Transaction Error sent to sender.				
•		•	Length incorrect. Action: Discarded by receiver; no response to sender.				
•		AIC and/or CHESS UIC invalid. Action: Discarded by receiver; no response to sender.					
•		Logon trans Action: Disc			o response to sender.		
•		User must h					

User must have security. Action: Discarded by receiver; no response to sender. User must resubmit Logon request with 'security' specified or inform Clearing and Settlement Operations that security is not to be used.

Logoff

Field Name	Size	Format	Contents
Length	4	numeric	0050
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	04
Destination UIC	5	numeric	CHESS UIC or 00000
Source UIC	5	numeric	00000 or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable
MAC	32	bits	Variable (Generated with appropriate Session MAC Key) (Not sent if security is off)

Sender: User or CHESS

Recipient: CHESS or User

Description: To close the session between the User and CHESS.

- No session established with sender. Action : Discarded by receiver.
- Format incorrect.
 Action : Discarded by receiver and Transaction Error sent.
- MSN is incorrect (non-zero). Action: Discarded by receiver and Transaction Error sent.
- Source/Destination UIC invalid. Action: Discarded by receiver and Transaction Error sent.
- Protocol Version invalid.
 Action: Discarded by receiver and Transaction Error sent.
- MAC incorrect.
 Action : Discarded by receiver and Transaction Error sent.
- Length incorrect.
 Action : Discarded by receiver and Transaction Error sent.

- AIC and/or UIC invalid. Action : Discarded by receiver and Transaction Error sent.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS;
 - or if it is higher than any number previously sent by receiver:
 - Action : Discarded by receiver and Transaction Error sent.

Timeout Period:

After sending the "logoff" request, if a "logoff confirm" has not been received within 60 seconds, a "logoff confirm" will be **assumed**.

The connection can then be closed or left open for the imminent commencement of another session (e.g. a session may be closed and then re-established to change security keys).

Note that either CHESS or the User can send a logoff, but only the User can establish a call and send a logon.

Logoff Confirm

Field Name	Size	Format	Contents
Length	4	numeric	0050
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	05
Destination UIC	5	numeric	00000 or CHESS UIC
Source UIC	5	numeric	CHESS UIC or 00000
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable
MAC	32	bits	Variable (Generated with appropriate Session MAC Key) (Not sent if security is off)

Sender: CHESS or User

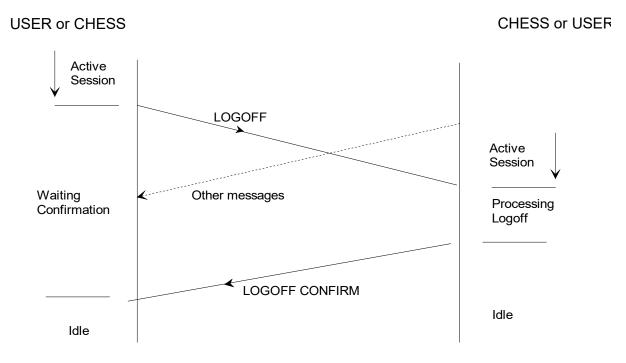
Recipient: User or CHESS

Description:

To accept closure of a session in response to a logoff.

- No logoff sent and session established.
 Action: Discarded by receiver with Transaction Error sent.
- Format incorrect. Action : Discarded by receiver with no response.
- MSN is incorrect (non-zero).
 Action: Discarded by receiver with no response.
- Source/Destination UIC invalid. Action: Discarded by receiver with no response.
- Protocol Version invalid. Action: Discarded by receiver with no response.
- MAC incorrect. Action : Discarded by receiver with no response.

- No session established with sender. Action : Discarded by receiver with no response.
- Length incorrect.
 Action : Discarded by receiver with no response.
- AIC and/or UIC invalid. Action : Discarded by receiver with no response.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS;
 - or if it is higher than any number previously sent by receiver:
 - Action : Discarded by receiver with no response.



Note:

Transactions may be received in the period between sending the logoff and receiving the logoff confirm.

Figure 10.5 Logoff/Logoff Confirm Transaction Pair Interchange

Request Acknowledge

Field Name	Size	Format	Contents
Length	4	numeric	0050
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	06
Destination UIC	5	numeric	CHESS UIC or 00000
Source UIC	5	numeric	00000 or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable

Sender:

User or CHESS

Recipient: CHESS or User

Description:

To request the receiving party to send a Transaction Acknowledge. CHESS will send a Request Acknowledge at least every two minutes during a session if no other data is awaiting transmission.

- No session established. Action: Discarded by receiver with no response.
- Format incorrect.
 Action: Discarded by receiver with Transaction Error sent.
- MSN is incorrect (non-zero).
 Action: Discarded by receiver with Transaction Error sent.
- Source/Destination UIC invalid. Action: Discarded by receiver with Transaction Error sent.
- Protocol Version invalid.
 Action: Discarded by receiver with Transaction Error sent.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS;
 - or if it is higher than any number previously sent by receiver:

Action: Discarded by receiver and Transaction Error sent.

- Length incorrect.
 Action: Discarded by receiver with Transaction Error sent.
- AIC and/or UIC invalid. Action: Discarded by receiver with Transaction Error sent.

Timeout Period:

CHESS will expect a "Transaction Acknowledge" response within 60 seconds of sending a "Request Acknowledge". If one is not received, CHESS will retry a number of times. If a "Transaction Acknowledge" has still not been received after these retries, CHESS will initiate normal logoff processing.

Function 07

Transaction Acknowledge

Field Name	Size	Format	Contents
Length	4	numeric	0050
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	07
Destination UIC	5	numeric	CHESS UIC or 00000
Source UIC	5	numeric	00000 or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable

Sender: User or CHESS

Recipient: CHESS or User

Description:

- 1. Sent in response to a Request Acknowledge or may be sent unsolicited. Requires no reply.
- 2. Since Transaction Acknowledgements can be sent unsolicited and multiple Request Acknowledgements may be outstanding at any given time, it cannot be assumed that a particular Transaction Acknowledgement received corresponds to a particular previous Request Acknowledgement sent.
- 3. Note: "Last MSN Received" implies receipt and secure storage. There may be other messages with higher MSNs which have been received but which have not yet been stored securely.

- No session established. Action: Discarded by receiver with no response.
- Format incorrect.
 Action: Discarded by receiver with Transaction Error sent.
- MSN is incorrect (non-zero).
 Action: Discarded by receiver with Transaction Error sent.
- Source/Destination UIC invalid. Action: Discarded by receiver with Transaction Error sent.
- Protocol Version invalid.
 Action: Discarded by receiver with Transaction Error sent.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS;
 - or if it is higher than any number previously sent by receiver:
 - Action : Discarded by receiver and Transaction Error sent.
- Length incorrect.
 Action: Discarded by receiver with Transaction Error sent.
- AIC and/or UIC invalid. Action: Discarded by receiver with Transaction Error sent.

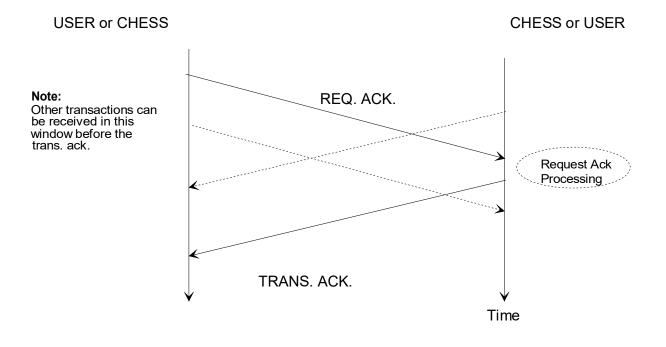


Figure 10.6 Request Acknowledgement/Transaction Acknowledgement Interchange

Retransmit

Field Name	Size	Format	Contents
Length	4	numeric	0050
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	08
Destination UIC	5	numeric	CHESS UIC or 00000
Source UIC	5	numeric	00000 or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable

Sender:

User or CHESS

Recipient: CHESS or User

Description:

To request the receiving party to resend all data messages beginning at one greater than the specified sequence number in "last MSN received". The retransmission can only commence from a sequence number that is greater than that acknowledged as securely received or greater than that specified as received in the logon.

It is the responsibility of Users to decide when and how they will use a Retransmit. The options could include:

- sending a Retransmit request when the first "out of sequence" number is detected and discarding this and all subsequent numbered transactions received until the re transmission commences with the correctly sequenced transaction;
- or discarding all "out of sequence" numbered transactions as above, but requesting a retransmission on each such occurrence. (This will cause more unnecessary messages to be sent but is easier to implement.)

- No session established. Action: Discarded by receiver with no response.
- Format incorrect. Action: Discarded by receiver with Transaction Error sent.
- MSN is incorrect (non-zero). Action: Discarded by receiver with Transaction Error sent.

- Source/Destination UIC invalid. Action: Discarded by receiver with Transaction Error sent.
- Protocol Version invalid. Action: Discarded by receiver with Transaction Error sent.
- "Last MSN received" field invalid.
 - if a higher number has been previously acknowledged as being securely received by CHESS;
- or if it is higher than any number previously sent by receiver:
 - Action : Discarded by receiver and Transaction Error sent.
- Length incorrect.
 Action: Discarded by receiver with Transaction Error sent.
- AIC and/or UIC invalid. Action: Discarded by receiver with Transaction Error sent.
- Unable to resend from sequence number requested.
 Action: Discarded by receiver with Transaction Error sent.

Timeout Period:

60 seconds.

CHESS Data

Field Name	Size	Format	Contents
	0126	ronnat	Contenta
Length	4	numeric	Variable
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	09
Destination UIC	5	numeric	CHESS UIC or USER UIC
Source UIC	5	numeric	USER UIC or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	Variable
CHESS Data Message Version Number CHESS Message Type Bit Map(s) Variable Data	2 3 64 Variable	numeric numeric bits Variable	Variable Variable (Possibly repeated)
Pad Field	0 to 7	bytes	Binary zeros (Not included in length count)
MAC	32	bits	(Generated with Session authentication key) (Not sent if security is off)

Sender: User or CHESS

Recipient: CHESS or User

Description:

To transfer a CHESS Data message.

The CHESS Message Type and variable data are as specified in Section 4 for each message.

Note that a portion of the message is **encrypted** with the sender's transmission session key. **This is from and including the AIC field up to, but not including, the MAC following the Reserved Field of padded data.** The Reserved Field is made up of enough bytes of binary zeros as to make the length from the AIC to the end of the Reserved Field (inclusive) a multiple of 8 bytes.

Note: although the Bitmap is shown as a 64 bit field, it may extend to secondary (or further) bitmaps depending on each individual CHESS Message Type.

The CHESS Data message is the only numbered message in the CHESS application protocol, i.e. the only one with a non-zero "MSN" field. If a CHESS Data message is received with an MSN that has already been received, the message is simply discarded as a duplicate transaction. If the MSN is too high (i.e. more than one greater than the previous valid CHESS Data message received), then the "Retransmit" facility should be instigated.

- No session established. Action: Discarded by receiver with no response.
- Format incorrect. Action: Discarded by receiver with Transaction Error sent.
- Protocol Version invalid.
 Action : MSN updated, but message discarded. CHESS sends a 540 Data message as response.
- Bitmap Invalid.
 Action : MSN updated, but message discarded. CHESS sends a 540 Data message as response.
- CHESS message type invalid for UIC.
 Action : MSN updated, but message discarded. CHESS sends a 540 Data message
 as response.
- CHESS message type/version number combination invalid.
 Action : MSN updated, but message discarded. CHESS sends a 540 Data message as response.
- MAC incorrect. Action: Discarded by receiver with Transaction Error sent.
- Length incorrect. Action: Discarded by receiver with Transaction Error sent if message too short to extract AIC/MSN or to perform security operations; else MSN updated, but message discarded and CHESS sends a 540 Data message as response.
- AIC invalid.
 Action: Discarded by receiver with Transaction Error sent.
- UIC invalid. Action : MSN updated, but message discarded. CHESS sends a 540 Data message as response to a known valid UIC for that AIC.
- Message sequence number invalid; either out of sequence or duplicate.
 Action: Discarded by receiver if duplicate MSN is detected.
 A Retransmit request is sent by receiver if MSN is higher than expected.

Transaction Error

Field Name	Size	Format	Contents
Length	4	numeric	Variable
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	10
Destination UIC	5	numeric	CHESS UIC or 00000
Source UIC	5	numeric	00000 or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Reason Code	5	numeric	Variable (see codes at the end of this section)
Transaction in Error	Variable	Variable	See description below.

Sender: User or CHESS

Recipient: CHESS or User

Description:

The Transaction Error message indicates that a received message was in error at the application protocol level. [CHESS data errors at the business level (e.g., invalid HIN) are rejected at the application business level by way of specific CHESS Data *518 Rejected Transaction* messages.]

A Transaction Error message may be the result of temporary communication line problems where a retransmission may correct the problem, or may be the result of coding or system problems which will inhibit further normal transmission of messages regardless of retransmission attempts. The latter case will need rectification before normal communication can be resumed. There is no specific action to be taken on receipt of a Transaction Error message. It is simply to allow the recipient (i.e., the sender of the transaction in error) to possibly analyse the cause of the problem.

If a received message fails protocol validation, but is thought to be a Transaction Error message itself, it should be discarded with no further Transaction Error messages sent, otherwise a loop of Transaction Error messages may result.

If the received message was thought to have been an **application protocol control** message (i.e., it contained a recognisable Protocol Function Code which was not a CHESS Data message), the 'data' in the Transaction Error message (the Transaction in Error field) will include the entire received message. This section of the message may be truncated if too few characters were received or if the received message seems inordinately long.

If the received message was thought to have been a CHESS Data message (i.e., a recognisable Protocol Function Code of 09) then special processing should be performed by the User (as well as by CHESS) as described below prior to a decision to send a Transaction Error:

If a CHESS Data message were to be discarded by the User without noting the MSN, then the next CHESS Data message received would cause the User to detect a *missing MSN* due to the previously discarded message's MSN leaving a gap in the MSN sequence. This would then lead to a request for retransmission of the 'missing message' and a loop of rejections and retransmissions would result.

The correct action is therefore as follows. During validation, if the Protocol Function Code is found to be an 09 (i.e., CHESS Data) and the MSN field is valid - i.e., it is exactly one higher than the previous MSN, the User's application protocol software should mark the MSN as having been received and should include this MSN in the next Transaction Acknowledge message sent. If the message subsequently fails validation for some reason, the User's software should raise a local alarm, and Clearing and Settlement Operations should be contacted to initiate resolution of the problem. A Transaction Error should not be sent.

CHESS also performs this kind of processing on messages received from Users and marks the MSN of such messages as having been received. However, because Users' CHESS Data messages may be rejected more readily due to stringent authorisation checks, etc. within CHESS's communications processing layer, CHESS attempts to inform the User of the occurrence automatically by sending a special CHESS Data message (*540 Invalid Transaction*) to the User as well as raising a local alarm. See Section 4 for more details on this message. The result is that the User's message stream will keep flowing to CHESS across the invalid transaction and the principle of CHESS always responding to a User's CHESS Data input message with a CHESS Data output message is maintained.

There are obviously limitations to the extent to which an 'invalid' CHESS Data message can be accepted in the above manner. If decryption fails to produce a recognisable message, or if the Protocol Function Code or MSN fields are garbled such that they do not appear valid or are not recognisable, then a Transaction Error must still be sent with the 'data' in the Transaction Error message (the Transaction in Error field) containing only the header (Length to MSN fields inclusive) of the received message. This section of the message may be truncated if too few characters were received. However, this is probably indicative of a more serious and general error than a localised error involving only one CHESS Data message.

Note: For TCP/IP based connections, CHESS will close the TCP/IP connection shortly after sending the Transaction Error. This is because CHESS cannot be sure that a valid message will be received and due to the streaming nature of TCP, may not be able to correctly find the start of the next message.

Function 11 Shutdown

Field Name	Size	Format	Contents
Length	4	numeric	0135
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	11
Destination UIC	5	numeric	00000
Source UIC	5	numeric	CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	00000000
Last MSN Sent	9	numeric	Variable
Last MSN Received	9	numeric	Variable
Reason Code	5	numeric	Variable (see codes at the end of this section)
Message	80	character	Text explaining system problem; or spaces if no text available.

Sender:

CHESS

Recipient: User

Description:

Initiated by CHESS in abnormal circumstances to request a User to cease transmission. No response will be required for the receiving party. CHESS will close down the session and the connection shortly after the Shutdown has been sent.

Note that CHESS will neither send nor receive messages in this session after the shutdown message has been sent.

Timeout Period:

Not applicable.

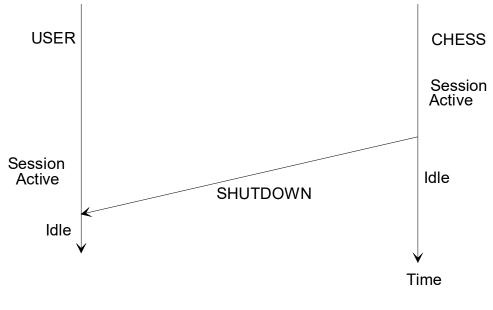


Figure 10.7 Shutdown Transaction and Effect

10.8.4 Reason Codes

The following lists the possible reason codes at the application protocol level.

Code	Description
99001	Format incorrect.
99002	MAC incorrect. Manual action if Logon Deny.
99003	Session already established or being established by initiating access point.
99004	Length incorrect. (Length either wrong for message type or wrong for fields indicated by bitmap for CHESS Data message.)
99005	AIC invalid.
	99006 "Last MSN received" field invalid. (Sender is acknowledging a message number either lower than one already acknowledged, or higher than highest message sent.). <i>Manual action if Logon Deny</i> .
99007	Session key missing (zero or weak key) and security flag indicates security on.
99008	Invalid AIC for sending TCP/IIP address. <i>Manual action if Logon Deny</i> .
99009	AIC disabled. Contact Clearing and Settlement Operations. <i>Manual action if Logon Deny</i> .
99010	Source UIC invalid.
99011	Destination UIC invalid.
99012	Logoff confirm received when no logoff sent and session is still established.
99013	Unable to resend from sequence number requested. (Retransmit request is for a message number lower than one already acknowledged, or higher than highest ever sent.) <i>Manual action if Logon Deny</i> .
99014	MSN invalid. (Non-zero MSN in control message.)
99015	System busy. Try again later.
99016	System closing down.
99017	Unexpected system problem.

- 99018 User must have security. (User has requested 'no security' in Logon request, but CHESS is insisting on 'security'.) *Manual action if Logon Deny*.
- 99019 Protocol Version invalid.
- 99020 Bitmap invalid. (Either not all mandatory fields present for CHESS Data message, or undefined fields for this message are present.)
- 99021 Non-numeric characters present in numeric field. (This is a more informative variant of 'Format incorrect'.)
- 99022 CHESS message type invalid for UIC. (User not authorised to submit this message type.)
- 99023 CHESS message type/version number combination invalid.
- 99024 Invalid protocol type or sending party not authorised for this type.
- 99025 Logoff in progress
- 99026 Local security problem experienced
- 99027 Illegal logon status flag.
- 99028 Reserved Pad Field contains illegal characters (non-null).
- 99029 Data fields contain illegal characters.
- 99030 User must use CUG sessions. (User has called a non-CUG Austpac address but does not have ASTC approval to do so.) Note that this error will cease to exist when all Participants have been migrated to TCP/IP.

10.8.5 Logon Deny

If a Logon Deny is received with any of the reason codes marked with "Manual action if Logon Deny", the user should not undertake further logon attempts until the user and/or CHESS has identified and rectified the underlying problem.

Note also that repeated Logon Deny messages with the same reason code **may** also indicate a problem requiring manual intervention.

11. COMMUNICATIONS SECURITY

11.1. Principles

This section defines the options available for users to ensure that a CHESS message originates from an authorised party, remains confidential and is not changed either accidentally or fraudulently.

Communications security consists of two distinct parts:

- encryption of messages;
- message authentication.

Encryption ensures confidentiality of information sent between two parties, preventing a third party from accessing that information. Its use is transparent to the sending and receiving systems.

Message authentication has two purposes; to authenticate that the originator of the message is valid and that the integrity of the message is preserved (preventing changes to the message).

Message authentication and encryption will require additional software development by the user and may require specialised hardware.

Security risks in general can be categorised by the following broad but not exclusive categories.

Category 1

Message interchange within the same organisation, content of interest only to the organisation. Security risk is low.

• Category 2

Message interchange between different organisations, content of interest only to communicating parties. Risk can be limited by agreement between the two parties.

• Category 3

Message interchange between different organisations, content of interest to third parties. Encryption recommended.

• Category 4

Message interchange between two parties. Message content either directly or indirectly affects a third party in a financial or business sense. Security risk is high.

CHESS messages fall into the last three categories.

Although there is little practical likelihood of a third party tampering with a message, even one of high financial value, message authentication and encryption enables communicating parties to eliminate this possibility as an area for legal dispute. Irrespective of the practical advantages of message security, the argument for its implementation rests primarily on legal protection of the communicating organisations.

The corporate policies of some of the major payment providers require encryption and authentication when exchanging messages of financial value with external organisations.

CHESS will support both message authentication and encryption with all users of the system.

For the reasons outlined above message authentication and encryption will be mandatory for all CHESS users. These techniques ensure privacy of communications, a valid message origin, integrity of content and no risk of tampering.

11.2. Communications Security Implementation

CHESS communications security is an implementation of the Australian Standard AS2805. The sections of this standard that are used by CHESS are sections of parts 4 & 5 and all of part 6. Copies of the relevant parts of the Australian Standard AS2805 are available for a charge from the Standards Association of Australia in each capital city. In general, only those potential CHESS Users, who do not intend using security hardware units that support AS2805, will need copies of this standard to aid in implementation. For all other parties the information contained in the External Interface Specification should be sufficient. Depending on the hardware or software solution chosen by the user, some actions described here may be performed by the security hardware, and conversely, additional actions may be required to interface this specification to the user's hardware or software.

All CHESS Data messages sent between users and the CHESS system are **encrypted.** Application protocol control transactions are not encrypted since they do not contain sensitive or confidential information.

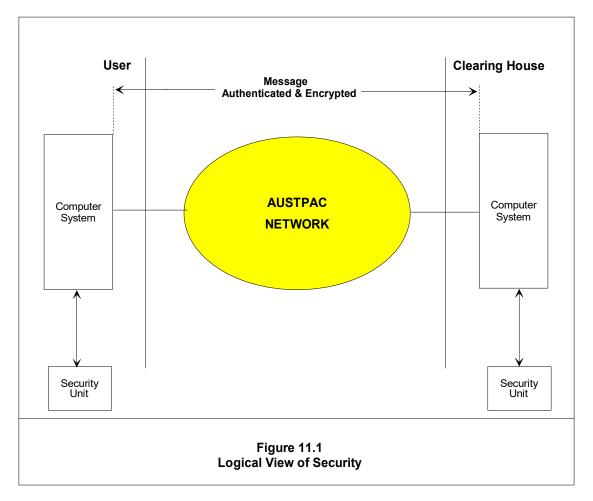
All CHESS Data messages and Logon & Logoff (request and confirm) transactions sent between CHESS and a user have a **Message Authentication Code (MAC)** appended to them.

11.2.1. Hardware Requirements

It is recommended that both encryption and authentication be implemented using a hardware unit. These units are commonly used for electronic funds transfer and other applications requiring secure communications. Such a device for organisations with large volumes of transactions may be a separate dedicated unit, or for smaller PC-based users an internal board. Such units are available "off the shelf" from specialised equipment suppliers. It is recommended that potential participants, registries or processing bureaus contact Clearing and Settlement Operations for details of such suppliers.

It is possible to implement the encryption and authentication techniques in software but this is far less secure and not recommended. The software implementation must be functionally equivalent to a hardware unit, and conform to the appropriate Australian Standard AS2805. Clearing and Settlement Operations should be contacted if a user is planning to take this approach.

Figure 11.1 below provides a logical view of encryption and authentication and the role of the security hardware device.



11.2.2. Encryption Definition

The CHESS Data message is encrypted in the sender's unit using a secret key. The encrypted message is transmitted to the receiver where it is decrypted in the same way using the same secret key. This key is known only to CHESS and the user.

The algorithm to be used for encryption is that defined by Australian Standard AS2805 Part 5 and using the Electronic Code Book mode (ECB).

The part of the CHESS message that is encrypted must be a multiple of 8 bytes. Therefore, if required, the CHESS data to be encrypted must be extended to a multiple of 8 bytes with binary zeros prior to encryption, and the padded message, now encrypted, must be sent to the receiver.

11.2.3. Message Authentication

Message authentication depends on the computation, transmission and validation of a Message Authentication Code (MAC). The code is appended to each relevant transaction sent. The data to be authenticated is defined in Section 10.

The data from which the MAC is generated must be a multiple of 8 bytes. If required, the data must be extended with binary zeros to a multiple of 8 bytes prior to generating the MAC. The filled data is included in the message sent to the receiver.

The MAC is generated using a secret key and the Australian Standard AS2805 data encryption algorithm. The mode used is Cipher Block Chaining (CBC).

The MAC is 32 bits in length. The CBC technique is defined by Australian Standard AS2805 Part 5. (Note that message authentication is discussed in AS2805 Part 4.)

The MAC is added to the filled transaction by the sender and transmitted with the transaction to the receiver. The receiver generates a MAC from the transaction using the same algorithm and key as that used by the sender. If the generated MAC is the same as that sent, then the transaction is genuine and has not been altered.

The MAC is generated and validated by the same hardware unit used for encryption and decryption.

The secret key used for authentication is different from that used for encryption. Details are given in the following sections.

11.2.4. Order of MAC generation and Encryption

Sending a Message

The following defines the sequence in which a message is handled by the transmitter where encryption and/or MAC generation are required.

1. If either MAC generation or encryption is required, then the part of the message affected must be padded to make the length of affected data a multiple of 8 bytes.

Both encryption and MAC generation commence at the AIC field of the message. The User should calculate the length of data from and including the AIC field to the last used field of the message, excluding the MAC. Binary zeros should now be added sufficient to make the length of this area a multiple of 8 bytes. This resultant data area (User's original data plus any padded binary zeros) is now used for any encryption or MAC generation operations.

Note that the length field at the start of the message is not to be altered. It should still reflect the original length of User's data.

- 2. If MAC generation is required (as specified in section 10), the MAC is generated using the resultant data area created in step 1 above and appended to the message (after any padded binary zeros).
- 3. If encryption is required (as specified in section 10), the encryption is performed using the resultant data area created in step 1 above. (Note that the encrypted data does not include any MAC appended to the message in step 2 above.)
- 4. The message is now sent to the receiver.

Receiving a Message

The following defines the sequence in which a message is handled by the receiver where encryption and/or MAC generation are required.

- 1. If either MAC checking or decryption is required, then the part of the message affected must be inferred by moving to the end of the message as given by the **length** field and moving forward in the data until the length from the AIC to the current position is a multiple of 8 bytes. This is then the area of data to be decrypted or authenticated. A MAC, if present, will be found immediately following this area.
- 2. If decryption is required (as specified in section 10), the decryption is performed using the data from the area determined in step 1 above. (Note that the encrypted data does not include any MAC appended to the message.)
- 3. If MAC checking is required (as specified in section 10), a MAC is generated using the data from the area created in step 1 above and compared to the MAC in the message following the resultant data area determined in step 1 above. (This assumes that the decryption process replaced the encrypted data in the message, otherwise this MAC check operation is carried out on the corresponding area of decrypted data wherever placed by the decryption process.)
- 4. The message is now decrypted and authenticated.

11.3. Key Management and Distribution

11.3.1. Introduction

Key management defines the generation, distribution and usage of the different types of security keys used in the CHESS environment.

Message authentication and encryption depend for their security on the secure management of the keys, their storage and retrieval. It is the responsibility of the Users to ensure their keys are managed in a secure manner.

CHESS will use a master and session key method for ensuring security of communications. The session keys are used for securing individual messages. The master keys are used for ensuring the secure interchange of session keys between CHESS and participants.

New session keys are exchanged at the start of each session using the Logon and Logon Confirm transactions. The same keys could be used for several sessions although the keys must be sent for each session when it is established.

11.3.2. The Method

The key management scheme for CHESS is an implementation of the Australian Standard AS2805 Part 6.3.

There are three sets of keys in the CHESS environment;

- the two cross-domain key components that are used to encrypt master keys when they are being physically distributed,
- the master keys that are used to encrypt the session keys when they are being electronically exchanged by the user and CHESS, and
- the session keys that are used to generate or authenticate the MAC and encrypt or decrypt CHESS Data messages.

The principle behind the scheme is that no key is available in un-encrypted form ("in clear") with the exception of the two cross-domain key components that are used when physically distributing keys to users.

The two cross-domain key components are only valid for the duration of the distribution unlike the master keys that are valid for a much longer period.

Туре	Generated By	Distribution Method	Encrypted For Distribution	Purpose
Cross-Domain Key (2 parts)	CHESS	Secure Courier	No	For transfer of Master Keys
Master Keys	CHESS	Secure Courier	Yes, using cross- domain key	For exchange of Session Keys
Session Keys	CHESS and User	Electronic	Yes, using Master Keys	Encryption and Authentication

The relationships between these keys are shown in Table 11.1 below.

Table 11.1: Summary of Security Keys Used In CHESS

11.3.3. General Key Definitions

A key may be either single length (64 bits) or double length (128 bits).

A single length key encrypted under a double length key yields a result 64 bits long.

A double length key encrypted under a double length key yields a result 128 bits long.

If a key is encrypted, then it is always encrypted using a double length key.

Following the convention in the AS2805 standard, the bits in a single length key are numbered left to right (i.e. 1, 2,....64) and treated as a stream of bits just as for the bitmaps described in section 3. For **documentation purposes**, the 64 bits are written as 16 hexadecimal characters with a space between each pair of characters. For example, a valid DES Encryption Algorithm (DEA) key is : 01 23 45 67 89 AB CD EF.

In general, the range of valid keys is from

01 01 01 01 01 01 01 01 01

to

FE FE FE FE FE FE FE.

Excluded from the range of valid keys for use in CHESS are the "weak" and "semiweak" keys. These keys have the effect of reducing the protection given by encryption and authentication. These keys are described in the following table.

	-		-	-	-	-	-	-
Weak Keys								
	01	01	01	01	01	01	01	01
	1F							
	E0	E0	E0	E0	F1	F1	F1	F1
	FE							
Semi-Weak Keys								
	E0	FE	E0	FE	F1	FE	F1	FE
	FE	E0	FE	E0	FE	F1	FE	F1
	1F	FE	1F	FE	0E	FE	0E	FE
	FE	1F	FE	1F	FE	0E	FE	0E
	01	FE	01	FE	01	FE	01	FE
	FE	01	FE	01	FE	01	FE	01
	1F	E0	1F	E0	1F	E0	1F	E0
	E0	1F	E0	1F	E0	1F	E0	1F
	01	E0	01	E0	01	E0	01	E0
	E0	01	E0	01	E0	01	E0	01
	01	1F	01	1F	01	0E	01	0E
	1F	01	1F	01	0E	01	0E	01

Table 11.2 : Weak and Semi-Weak Keys

11.3.4. Encryption of Keys for Distribution

For distribution from the Clearing House by courier, the master keys are encrypted using the cross-domain key.

For electronic distribution and exchange, the session keys are encrypted using the master keys.

The keys are actually encrypted with a variant of the appropriate encryption key as specified in the following sections. The variant is generated from the result of an "exclusive or" of the double length encryption key with a constant.

The constants used in CHESS to produce the variants are defined in AS2805 Part 6.3 Section 6.5 and in Table 11.4 below.

The purpose of the variant is to ensure separation of function so that the same key cannot be used for two distinct operations such as encryption and authentication.

The algorithms for encrypting a single length or double length key with a double length key are defined in AS2805 Part 6 and in the Figure 11.2. These will be required where a user encrypts with software or where the hardware unit will not perform double length key encryption.

Algorithm for encryption	n of a single and double length key	
A single length data field ((DATA) is ciphered by a double length key DK as follows:	
for encryption		
eDK(DATA)=eKL(dKR(eK	(L(DATA)))	
for decryption		
dDK(DATA)=dKL(eKR(dK	(L(DATA)))	
A double length data field	(DDATA) is ciphered by a double length key DK as follows:	
for encryption		
eDK(DDATA)=eKL(dKR(e	KL(LDDATA))) eKL(dKR(eKL(RDDATA)))	
for decryption		
dDK(DDATA)=dKL(eKR(d	IKL(LDDATA))) dKL(eKR(dKL(RDDATA)))	
where represents a concatenat	tion of two keys	
dN() represents a decrypti	ion function under key N,	
eN() represents an encryp	otion function under key N,	
KL is the leftmost 64 bits c KR is the rightmost 64 bits		
LDDATA is the leftmost 64 RDDATA is the rightmost		

Figure 11.2 : Encryption Algorithm

11.3.5. Description of Key Types

11.3.5.1. Cross-Domain Key

11.3.5.1.1. Purpose

The cross-domain key is used to encrypt master keys when they are being physically distributed to the CHESS User.

There is a cross domain key for each AIC.

The cross-domain key is a double length key, but note that it may consist of one or two separate components. Some users will implement their security facilities using the two individual components, while others will require a single key. For those requiring a single key, the two components may be 'XOR'ed to form a single key.

11.3.5.1.2. Use of the Cross-Domain Key

The cross-domain key is only used to distribute a single set of master keys to the user. If, for any reason, a new set of master keys has to be sent to a User then a different cross-domain key will be used and provided.

In normal circumstances, the cross-domain key is only used for the initial distribution of master keys to a new CHESS User. Note that it is possible that CHESS Users may need to reload the Master keys into the security hardware device. As a result, it is recommended that Users either securely store the distribution envelopes, or reencrypt the Master keys under a new double-length key, and securely store this new double-length key and the re-encrypted Master keys.

11.3.5.1.3. Generation and Distribution of the Cross Domain Key

The Clearing House generates and distributes the un-encrypted cross-domain key components by secure courier to the party physically controlling the processing node identified by the AIC.

11.3.5.2. Master Keys

11.3.5.2.1. Purpose

The master keys are used to encrypt the session keys when they are being electronically exchanged by the user and CHESS.

There are two unique master keys per AIC with each key being a double length key.

One key is called the MKX and the other the MKY.

11.3.5.2.2. Use Of Master Keys

The CHESS **User encrypts session keys using the MKY** before sending them to the Clearing House in the Logon transaction.

The CHESS **User decrypts session keys using the MKX** after receiving them from the Clearing House in the Logon Confirm transaction.

11.3.5.2.3. Generation And Distribution of Master Keys

The unique pair of keys (MKX and MKY) are generated and distributed by the Clearing House to the party physically controlling the processing node identified by the AIC. The MKX (see below) and the cross-domain keys are shipped in one courier delivery. The method of distribution for the MKY is by secure courier via a different route to that of the corresponding cross-domain key and the MKX.

The master key pairs will only be changed when it is believed they have been compromised.

The master key pairs will be distributed encrypted under variants 3 and 4 of the cross-domain key as defined in AS2805 and Table 11.4 later in this section.

The master key is referred to as a key encryption key (KEK) in AS2805.

11.3.5.2.4. Master Keyset Formats

CHESS can supply three different formats of keys to satisfy the varied requirements of the Users, however, **CHESS must be notified which format each User requires**. The formats are :

- 1. The shipping key should be supplied as one double-length key, and the MKX and MKY double-length keys should be supplied in the standard variants as described in the EIS. This format is the one used by the CHESS PC (CPC).
- 2. The shipping key should be supplied as two double-length keys, and the MKX and MKY double-length keys should be supplied in the standard variants. (The two double-length keys may be XORed together to form one double-length shipping key.) This format may be used by some ERACOM Series 90 Users.
- 3. The shipping key should be supplied as two double-length keys, and the MKX and MKY double-length keys should be supplied with the opposite variants to those documented in the EIS as standard. This format may be used by some ERACOM Series 90 Users, and by some older ERACOM devices which have been upgraded towards Series 90 functionality.

11.3.5.2.5. Key Verification Codes

All double-length keys supplied by CHESS are now supplied with a Key Verification Code (KVC). This includes the shipping key(s), MKX and MKY.

A KVC is a six-digit hexadecimal code, and it is optional whether CHESS Users utilise them. A KVC for a key is a code which allows a User to minimise the chance of a key being input incorrectly. Typically, a person would type the digits of a key, and then ask for a display of the KVC. If the KVC did not match that supplied with the key, then the key was not entered correctly. This is particularly useful when entering double-length keys, being 32 hex characters long.

Full details of how KVCs may be generated are in the AS2805 standard.

11.3.5.3. Session Keys

11.3.5.3.1. Purpose

There are two sets of session keys used during a session. Each set (SK) consists of a single length key for message authentication (KMAC) and a single length key used for encryption or decryption (KD).

Кеу	Length	Used for	Generated By	Exchanged By	Variant used for Exchange
SKX set					
KMACX	single	authentication of CHESS data by User	CHESS	logon confirm	Variant 1 of MKX
KDX	single	decryption of CHESS data by User	CHESS	logon confirm	Variant 2 of MKX
SKY set	SKY set				
KMACY	single	to generate MAC of User data by User	CHESS User	logon	Variant 1 of MKY
KDY	single	encryption of User data by User	CHESS User	logon	Variant 2 of MKY

The Table 11.3 summarises the usage and exchange of the session key sets.

Table 11.3: Summary Of Session Keys

11.3.5.3.2. Use Of Session Keys

The first set consists of the CHESS session keys (SKX). The SKX set consists of two single length keys; KDX and KMACX.

The CHESS User decrypts messages sent by the Clearing House using the KDX.

The CHESS User authenticates messages sent by the Clearing House using the KMACX.

The second set consists of the User session keys (SKY). The SKY set consists of two single length keys; KDY and KMACY.

The CHESS User generates an authentication code to be appended to transactions to be sent to CHESS using the KMACY.

The CHESS User encrypts the CHESS Data messages using KDY before sending them to the Clearing House.

11.3.5.3.3. Generation and Distribution of Session Keys

The session key set (SKY) is generated and encrypted by the user and is sent to the Clearing House in the Logon transaction. Each logon for a new session must contain a set of session keys.

The user must ensure that they do not generate "weak" or "semi-weak" keys for use as session keys. Use of such keys will be rejected by CHESS. Table 11.1 defines "semi-weak" and "weak" keys. The session keys generated by the user for transmission to CHESS must be of odd parity, as defined in AS2805 Part 5 Section 3.5.

Prior to transmitting the SKY set to CHESS, it is encrypted using the master key MKY as follows :

KMACY is encrypted using variant 1 of the master key MKY; KDY is encrypted using variant 2 of the master key MKY.

The CHESS session key set (SKX) is generated and encrypted by CHESS. It is sent to the User in the Logon Confirm transaction. Every Logon Confirm will contain a set of session keys and these are encrypted using the master key MKX during transmission as follows :

KMACX is encrypted using variant 1 of the master key MKX; KDX is encrypted using variant 2 of the master key MKX.

The variants are defined in Table 11.4 using the same representation as that defined for keys.

Variant	Constant	Encryption key	Used To Protect
1	24 24 24 24 24 24 24 24 24	Master keys	Session authentication keys
2	22 22 22 22 22 22 22 22 22 22	Master keys	Session encryption keys
3	82 82 82 82 82 82 82 82 82	cross-domain key	Master key MKY
4	84 84 84 84 84 84 84 84 84	cross-domain key	Master key MKX

Table 11.4: Variants used in the CHESS environment.

11.3.6. Summary of Key Management

Figure 11.3 overleaf provides a summary of the various keys used during key exchange and their use in encrypting and authenticating data.

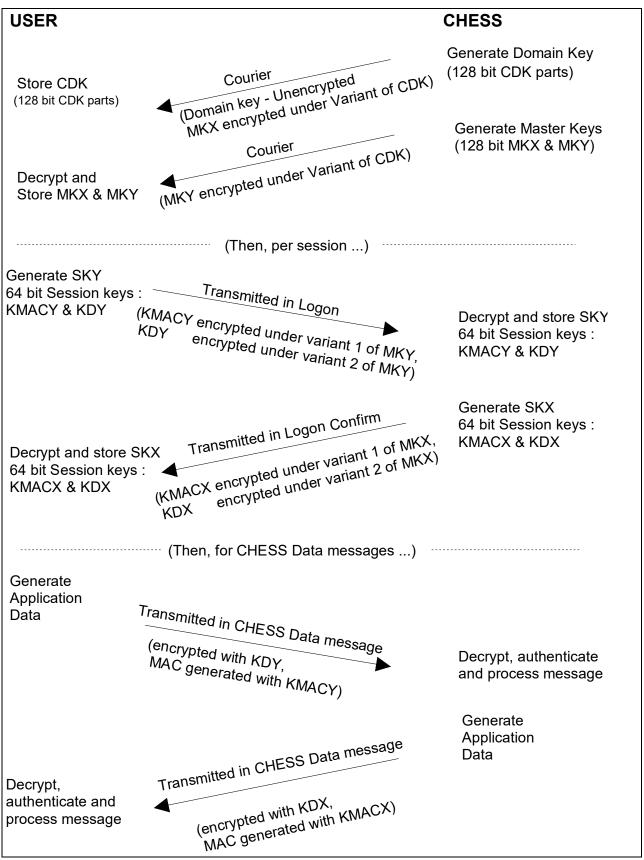


Figure 11.3 : Summary of Security Key Usage

12. DISASTER RECOVERY

12.1 Principle

The objective of the CHESS system is to provide the level of disaster recovery capability that is **appropriate to the level of business risk** to which users and the ASX Clear will be exposed.

Securities markets are generally characterised by real time trading systems with provision for maximum systems availability (for example the ASX's Trading system). In contrast to this, Clearing and Settlement Operations have moved to a fixed settlement period which provides for a high degree of certainty as to the obligations of a Participant at a future date.

The following are views of securities firms on the significance of a protracted outage of CHESS facilities, and the significance of settlement not occurring on a normal business day:

- many firms compared it to a public holiday citing that it would require adjustment of their cash position but provided this was notified with sufficient warning, it was not significant (mainly institutions and brokers);
- major custodians viewed it more unfavourably citing that building confidence in Australian settlement practices was vital to their long term success.

12.2 Disaster Recovery Facilities for the Central CHESS System

ASX Clear has adopted a disaster recovery strategy based on the principles of:

- recovery from a total loss of the primary processing site within a maximum of four hours. This includes a return to full functionality for CHESS users;
- provision of at least two hours warning of the inability of the ASX Clear to satisfactorily meet the 4.00pm settlement time based on a loss of processing capability.

12.3 Disaster Recovery Facilities for Participants

A communications or system failure by a user could affect settlement, causing trades by unrelated Participants to fail to settle or causing settlement to be postponed in total.

The ASX Clear has a responsibility to ensure that the integrity of the whole CHESS settlement environment is maintained.

It is recognised that most users will have a disaster recovery plan in place.

Although the ASX Clear does not provide a prescriptive disaster recovery plan for CHESS users, it does recommend that users formulate disaster recovery plans that facilitate continued operations in the event of disruption to their business.

In situations where it is necessary for a user to revert to a previous back-up of their system CHESS will provide (on request) the User with details of CHESS messages.

These message details allow a user to 'rebuild' their system so it is synchronous with CHESS.

It is possible to request a file containing messages sent to CHESS and/or a file of messages received from CHESS.

In order to produce a Disaster Recovery file a Participant must provide their AIC to CHESS. It is possible to produce a file for a certain criteria. A broad range of selection alternatives are available. For example a user might require all messages within a certain MSN range, or for a specific message type or security id. It is suggested that each user discuss their individual requirements with Post Trade Operations.

It is possible to request messages up to 3 months old.

The message details are available in two file formats:

- CHESS PC Export/Import format; and
- EIS CHESS message format with each record separated by a carriage return and line feed.

The files are be provided in an un-encrypted format. It is the responsibility of the requesting participant to ensure the details provided as part of the file are kept secure at all times.

Each of the file formats contain binary information. Therefore it is not possible to use these files to produce meaningful text output.

Hard copy output of CHESS messages is available if required.

The following tables show each of the file formats available:

CHESS PC Message File Format

Field	Length (bytes)	Comments
Record Length	4 ASCII	Total record length including this field itself up to and including message contents.
User Identification Code (UIC)	5 ASCII	The UIC which has been used for this particular message.
CHESS Data Message type and version	5 ASCII	Specifies the required CHESS Data message and its version in the form 'nnnvv' where 'nnn' is the Message Type and 'vv' is the version number (as given in Section 4 of the EIS by 'nnn-vv')
Message Transaction Id	16 ASCII	The first 5 characters of this field contain the UIC that the message pertains to. The remaining 11 characters will be filled with spaces.
Bitmaps	Binary	As appropriate for the CHESS Data message. Could contain non printable or control characters.
Message contents	Variable ASCII	As appropriate for the CHESS Data message
Carriage return (CR)	1 ASCII	ASCII CR = hex(0D)
Line feed (LF)	1ASCII	ASCII LF = hex (0A)

This format is compatible with the export/import format used by the CHESS PC.

EIS CHESS Message File Format

Field Name	Size	Format	Contents
Length	4	numeric	Variable
Protocol Version	2	numeric	Variable
Protocol Function Code	2	numeric	09
Destination UIC	5	numeric	CHESS UIC or USER UIC
Source UIC	5	numeric	USER UIC or CHESS UIC
AIC	5	numeric	Variable
MSN	9	numeric	Variable
CHESS Data Message Version Number CHESS Message Type Bit Map(s) Variable Data	2 3 64 Variable	numeric numeric bits variable	Variable Variable (Possibly repeated)
Carriage return (CR)	1	ASCII	ASCII CR = hex(0D)
Line feed (LF)	1	ASCII	ASCII LF = hex (0A)

This format is equivalent to the definition the CHESS Data Message in Section 10 of the EIS with minor exceptions. The PAD and MAC characters are excluded and messages are separated by the carriage return and line feed characters.

12.4 Duplicate Communications Access

Communications failure between the ASX Clear and a CHESS user's computer system can occur at either of two places; at the connection between the user and the communications network or at the connection between the communications network and the ASX Clear.

Both the Austpac and eFinity networks used by CHESS have sufficient redundancy to enable them to withstand all but major catastrophes.

To minimise the effects of any failure in the connection into the communications network at the user side, users should have a duplicate path to the communications network. The duplicate path should not use the same access route as the primary path, in order to avoid single points of failure.

Users should consult with Post Trade Operations staff to determine the optimum solution for their environment.

In general, the following principles apply:

- Users whose primary access route is by a leased line would have a secondary access route by a dial-up connection if the lower maximum capacity of such a line does not have a significant impact on their normal operations;
- higher volume users whose primary access route is by a leased line would have a secondary access route to another leased line connection to a separate node and via different Points-of-Presence (POPs)as appropriate for their location;
- Users whose primary access route is via a dial-up connection would have secondary dial-up access through a different telephone exchange.

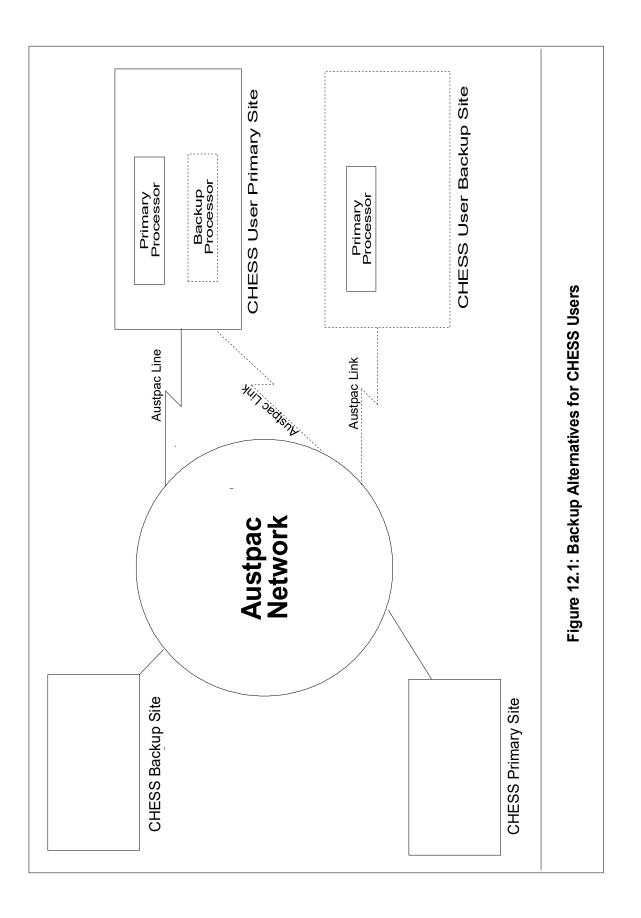
The ASX Clear will maintain duplicate communications lines with the Austpac network and the eFinity network.

Since CHESS is addressed through Austpac with a symbolic address, the user organisation will not be required to perform any special action in the event of a failure in the communications connection between CHESS and Austpac.

A small number of user organisations who are unable to use the Austpac symbolic address for CHESS will be required to specify the CHESS backup address if a CHESS fail-over occurs.

Since CHESS is addressed through eFinity with TCP/IP addresses, the user organisation may be required to change the destination TCP/IP address if certain events occur at the ASX. In general, things such as CHESS server failure should be transparent and not require any action on the part of the user. In the event that a change of TCP/IP was required the CHESS Helpdesk would send out a fax containing the new server TCP/IP address to target. Users should therefore be familiar with how to configure the CHESS server TCP/IP address in their software.

Figure 12.1 provides examples of the connection between CHESS and a user with duplicate systems and communication lines. Note that although this diagram only describes the Austpac network it applies equally to the Optus eFinity network.



12.5 Request For CHESS Messages To Be Resent

To facilitate user organisations who require CHESS to resend CHESS messages.

Please refer to Appendix Y in the ASTC Procedure Guidelines (APG).

12.6 Request For Batch Input for CHESS Messages

To facilitate user organisations who require CHESS to process large numbers of messages without using their Austpac interface, CHESS will accept 'batch input' of CHESS messages. This facility may be used in the event of a user organisation disaster recovery or to overcome peak processing demands associated with a special processing event.

The messages submitted to CHESS for batch input should be provided in either of the formats described in Section 12.3.

Please refer to Appendix V2 in the ASTC Procedure Guidelines (APG).