

RESERVE BANK INFORMATION AND TRANSFER SYSTEM

RITS Low Value Feeder Project

Low Value Settlement Service

Testing Strategy

September 2011

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1. Introduction

The Reserve Bank released specifications for the RITS Low Value Settlement Service (LVSS) project in November 2010¹. This initiative involves all institutions that currently participate in the RITS 9am settlement of low value clearings. Further information on the LVSS can be found on the [RITS Information Facility](#) under the Projects tab.

This document provides information to RITS Members on the approach that will be adopted for the external testing phase of Members' LVSS projects (i.e. testing involving RITS). In broad terms, this testing is expected to occur in two stages for each Clearing System/Payment Service. These stages are bilateral testing with the RBA to prove Members' functional readiness followed by industry-wide testing. Members are free to conduct any other additional testing that they deem necessary, either with the RBA or with any other Member.

The primary purpose of this document is to advise Members of the expected phases and scope of external LVSS testing to assist Members with their own internal test planning.

The testing requirements set out in this document are designed to help Members verify that their updated internal systems can successfully interface with RITS and process all applicable LVSS messages. Members should have completed appropriate internal testing (including UAT and regression testing) before the commencement of external testing. Members should note that all software changes to the RITS Pre-production environment have been fully tested by the RBA to ensure production quality.

As part of initial preparations for the commencement of testing, it is recommended that Members refer to the [LVSS Participant Setup Guide](#) available on the RITS Information Facility. It is also recommended that participants consult with existing RITS users within their organisation if test personnel are unfamiliar with RITS and its functionality.

1.1 RITS Pre-Production environment

The RITS Pre-Production environment is to be used by Members for all LVSS testing. This includes standalone testing, testing with the Reserve Bank and industry-wide testing. Members should note the following points in respect to the RITS Pre-Production test environment:

- This environment provides full Member functionality and is set up to mirror production conditions.
- This test environment is open for settlement processing between the hours of 7.30am to 6.30pm in winter or 8.30pm in summer each business day where either Sydney or Melbourne are open. These are the same hours as RITS Production.
- This test environment can accept instructions (FSIs/FRIs) during and outside normal settlement hours during the business week (i.e. Monday to Friday). These instructions will be validated on arrival and an advice or reject response sent, as appropriate.
- RITS users will be able to access LVSS functionality in RITS at any time during the business week, including overnight. This is subject to the user being granted the necessary roles by their RITS Password Administrator.

¹ Minor revisions to these specifications were released in June 2011.

- Support for LVSS testing will be provided by the RITS Help Desk during normal RITS settlement hours. There will be no support for any LVSS testing undertaken by Members outside of normal business hours.
- For initial testing with the RBA, Members should use the RBA test counterparty Member mnemonics of RBV1 and RBV2.
- In the period up to October 2011, Members are able to test all LVSS messages (FSIs/FRIs, responses and advices) and have their LVSS transactions settle as part of a scheduled multilateral run. Members will also be able to familiarise themselves with a number of new and amended RITS LVSS functions. In this period, there are likely to be up to 4 multilateral settlement runs each day. These are expected to be at around 9.30am, 11.30am, 1.30pm and 3.30pm each day. Note that these multilateral settlements will not calculate any clearing interest transactions.
- After October 2011, there will be a specific 9am settlement which will include the creation and settlement of clearing interest transactions. The new RITS functionality provides Members with additional enquiry and reporting functions to assist with the introduction of the new 9am settlement arrangements.
- The RBA will consider requests for amended session times and multilateral settlement windows if this will assist Members with their testing.
- In early 2012, the ability to enter manual FSIs/FRIs into RITS will be provided.

1.2 High-Level Testing Overview

The following table sets out the key phases of testing, gives a brief overview of expected content of each phase, and provides an initial estimate of the likely duration of each test period.

Phase	Content/Focus	Time/Duration
1. Testing with Reserve Bank	Each member tests their own solution with RBA as Counterparty or Originator (RBV1 and RBV2 mnemonics). This will encompass FSI creation and delivery to RITS, reject response handling, receipt of LVSS advice and response messages (as selected), settlement processing, internal reconciliation, and use of online RITS LVSS functionality.	BECS - now until end-Feb 2012 APCS – now until end-Apr 2012 CECS and CashCard – now until end-Jun 2012
2 Industry Testing	All Members of each Clearing System test, as a group, their functionality for FSI creation and delivery, receipt of LVSS advice and response messages (as selected), settlement processing, internal reconciliation, and use of online RITS LVSS functionality. The following phases are envisaged. The exact nature and timing of each phase will be confirmed following further industry consultation.	BECS –Mar to Apr 2012 APCS – May to Jun 2012 CECS and CashCard - Jul to Aug 2012

Phase	Content/Focus	Time/Duration
(i) Message testing	<ul style="list-style-type: none"> - Members to create and send FSIs for all other clearing system members. - Members to verify receipt and processing of selected responses and advices for FSIs where it is either Originator or Counterparty. - Members to reconcile all sent and received messages using internal systems and RITS information. - Members to confirm use of RITS LVSS enquiry functionality. 	2 Weeks
(ii) Settlement testing	<ul style="list-style-type: none"> - Members to create and send FSIs for all other clearing system members. - Members to confirm use of RITS LVSS transaction management functionality. - Members to verify 9am settlement transactions, including calculated clearing interest transactions. - Members to verify settlement of FSIs lodged for individual settlement, as applicable. 	1 – 2 Weeks
(iii) Manual entry fallback testing	<ul style="list-style-type: none"> - Testing of RITS manual entry functionality (including receipt of selected advices and responses for own and other Member originated FSIs). 	< 1 Week
(iv) Production reconciliation testing	<ul style="list-style-type: none"> - Creation of FSIs using production data with 9am settlement occurring in the RITS Pre-production environment. - Manual reconciliation by Members against Collator Exchange Summary. 	1 Week

In addition to these tests, Members may perform their own standalone (or bilateral) testing using the RITS Pre-Production environment at any time. However, if a testing Member is intending to use another Member mnemonic as part of its testing, it should contact the other Member in advance as this testing may impact on testing being undertaken by the other Member.

Members should also consider whether to exchange clearing transactions (files and/or messages) as part of the testing process. In many cases, it is expected that test systems will need to create clearings in order to generate counterpart FSIs. Although these clearings do not necessarily need to be exchanged, the Reserve Bank recommends that they are exchanged to best represent actual production practice. Where clearings are exchanged, each Member should take appropriate steps to ensure that only test systems are used and that other associated risks (such as inadvertently including test files in production) are mitigated. For the initial RBA testing phase, the RBA will be able to send and receive clearing files with each Member as required. However, CECS members should note that the RBA will not be able to send or receive ATM/EFTPOS clearings as the RBA does not directly participate in this clearing system.

Members may also wish to undertake 'failover' testing with the RBA for their developed LVSS functionality (i.e. the testing of secondary site connectivity and capability). This testing is not compulsory. In most cases the infrastructure to be used for the LVSS is already used for other file transfer activity with the Reserve Bank (e.g. file transfers via

the RITS Low Value Clearing Service), and failover testing was undertaken when this service was established. However, any Member wishing to conduct failover testing with the RBA should contact the RITS Help Desk to arrange this.

1.3 Use of Agent/Courier

Members that will use an agent to create and deliver FSIs to RITS may request that the agent carry out testing on their behalf. The Member is responsible for ensuring that the agent is able to perform testing in accordance with agreed requirements. The Member should also ensure that it is kept regularly informed about the progress of testing being undertaken by the agent on their behalf.

Members that use an agent to deliver FSIs to RITS will be required to actively participate in any testing that involves the management of resulting settlement obligations. This includes the testing of any AIF messaging used for this purpose. These Members will also need to test their own reconciliation and posting processes.

Members that will create their own FSIs, but who will use a courier to deliver their FSIs to RITS, will need to co-ordinate with their courier to ensure that they are able to perform testing in accordance with the requirements set out in this document.

1.4 RBA Contact Information

Members should contact the RITS Help Desk if they have any questions in relation to LVSS testing. Contact details are as follows:

Phone: 1800 659 360

Email: rits@rba.gov.au

Business related LVSS enquiries can be directed to the following Reserve Bank staff:

Name	Phone	Email
Warren Wise	(02) 9551 9894	wisew@rba.gov.au
Peter Gallagher	(02) 9551 8941	gallagherp@rba.gov.au
Alison Clark	(02) 9551 8921	clarka@rba.gov.au

1.5 Next Steps

The RBA will provide Members with the following additional LVSS testing information over the next few months:

- **RBA testing phase:** Detailed test cases for the BECS migration will be available by the end of September 2011.
- **Industry testing phase:** The RBA will undertake further industry consultation to determine final arrangements for the settlement testing and production reconciliation testing periods during September. This will cover the need for clearing exchanges between Members and the preferred approach to production reconciliation testing. Outcomes from this consultation will be discussed at the next Project Managers Forum scheduled for end September 2011 and detailed test cases for the BECS industry testing period will be provided subsequently.

- **Administrative arrangements:** The RBA and APCA will supply details of arrangements that will apply during the RBA and Industry test periods, such as communication arrangements, test windows, reporting, logs/registers, etc.
- **Test Schedules:** The RBA and APCA will supply test schedules that will cover day to day activities during the industry test period.
- **Member training:** The RBA will provide Member training during November and December 2011.

2. Phase 1 – Testing with the Reserve Bank

2.1 Objectives

The main objectives of this phase will be to:

- Prove that each Member (or their nominated agent) can create and send valid LVSS instructions.
- Prove that each Member (or their nominated agent) can receive selected responses and advices – this includes mandatory reject responses as well as the chosen optional responses and advices.
- Confirm that the Member's access and initial RITS settings (overrides, branches, etc) appear appropriate.
- Make Members' familiar with the new and amended RITS LVSS functions.
- Allow initial exposure to the LVSS settlement process including the new transaction management aspects.

2.2 General Points on this phase

Members should note the following general points about this phase:

- This testing will be conducted using the RITS Pre-Production environment. The setup tasks outlined in the [LVSS Participant Setup Guide](#) will need to have been completed prior to the commencement of this phase. Members should notify the RITS Help Desk **at least two weeks prior** to their intended commencement date for this phase of testing.
- The testing will use the existing RBA test counterparties in the RITS Pre-Production environment – these are mnemonics of RBV1 and RBV2. As part of their test preparation, Members' should cater for these mnemonics in the lookup tables used to create FSIs.
- As far as possible, Members are expected to test their LVSS solution as it will be used in production. This includes components such as FSI creation and delivery to RITS, reject response handling, receipt of LVSS advice and response messages (as selected), internal reconciliation, RITS branch and override settings, and the use of online RITS LVSS functionality.
- A number of negative test scenarios will form part of the testing.
- There is an initial RBA testing phase for **each** Clearing System/Payment Service (these are separately scheduled). However, Members may choose to perform initial RBA testing for one or all Clearing Systems/Payment Services to suit their project timetable.
- The RBA will act as both Counterparty and Originator as part of this testing. Members should note that the RBA can send FSIs as Originator with the Member as Counterparty.

2.3 Test Case Overview

The following types of tests will be undertaken for each Clearing System/Payment Service during this phase:

- Initial connectivity tests.
- Submission to RITS of valid and invalid FSIs.
- Submission to RITS of valid and invalid FRIs.
- Receipt of the mandatory reject responses.
- Receipt of selected optional responses and advices as both Originator and Counterparty.
- Transaction management in RITS (e.g. managing deferred transactions and changes to the LVSS Settlement Method).
- Verification of RITS user access to all LVSS enquiry and report download functions.
- Verification that user access covers all relevant RITS sessions.
- Testing of various payment date and settlement date scenarios.
- AIF message processing where applicable; this will include the processing of pre-settlement advices and any change status commands.
- Initial settlement processing, including Member verification of the clearing interest transactions created and settled in a Multilateral Settlement at 9am.
- Initial reconciliation of all message flows.
- Initial reconciliation of settlement amounts lodged in RITS – this reconciliation will be between internal Member systems and information available from various RITS enquiry functions (such as the LVSS Transaction Enquiry and the LVSS Bilateral Position Summary).

Detailed test cases are expected to be provided to Members by the end of September 2011.

Each Member will be responsible for co-ordinating its own testing with the RBA for this phase. Members are expected to have commenced their RITS configuration and RBA testing for the BECS migration by 1 February 2012. The RBA will seek confirmation of proposed commencement dates for this testing during September 2011.

Members will need to provide an attestation to the RBA by 29 February 2012 confirming that all internal and RBA Phase 1 testing for the BECS migration has been completed.

3. Phase 2 – Industry Testing

3.1 Objectives

The main objectives of this phase will be to:

- Prove that each Member (or their nominated agent) can create and send valid LVSS instructions for each other Member in that Clearing System/Payment Service.
- Prove that each Member (or their nominated agent) can receive selected responses and advices for each other Member in that Clearing System/Payment Service – this includes mandatory reject responses as well as the chosen optional responses and advices.
- Verify that initial RITS settings (overrides, branches, etc) remain appropriate under wider test scenarios.
- Provide Members with further familiarity on the new and amended RITS LVSS functions.
- Fully test the LVSS settlement process, including the management of LVSS transactions.
- More directly involve existing RITS treasury and settlement staff to familiarise them with the new settlement processes.

3.2 General Points on this phase

Members should note the following general points about this phase:

- The RBA will co-ordinate the industry test program in consultation with APCA and industry participants.
- This testing will also be conducted using the RITS Pre-Production environment.
- As far as possible, Members are expected to test their LVSS solution as it will be used in production. This includes components such as FSI creation and delivery to RITS, reject response handling, receipt of LVSS advice and response messages (as selected), internal reconciliation, RITS branch and override settings, and the use of online RITS LVSS functionality.
- There is an industry-wide testing phase for **each** Clearing System/Payment Service (these are separately scheduled).
- It is expected that most of the test cases will be conducted with each of the other Members of that Clearing System/Payment Service.
- If funding is required to meet projected 9am settlement positions, each Member that has a projected debit ES balance will be able to fund its position by undertaking a RITS Cash Transfer with the RBA using mnemonic RBAA2E as the counterparty. This will allow settlement of the LVSS 9am multilateral run to proceed.

3.3 Test Case Overview

The following types of tests will be undertaken for each Clearing System/Payment Service during this phase. Members should note that there is necessarily some overlap in terms of the types of tests performed during each of the specified periods within this phase. The details below highlight the areas of focus in each of the designated periods.

Members will also be required to certify that they have successfully met the testing requirements for each industry test period. The expected activities requiring certification are listed below. The frequency and method of certification will be advised by the RBA in due course.

3.3.1 Message Testing Period

Testing will include:

- Submission to RITS of valid FSIs for each other member of that Clearing System/Payment Service.
- Submission to RITS of valid FRIs for that Clearing System/Payment Service.
- Receipt of the mandatory reject responses.
- Receipt of selected optional responses and advices as both Originator and Counterparty for transactions with other members of that Clearing System/Payment Service (as applicable).

A Member will also be required to use the various RITS LVSS enquiry and reporting functions during this test period.

Member Certification Requirements

For this phase, each Member will need to provide confirmation to the RBA that:

- It has reconciled (by number) its inward and outward LVSS files containing instructions, advices and responses. This will require the Member to verify the number of files processed by internal systems to the number of files sent and received in RITS.
- Its nominated users have familiarised themselves with the new RITS LVSS enquiry and report functions.

3.3.2 Settlement Testing Period

Testing will include:

- Submission to RITS of valid FSIs for other members of that Clearing System/Payment Service.
- Various payment date/settlement date scenarios.
- For the BECG Payment Service, use of the 'Individual' Settlement Method.
- Management of LVSS transactions in RITS prior to 9am settlement. This will include managing any deferred transactions and amending the Settlement Method. AIF messaging will also be tested, including the processing of pre-settlement advices and any change status commands.

- Management of projected 9am positions to ensure sufficient credit funds are available for the 9am settlement to proceed.
- Use of new RITS LVSS transaction and position monitoring enquiry and report screens.
- Various 9am settlement scenarios.
- Verification of clearing system transactions created by RITS and included in the 9am settlement.
- Reconciliation of LVSS transactions settled across the ESA and RITS cash accounts.
- Reconciliation of LVSS responses, as selected.

Member Certification Requirements

For this phase, each Member will need to provide confirmation to the RBA that:

- It is able to reconcile expected settlements against actual settlements (including clearing interest transactions).
- Its users have familiarised themselves with new RITS LVSS transaction management functions including the ESA Position screen which has been revised to cater for the LVSS.
- Its end to end processes are operating in accordance with their expectations.

3.3.3 Manual Entry Fallback Testing Period

Testing will include:

- Manual entry of FSIs and FRIs in RITS and authorisation if required.
- Use of new RITS screens to manage and monitor manually entered items.
- Transaction management of manually entered FSIs.
- Settlement of manually entered FSIs.
- Verification of receipt of advices and responses for manually entered FSIs.

Member Certification Requirements

For this phase, each Member will need to provide confirmation to the RBA that:

- It is able to enter, amend, delete and authorise (if required) manual FSIs.
- It is able to enter and authorise (if required) manual FRIs.
- It is able to perform transaction management of manually entered FSIs as required.

3.3.4 Production Reconciliation Testing Period

Testing will include:

- Entry of FSIs into RITS that represent production obligations with each other Member of the relevant Clearing System.
- Management of LVSS transactions in RITS prior to 9am settlement. This will include managing any deferred transactions. AIF messaging will also be tested, including the processing of pre-settlement advices and any change status commands.
- Use of new RITS LVSS transaction and position monitoring enquiry and report functions.
- Management of projected 9am positions to ensure sufficient credit funds are available for the 9am settlement to proceed.
- Reconciliation between the LVSS 9am settlement obligation in the RITS Pre-Production environment and the 9am obligation in the RITS Production environment for that Clearing System. The lodged Collator Exchange Summary will be used to assist in this reconciliation.
- Reconciliation of LVSS responses, as selected.

Member Certification Requirements

For this phase, each Member will need to provide confirmation to the RBA that:

- It is able to reconcile its RITS Production 9am settlement obligation (for the relevant Clearing System as lodged via the Collator) with the LVSS multilateral run 9am settlement obligation (as lodged via FSIs).
- Its end to end processes are operating in accordance with expectations.

3.4 Overall Sign-off

Members will be required to provide a readiness sign-off to the Reserve Bank at the conclusion of the industry-wide test period for each Clearing System/Payment Service. This is likely to include Member confirmation that:

- End-to-end LVSS message testing has been successfully completed.
- RITS functional testing has been successfully completed.
- RITS settlement testing has been successfully completed.
- It is ready to proceed to Production implementation.