POWER OF CHOICE IMPLEMENTATION PROGRAM

INDUSTRY TEST PLAN EN/MC (VERSION 0.~~2~~3)

Published: ~~February~~ April 2017

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

VERSION RELEASE HISTORY

Version	Date	Summary of Changes
0.1	06/02/2017	First draft issued for discussion with the Power of Choice – Industry Test Working Group (POC-ITWG)
0.2	~~28~~05/0~~3~~4/2017	Second draft issued, incorporating POC-ITWG feedback received on version 0.1~~Incorporated the feedback from participants with some minor additional updates throughout the document~~
0.3	21/04/2017	Third draft issued, incorporating POC-ITWG feedback received on version 0.2

© The material in this publication may be used in accordance with the copyright permissions on AEMO's website.

CONTENTS

1. INTRODUCTION 4
1.1 Background 4
1.2 About this paper 5

2. KEY DATES AND MILESTONES 6
2.1 Key milestones for the Industry Test Plan (EN/MC) 6

3. SCOPE AND OBJECTIVES OF INDUSTRY TEST (EN/MC) 8
3.1 Industry Test (EN/MC) objectives 8
3.2 Industry Test (EN/MC) scope inclusions 8
3.3 Industry Test (EN/MC) scope exclusions 9

4. INDUSTRY TEST PREPARATION 10
4.1 Test registration 10
4.2 Test tools 10
4.3 Test scenarios, scripts and data 10
4.4 Test environment 11

5. INDUSTRY TEST EXECUTION APPROACH 12
5.1 Pre-requisites 12
5.2 Entry criteria 12
5.3 Exit/Completion criteria 12
5.4 Test scenario and script execution 13
5.5 Industry Test Cycles 13
5.6 Defect management 15~~13~~
5.7 Test process 15~~14~~
5.8 Test reporting 16~~14~~

APPENDIX A. REGISTRATION 18~~16~~

APPENDIX B. ENTRY CRITERIA 19~~17~~

APPENDIX C. DEFECT CLASSIFICATION 20~~18~~

APPENDIX D. DEFECT MANAGEMENT STATUS 22~~20~~

1. INTRODUCTION

This Industry Test Plan (EN/MC) outlines industry testing activities for the Embedded Networks (EN) and Metering Competition (MC) rule changes as part of Power of Choice (POC) Implementation Project. This document should be read in conjunction with the POC Industry Test Strategy. Any deviations from the POC Industry Test Strategy for this Industry Test Plan (EN/MC) are outlined within this document.

1.1 Background

The objective of AEMO's POC Implementation Program is to design and implement the required changes to electricity metering, retail market arrangements and infrastructure to give effect to rule changes arising from the POC Review.[1]

1.1.1 Scope of the Industry Testing Plan (EN/MC)

The following POC related rule changes are relevant to this Industry Test Plan:

- Expanding Competition in Metering and Related Services (MC) rule change[2]
- Embedded Networks (EN) rule change[3]

The following updated retail market procedures are relevant to this Industry Test Plan:[4]

- Market Settlement and Transfer Solution (MSATS) procedures:
  - Consumer Administration and Transfer Solution (CATS)
  - Wholesale, Interconnector, Generator and Sample (WIGS)
- National Metering Identifier (NMI) standing data schedule

Items inside scope

This Industry Test Plan prescribes all activities that will allow AEMO and NEM market participants to test their systems changes (as required under the MC and EN rule changes) in the following areas:

- Business to Market (B2M) and Market to Business (M2B) communication flows between AEMO's market system and NEM participants' market interfacing systems via MSATS.

Items outside scope

This Industry Test Plan does not prescribe activities required for any testing activities associated with:

- Business to Business (B2B) changes due to the MC and EN rule changes. These testing activities will be included in the POC Market Trial phase.
- Changes to NEM participants' supporting business systems that do not directly interact with AEMO's market systems (i.e. back-end systems).
- Any bilateral testing between participants. Participants can coordinate bilateral testing between themselves in parallel with the Industry Test, however reporting during Industry Test will not refer to bilateral testing.
- ~~Bilateral communications outside AEMO's market systems.~~

[1] See AEMC website, http://www.aemc.gov.au/Major-Pages/Power-of-choice.
[2] Rule made; AEMC final rule determination published 26 November 2015.
[3] Rule made; AEMC final rule determination published 17 December 2015.
[4] Package 1 procedure changes, see AEMO website, http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-1. Package 2 procedure changes, see AEMO website, http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-2

- Unchanged communication flows between AEMO's market systems and NEM participants' market interfacing systems.

Each NEM participant is responsible for their own preparedness in respect of the above matters and should account for such items within their own organisational testing program.

1.2 About this paper

1.2.1 Structure of this paper

This paper is structured as follows:

- Chapter 2 details the key dates and milestones of the industry testing phase.
- Chapter 3 details the scope and objectives of the industry testing phase.
- Chapter 4 details the test preparation activities.
- Chapter 5 details the test execution approach.~~,~~

1.2.2 Reference documents

The following POC-related documents are relevant to the Industry Test Plan.

#	Document Name
1	POC Market Readiness Strategy[5]
2	POC Industry Test Strategy[6]
3	POC Industry Registration & ~~and~~ Accreditation Plan[7]
4	AEMO Procedures, as approved by AEMO under the following NER Consultations: - POC Procedure Changes (Package 1)[8] - POC Procedure Changes (Package 2)[9]
5	MSATS 46.88 Technical Specification[10]

[5] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream
[6] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream/Industry-Test-Work-Group
[7] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream
[8] See AEMO website, http://aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-1
[9] See AEMO website, http://aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-2
[10] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/IT-systems-and-change/IT-change

2. KEY DATES AND MILESTONES

2.1 Key milestones for the Industry Test Plan (EN/MC)

Table 1 – Key milestones

#	Milestone	Indicative date	NEM Participant
1	Industry Test Plan (MC/EN)– first draft	6 February 2017	AEMO
2	POC-ITWG meeting – review first draft of Industry Test Plan (EN/MC)	13 February 2017	All
3	Participant feedback due on first draft of Industry Test Plan (EN/MC)	20 February 2017	All
4	POC ITWG meeting – discuss feedback ~~and second draft of~~and next steps for Industry Test Plan (EN/MC)	7 March 2017	All
5	MSAT pre-production release of B2M schema r35 and associated EN/MC changes~~POC ITWG meetings/teleconferences – detailed planning Industry Test Plan (EN/MC)~~	22 March 2017~~March 2017~~	AEMO~~All~~
6	POC ITWG meeting – discuss feedback and second draft of Industry Test Plan (EN/MC)~~POC-ITWG meeting – review final Industry Test Plan (EN/MC)~~ and workbook	~~24 March 2017~~5 April 2017	All
7	AEMO outage for data refresh (production data from 30 March 2017 at 15:00 hrs AEST)	6 April - 10 April 2017	AEMO
~~7~~8	Registration for Industry Test (EN/MC) ~~has been extended~~	13 February 2017 – 20 April 2017	All
~~8~~	~~**Phase 1: Pre-production available – EN/MC Including Refresh of the environment and R35 updated schema**~~	~~**10 April 2017**~~	~~**All**~~
9	POC ITWG meeting – EN/MC test planning – review third draft of Industry Test Plan (EN/MC) and test workbook including test calendar	28 April 2017	All
10	AEMO issues HP SaaS QC credentials	28 April 2017	AEMO
11	Participant feedback on Industry Test Plan (EN/MC) and test workbook including test calendar	3 May 2017	Test Participants
12	Participants confirm HP SaaS QC access	5 May 2017	Test Participants
13	AEMO completes HP SaaS QC set-up	5 May 2017	AEMO
14	Test Participant meeting – AEMO walk-through updates to test plan, workbook, HP SaaS QC set-up. Data requirements reviewed	8 May 2017	All

#	Milestone	Indicative date	NEM Participant
15	Participants review and provide feedback on HP SaaS QC set-up	10 May 2017	All
16	AEMO outage for data refresh (production data from 10 May 2017 at 15:00 hrs (AEST)	12 May – 19 May	AEMO
17	AEMO circulates final Industry Test Plan (EN/MC) and workbook, and finalises HP SaaS QC set-up	12 May 2017	AEMO
18	Participants agree on data ranges	12 May 2017 – 17 May 2017	Test Participants
19	Participants submit entry criteria sign-off	17 May 2017	Test Participants
20	AEMO confirms test readiness	19 May 2017	AEMO
~~9~~21	~~Industry Test (EN/MC) - execution~~MSAT pre-production refreshed – ENM tariff change applied	~~10 April – July 2017~~22 May 2017	AEMO~~All~~
22	Daily meetings commence	22 May 2017	All
23	Cycle 1 (23 May 2017 - 2 June 2017) completes	2 June 2017	All
24	Cycle 2 (5 June 2017 – 16 June 2017) completes	16 June 2017	All
25	Cycle 3 (19 June 2017 - 30 June 2017) completes	30 June 2017	All
26	Test Completion Report – draft	7 July 2017	AEMO
27	Test Completion Report – final	14 July 2017	AEMO

3. SCOPE AND OBJECTIVES OF INDUSTRY TEST (EN/MC)

3.1 Industry Test (EN/MC) objectives

The overall objective of the Industry Testing (EN/MC) is to support industry's operational preparedness for the "go-live" date by:

- ~~by p~~Providing market participants, who are ready to participate in early testing, the opportunity and ~~-~~tools to verify:
  - Technical compliance against the updated electricity retail market procedures from package 1 and package 2 procedure changes.
  - Technical compliance against the related aseXML schema changes.[11]
- Providing an opportunity to reduce the identified risk associated with the compressed industry test timeframe[12]:
  - Identifying and fixing defects in AEMO's and participating parties' systems.
  - Setting up and trialling structures and processes that can be expanded and used during the full Market Trial (phase 3).

Participation in the Industry Test (EN/MC) is voluntary, however AEMO encourages participants to register and participate in the Test in order for the overall objective to be achieved.

Participants that do not take part in the Industry Test (EN/MC) will have an opportunity to undertake the EN/MC test scenarios during the full Market Trial (phase 3), either as stand-alone transaction based scenarios or combined with other transactions (e.g. service orders) to form end-to-end business process scenarios.

Participants that do take part in the Industry Test (EN/MC) will have the choice to not repeat, or to repeat EN/MC test scenarios during the full Market Trial (phase 3) – e.g. against a different pairing participant, or as part of an end-to-end business process.

3.2 Industry Test (EN/MC) scope inclusions

Industry Test (EN/MC) scope inclusions:

- Industry capability based technical and functional testing as follows:
  - Industry technical verification and validation:
    - Determines the technical state of the solution e.g. schema validation, interoperability of infrastructure.
  - Industry functional verification and validation:
    - Determines the state of solution as matched against required business functionality and business processes. The solution may not mirror production from a complete "go-live" perspective e.g. performed on low volumes of data and accelerated timeframes.
- Within this context industry testing includes:
  - Change requests (CR) validations and configuration – changes to mandatory/optional fields, objection codes, initiating parties, notified parties, objecting parties, objection logging periods.

[11] Sample aseXML documents also available, see http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/IT-systems-and-change/aseXML_standards/aseMXL-Document-Samples

[12] See the POC Industry Risk and Issue log – risk R11, see http://www.aemo.com.au/-/media/Files/Electricity/NEM/Power-of-Choice/PM/PoC-Industry-Register.xlsx

- Changes to meter register status codes, NMI status codes, read type codes.
- Changes to reports (C1 and C7 reports).
- Embedded Network (EN) and NMI ranges screen changes.
- axeML schema changes (B2M r35).
-

- Test scope is aligned with the MSAT changes as detailed in the MSAT 46.88 Release Schedule (version 2.01) on 17 March 2017[13] updated:
  - Release on 22 May to include the ENM tariff allocation [link here when available]~~As part of work package three, first cut of the documentation and consultant is schedule on 12th April 2017 and will include the following:~~
  - ~~As build changes~~
  - ~~Corrections and clarifications to the MSATS procedures that might result in system changes~~

3.3 Industry Test (EN/MC) scope exclusions

Industry Test (EN/MC) scope exclusions:

- B2B transactions.
- Testing of unchanged B2M transactions.
- Testing of non-critical business processes (unless otherwise agreed by the impacted participants).
- Testing of participants' back end systems. Reporting during the industry testing will not refer to any issues found in participant's back end systems.
- Full volume testing.

[13] See the latest MSAT Release schedule here: http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/IT-systems-and-change/IT-change

4. INDUSTRY TEST PREPARATION

The POC Industry Test Working (ITWG) will drive the test planning and preparation process, as per the ITWG Terms of Reference. All participants taking part in the Industry Test are expected to provide industry test resources to be part of the ITWG.

4.1 Test registration

Each participant is requested to register with AEMO prior to the commencement of the Industry Test (EN/MC). Registration requests should be sent via email to the POC inbox at POC@aemo.com.au. Registration requests should include the information in Appendix A.

4.2 Test tools

HP SaaS Quality Centre (QC) will be used to manage the POC Industry Testing execution, including test scenarios, test results and the tracking of test defects. HP SaaS QC will be configured by AEMO with all required information and will be accessible by all participants.

4.3 Test scenarios, scripts and data

The ITWG will be responsible for developing test scenarios, scripts and corresponding data sets.

In terms of scenarios, the scripting and data requirements developed in these workshops will:

- Agree on the test scenarios required for industry testing, including ~~the~~ which scenarios participants intend to test ("intended scenarios") ~~priority~~.
- Define the subsequent test scripts that will need to be executed.
- Agree on the scope of test execution and test scripts required by participant role (i.e. Retailers, Distributors, Metering Coordinator, Metering Providers, Metering Data Providers, Embedded Network Manager and AEMO).
- Agree on the approach and timing of test script execution.
- Agree on the data required, both baseline and dynamic, to support the execution of test scripts.

4.3.1 Test data

AEMO's preproduction will be refreshed using production data from 10 May 2017 at 15:00 hrs (AEST).

AEMO has identified Pre-requisite scenarios in the EN&MC workbook which generate the data required for the functional scenarios. Each functional scenario has a 'Reference to Pre-requisites' column which links the pre-requisite scenario

AEMO would have the required config data and the NMI ranges for the participants in the pre-prod environment.

1. With respect to the NMIs, LNSP can create the NMIs (different CR codes) and pass it on to the retailers to execute the functional scenarios.
2. If we don't have an LNSP to create NMIs during Industry Testing, participants have to identify test data from the existing environment/database as these are existing CR codes and align with other participants and AEMO to ensure data is aligned across systems. The only point to be noted here is since it is existing data, participants will not have an option to select the new Status, Meter Status, Meter Install Codes and Register Status during CR creation.
3. If we don't have an LNSP to create the NMIs and if participants are not able to identify the data form the existing database, there will be a risk of not being able to run the functional scenarios.

Multiple test data sets should be identified for each test script to allow for multiple executions of that test script in case of defects or problems in execution. Data identified will be mapped against every scenario in the data column in HP SaaS QC.

4.3.2 Participants

The term 'Participant' is used to indicate a unique role that a given business is to adopt for the purpose of testing. For example, where a participating business fulfils the role of LNSP and MDP, these roles are classed as different Participants for testing purposes.

If an organisation has more than one role (i.e. is more than one 'Participant', then it may need to separately carry out testing for each role (as each role has different transactions).

If an organisation has more than one participant ID but they are all for the same role, then as long as the participant is using the same set of systems for each ID, the participant would only need to perform testing once for those IDs.

Participants will detail which participant roles and ID they will be testing under as part of their Test Registration.

The Industry Test Workbook will include the test participant matrix, detailing who each participant will test with and when.

4.3.3 Industry Test Workbook

The Industry Test Workbook will document the test scenarios, data requirements, test participants ~~matrix~~ and test ~~schedule~~calendar. This will be published on the AEMO website and ~~is a work in progress document were participants can recommend test scenarios to be added~~will be developed in consultation with the ITWG. In addition, the test cases and steps will be uploaded to ~~Quality Centre~~HP SaaS QC in preparation for test execution.

4.4 Test environment

Industry Testing will utilise the MSATS pre-production environment, managed by AEMO. Participants test environments will be as close to a replica of their go-live systems as possible. A diagram of the environment is documented in the Industry Test Strategy document under section 6.4.

In line with the AEMO published release schedule, the MSATS 46.88 release for EN/MC was deployed to the MSATS preproduction environment on 22 March 2017. The release deployed the B2M R35 schema and the EN/MC changes as documented in the published MSATS 46.88 Technical Specification. An additional patch fix release is planned for the 22 May 2017 and Industry Testing (EN/MC) will commence from 23 May 2017.

AEMO will be refreshing the pre-production environment from 12 May to 19 May 2017 and during this time pre-production environment will not be available. ~~, with~~ It will be ~~pre-production be~~ available from 22 May 2017. Preproduction will be refreshed using production data from 10 May 2017 at 15:00 hrs (AEST).

5. INDUSTRY TEST EXECUTION APPROACH

5.1 Pre-requisites

New participants will have commenced registration[14] or accreditation[15] activities ~~as required~~in order to have their MSATS pre-production ID and credentials issued.[16]

5.2 Entry criteria

Entry criteria for the Industry Test (EN/MC) are as follows. The entry criteria relate to individual participants, and AEMO will coordinate and communication readiness between all paired participants to commence testing.

Participants are requested to submit the checklist in Appendix B when ready to commence testing.

- Pre-production environment available.
  - Stable and reliable
  - Adequate i~~I~~nternal testing completed to be ready to commence industry testing.
- Participant credentials issued (for new participants).
- Connectivity testing complete (for new participants).
- Test preparation is complete:
  - Industry Test Plan (EN/MC)
  - Industry Test Workbook~~-~~.
  - HP Quality Centre configured with all test information
  - Test data preparation is complete.
- ~~HP SAAS QC~~HP SaaS QC is accessible and useable.
- Appropriately skilled resource capability available to execute and support testing.

AEMO external test lead will confirm the following:

- Industry Test Plan (EN/MC) and Workbook is complete and delivered to the ITWG.
- HP SaaS QC is configured with all required test information, and is accessible and useable by testing participants.
- Testing participants have confirmed readiness (through the submission of completed entry criteria checklist).
- ~~-~~

5.3 Exit/Completion criteria

Exit criteria for the text execution phase include:

- Participants have ~~Successful completion~~ run ~~of~~ all ~~high-priority~~intended test scenarios.
- ~~No outstanding severity 1 or 2 defects.~~

[14] The Application for Registration as a Metering Coordinator and the Metering Coordinator Registration Guide can be found here : http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Participant-information/New-participants/Application-forms-and-supporting-documentation

[15] The Qualification Procedure for Metering Providers, Meter Data Providers and Embedded Network Managers, along with the Accreditation checklists can be found here: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-2

[16] Refer to the POC Industry Accreditation & Registration Plan for an overview of these activities. See http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream

- ~~Any~~All open defects ~~(severity 3 or 4)~~ have agreed resolutions – e.g. plan in place to fix and retest prior to, or during, the Phase 3 (Market Trial).
- Cycle 3 completion date has been reached,

5.4 Test scenario and script execution

Test execution will be undertaken as follows:

- Tests scenarios and scripts will be stored in HP SaaS QC as per the defined test configuration.
- Execution of the testing will be undertaken according to execution calendar made available as part of the preparation activities. Informal testing may occur between participants, however reporting of the testing will be based on the defined execution calendar.
- Test execution information will be updated in HP SaaS QC as it occurs~~, i.e. real time~~. This will include test case progress, status and data used.
- An audit trail of test execution is to be undertaken by participants. This includes capture of positive results to prove that a test met expected results as well as capture of negative results for defect resolution. Where applicable, this information will be maintained in HP SaaS QC.

In addition to updating the HP SaaS QC test case ~~updates~~progress and status, participants will ~~complete a Status Traffic light report on a twice-weekly basis. This report will detail:~~update the scenario status in HP SaaS QC as below, which will flow into the Status Traffic Light report which AEMO will circulate prior to the daily test meetings.

- Scenario ~~All test scenarios for that participant~~
- ~~Paired participant (if applicable)~~
- Status:
  - Completed (green)
  - In progress (yellow)
  - Blocked (red)
  - Failed (red)
  - Not Started

5.5 Industry Test Cycles

The Industry Test is targeted to be~~will be~~ executed over 3 identical test cycles, with each cycle consisting of the same set of scenarios:~~.~~

- The objective of cycle 1 is to successfully complete all identified test scenarios to uncover issues/defects.
- The objective of cycle 2 and 3 is to re-run all test scenarios, to re-test the fixed identified issues/defects.

~~All testing is based on real-time execution and the date of the data cut from production into the pre-production environment is communicated to all participants so as their individual environments are aligned. A specific regression suite of tests is not required as tests will be re-run during progressive cycles as deemed necessary by individual participants.~~To align with the overall objective of the Industry Test (EN/MC) of giving participants an opportunity to test their systems and de-risk the overall POC program, a flexible approach will be taken with the cycles. Test participants will be able to:

- Commence test execution in cycle 2 or cycle 3.
- Choose to not re-run tests successfully completed in one cycle in a subsequent cycle.

~~Pre-requisite~~	
~~Participant Systems~~	~~Participant applications fully available for functionality to be tested and Self-certified with Responders.~~
~~AEMO Systems~~	~~Pre-Production environments available for the POC e Hub and the MSATS~~
~~Volume of Data~~	~~Low~~
~~Data Source~~	~~Data baseline as agreed between individual participants via ITWG~~
~~Participants data availability~~	~~Partial/Full as determined by individual participants~~
~~Functional scope data volumes~~	~~Data volumes as agreed between individual participants via ITWG~~

~~5.5.1 Cycle 1~~

~~The objective of cycle 1 is to successfully validate the upgraded schema, perform connectivity with AEMO systems, transactional test execution and any defect retesting.~~

~~Any defect raised depending on the severity and priority will be fixed and retested during this cycle.~~

~~Note: Each cycle is scheduled for a duration of 3 weeks.~~

~~Cycle 1~~	~~Duration~~	~~Scope of testing~~
~~Functional Scope~~	~~Week 1-3~~	~~Schema validation~~ ~~Connectivity to the MSATS~~ ~~Transactional Testing~~ ~~Defect re-test~~

~~5.5.2 Cycle 2~~

~~The objective of cycle 2 is to test the agreed scenarios as part of a completed coverage and first to end to run including any retesting of defect fixes identified during cycle 1.~~

~~Note: the test execution calendar will indicate where within the execution window cycle 2 will commence.~~

~~Cycle 2~~	~~Duration~~	~~Scope of testing~~
~~Functional Scope~~	~~Week 4-6~~	~~Industry test pre-defined scenarios and scripts agreed by ITWG~~ ~~Defect re-test~~ • ~~Re-test Industry test scenarios and scripts~~

~~5.5.3 Cycle 3~~

~~The objective of cycle 3 is to re-test the defect fixes and any re-testing of industry test scenarios and scripts including regression testing.~~

~~Note: the test execution calendar will indicate where within the execution window cycle 3 will commence.~~

~~Cycle 3~~	~~Duration~~	~~Scope of testing~~
~~Functional Scope~~	~~Week 7-9~~	~~• Defect re-test~~ ~~• Regression~~ ~~• Re-test Industry test scenarios and scripts~~

5.6 Defect management

The overall defect management process is detailed in the Industry Testing Strategy document under section 8~~ and will be referred to throughout test execution~~. Defects raised during industry testing will be captured in HP SaaS QC with~~ll~~ the following information:

- Description of the defect and severity, who detected in and when.
- The particular test scenario and test script associated with it.
- Defect owner (entered after gaining agreement between testing counterparties as to who owns the defect.
- Target fix date (entered by defect owner).

Defect status and progress on defect fixes will be discussed in the scheduled stand-up meetings.

For the Industry Test (EN/MC), defects will be classified by severity only. See Appendix C for defect severity classification.

Defects will be fixed and re-tested during the cycle where possible. If the fix can't be delivered within the cycle it will be re-tested in the next cycle. See Appendix D for defect management status and lifecycle.

~~5.7 Configuration Management~~

~~Release management and change control is essential in understanding the configuration being tested against. Each individual participants' processes will be defined and managed internally by the individual participants' configuration managers. The industry test manager will work closely with all participants to establish and maintain a record of participants' software build versions, the combination of which rolls up into a common and defined industry test software build versions against which defects may be raised and resolved.~~

~~5.8~~5.7 Test process

AEMO will initially schedule daily stand-up meetings for testing participants to discuss test execution progress and defect status. The frequency and length of meetings will be assessed during the test execution phase. ~~Participants will be asked to submit Status Traffic light reports prior to the stand-up meetings.~~

Participants will be expected to update HP SaaS QC with their daily test results by the end of that day, or by 8:00 am (AEST) on the following morning. AEMO will generate the test execution and traffic light status report between 8:00 am and 9:30 am (AEST) and circulate prior to the stand-up meetings.

These meetings will be:

- Scheduled daily ~~5~~10.00 a~~p~~m (~~AEDT~~AEST))
- Use the teleconference facilities provided by AEMO and be chaired by the Industry Test Manager.
- Use a standard agenda:
  - Confirm attendance.
  - Review planned against actual progress for test execution. Discuss exceptions against planned execution.
  - Review defect status – outstanding defects.
  - Confirm planned tests for the following days. ~~All participants to confirm details prior to meeting.~~

~~5.9~~5.8 Test reporting

The progress of the Industry Test can be monitored on a continuous basis by all market participants using HP SaaS QC. Any regular reports will produced to track the progress of test execution and defect resolution. The format of these reports will be determined by the ITWG as part of the preparation activities and templates will be include in the Industry Test Plans and confirm readiness to commence scheduled tests. This information, will be presented to the ITWG to track the progress of test execution and defect resolution at the ITWG stand-up meetings.

These reports will include test measurement during the industry test and will be based on but not limited to the following metrics agreed by the participants:

- Test execution summary by participant:
  - Number of test scenarios executed versus the number planned
  - Number of passed, failed, blocked or deferred test scenarios versus test scenarios executed
  - Planned count versus actual count (with any exceptions)
  - Planned % versus actual %
- Defect summary will be reported with a focus on status, severity, priority, ownership, participants impacted, ~~subject (functional area),~~ version and date detected against and actions required:
  - Open defects and their progressive status
  - Overall by severity and status
  - By participant and severity and status
- Issues and risks

An overall Industry Test (EN/MC) Completion Report will be written at the completion of the testing period and will be presented to the ITWG and the POC Readiness Working ~~-~~(RWG).

This report will include:

- An introduction highlighting the purpose of the report, the background to the testing and its scope.

- Testing outcomes highlighting a results summary, defects summary, outstanding defects, summary of other outstanding issues and agreed workarounds.
- Recommendations and conclusion.

AEMO will prepare the completion reports using data from HP SaaS QC and inputs provided by participants. Inputs provided by participants would include details on their defect fixes.

5.9 Test Support

All requests for support during the Industry Test (EN/MC) phase should be emailed to the POC inbox (POC@aemo.com.au). Test support will be provided between 9:00 and 17:00 hrs (AEST) on business days. The subject line of the email should contain:

- **HP SaaS QC** for assistance with HP SaaS QC access or operation
- **Industry Test (EN/MC)** for other queries.

APPENDIX A. REGISTRATION

The following information is to be submitted to POC@aemo.com.au

ORGANISATION NAME:

TEST LEAD:

PARTICIPANT DETAILS:

#	Participant role (LNSP, MDP, MC, etc.)	Participant ID/s	Jurisdiction/s	Registration status (existing, in progress, planned)	Targeted commencement data
1	*Retailer X*	*RetX1, RetX2*	*NSW,QLD*	*Existing*	*3 April 2017*
2	*ENM X*	*TBA*	*NSW,QLD*	*In progress – pre-prod credentials due mid-May 2017*	*1 June 2017*
3					
4					

Notes:

1) Please add a role for each individual participant role you wish to test under (e.g. in example above Retailer X will test under either RetX1 or RetX2 – not both).
2) If accreditation or registration is planned or in progress please indicate when you expect to receive your pre-production credentials.
3) Add in rows as required.

APPENDIX B. ENTRY CRITERIA

The following information is to be submitted to POC@aemo.com.au

DATE:

ORGANISATION NAME:

TEST LEAD:

PARTICIPANT DETAILS: <please note which participant roles and IDs this entry criteria submission applies to>

ENTRY CRITERIA:

#	Entry Criteria	Achieved (Yes/No)	Comments
1	Pre-production environment available – stable and reliable, adequate internal testing completed to be ready for Industry testing, test version of actual system		
~~2~~	~~Completed internal testing (e.g. System Testing and System Integration Testing)~~		
~~3~~2	MSAT c~~C~~onnectivity confirmed		
~~4~~3	HP SaaS QC accessible ~~and usable~~		
~~5~~4	Test planning in HP SaaS QC completed and understood – ~~t~~Test execution processes, ~~and~~ schedule, scenarios/ ~~and~~ scripts and test data		
~~6~~	~~Test systems are pre-populated with test data~~		
~~7~~	~~HP SaaS QC configured with all test information~~		
5~~8~~	Appropriately skilled resource capability available to execute and support testing		

APPENDIX C. DEFECT CLASSIFICATION

The descriptions of each classification of **severity** are:

Severity	Description
1- Showstopper	This is a defect that makes the system unusable resulting in an extremely critical (catastrophic) impact on business operations. The software under test does not perform correctly, there is no work around and displays one or more of the following characteristics: • System hangs or performance is degraded to the point of being unusable. • System crashes repeatedly. • Critical functionality is not available. • An error occurs that results in a catastrophic negative business impact. • An error occurs that results in a loss or corruption of data that affects completion of a business process.
2- Critical	This is a defect that causes major system functionality to be degraded or causes particular features or functions to be inoperative with critical impact to business. The software under test has incorrect behaviours and displays one or more of the following characteristics: • System performance is significantly degraded due to the error. • A total system failure occurs which is caused by an unusual or unlikely sequence of user actions. • Important functionality has incorrect behaviour that significantly disrupts user operation. • An error occurs that results in significant business impact for the participant. • An error occurs that results in a loss or corruption of data that does not affect completion of a business process. • Loss of essential administrative functions. • The specific error cannot be circumvented.

© AEMO 2017

Severity	Description
3- Moderate	This is a defect that causes a problem but one that is not critical to overall business operation. The software under test has incorrect behaviour but with limited loss, or no loss of functionality or no impact on participants' operations and displays one or more of the following characteristics: • Minor degradation of business functions. • Loss of routine administration functions. • An error occurs that results in some negative business impact for the participant. • The specific error can be circumvented and the business process can continue with manual or additional systems intervention. • Usability problems in the developed software.
4- Cosmetic	This is a defect that does not affect the functionality of the system. These may be cosmetic errors (e.g. spelling mistake) or they may be errors in the system documentation.

APPENDIX D. DEFECT MANAGEMENT STATUS

Status	Description
New	Initial defect raised but will require a triage to determine if further analysis is required and whether it is a true defect as such to move to an open status.
Open	HP SaaS QC (QC) item that is considered valid to be set to 'Open' for further analysis. Open status means, development team is working on the QC item (analysis or fixing)
Rejected	QC item that is considered invalid is set to 'Rejected'. AEMO will set QC item to 'Rejected' with ITWG consultation during daily meetings. If a QC item status is accidentally set to 'Rejected' QC administrator will assist to rectify.
Fixed	Once QC item has been fixed and unit tested by developer the status is set to 'Fixed'. This indicated release manager can release the fix to testing environment.
Test Ready	Once Release manager released the fix to test environment successfully the status is set to 'Test Ready'
Tested	Tester (defect originator) will only test QC item with the status 'Test Ready' and set status to 'Tested' upon passing the QC item.
Closed	Test manager is responsible to set QC item status to 'Closed' once it has been released to production successfully.

The following diagram depicts the defect management process throughout the various stages of the defect lifecycle from its inception through to its closure.
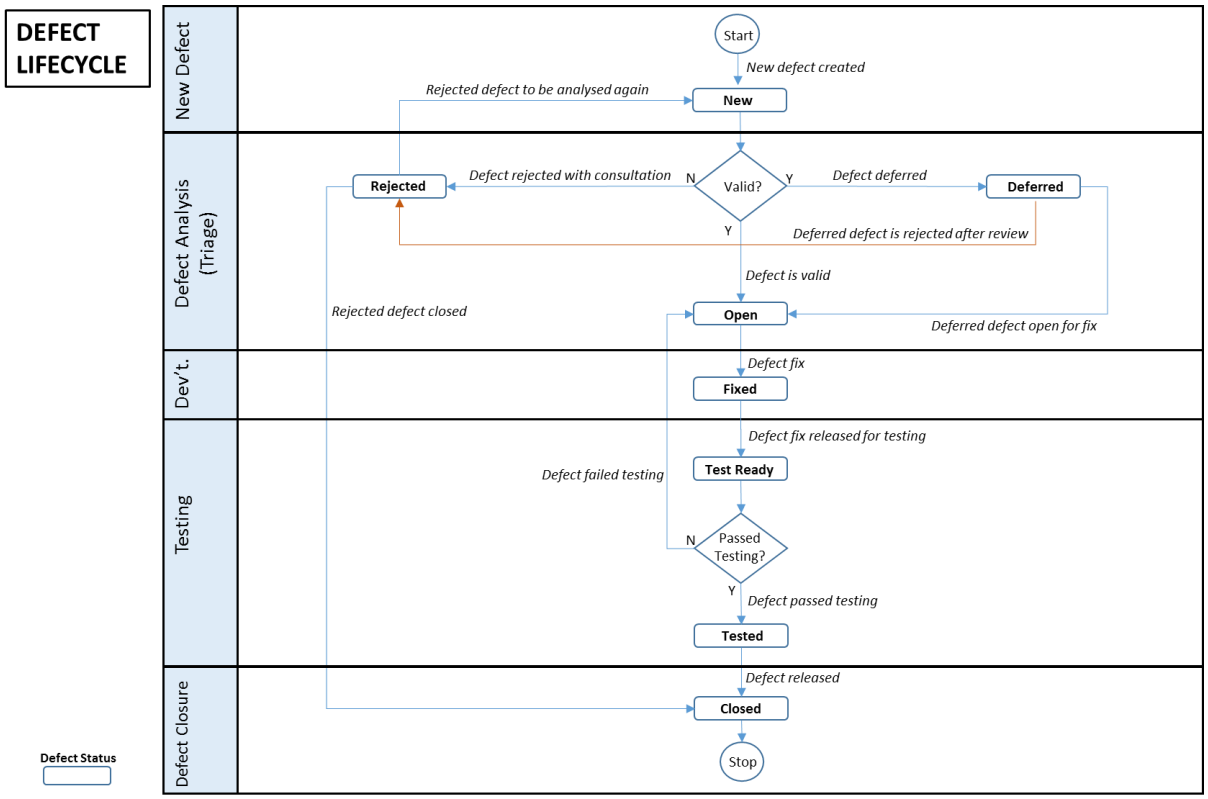
Figure 5 Industry Testing Defect Management Cycle