# POWER OF CHOICE IMPLEMENTATION PROGRAM

## INDUSTRY TEST STRATEGY (VERSION 0.1)

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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) |
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# EXECUTIVE SUMMARY

The Australian Energy Market Operator (AEMO) and industry participants are currently implementing a major electricity retail market reform package, commonly referred to as the Power of Choice (POC) reforms.

The POC reforms originate from the Australian Energy Market Commission's (AEMC) POC Review. Following publication of the Review's final report in November 2012, several related energy market rule changes, reviews and expert advice have been completed or are under development. The rule changes, which "go-live" on 1 December 2017, have amended and/or imposed new regulatory obligations on certain National Electricity Market (NEM) stakeholders.

For AEMO and NEM participants, this has prompted a major implementation work program to amend and/or create NEM procedures, business systems and supporting processes in preparation for the "go-live" date for the revised market arrangements. AEMO is playing a key coordination role in this work, in collaboration with its industry working groups, to ready industry and itself for the "go-live" date.

AEMO's POC Implementation Program covers procedural, technical and readiness work streams. The readiness work stream is responsible for developing AEMO's Market Readiness Strategy, where "market readiness" refers to the successful implementation of all necessary activities by AEMO and NEM participants required for a seamless transition to new procedural arrangements from the "go-live" date for the POC reforms.

As reference in the Strategy, a key component of market readiness is the industry testing phase – the period where AEMO and NEM participant test their market interfacing business systems against the updated procedures.

This paper sets out AEMO's draft Industry Test Strategy for discussion with, and feedback from, industry stakeholders. AEMO will subsequently re-issue a final version of the Industry Test Strategy to industry stakeholders to inform their own organisational readiness programs.

The purpose of the Industry Test Strategy is to define the scope, approach, process, responsibilities and high-level schedule of the industry testing phase. At a high level, the Strategy sets out:

- Scope and objectives of the industry testing phase.
- Key milestones.
- Industry testing structure and management, roles and responsibilities and communication and status reporting.
- Industry testing preparation activities and approach.
- High-level industry testing execution approach including defect management.
- High-level details of the different Industry Testing Phases. The Industry Test Plans for each Testing Phase will include:
  - Detailed scope
  - Detailed schedules
  - Pre-requisite activities
  - Entry and exit criteria
  - Environment, configuration and data management

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# 1. INTRODUCTION

This chapter outlines background information on AEMO's POC Implementation Program, and sets out the objective, purpose, scope and approach to the development of the Industry Test Strategy.

## 1.1 AEMO's POC Implementation Program

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]

To facilitate implementation of the Program, AEMO has established three work streams:

- Procedure Development – to define the required changes to electricity retail market procedures.
- Technical Development – to design, develop, implement and test changes to AEMO's retail market systems.
- Market Readiness – to coordinate, assist and prepare NEM participants and AEMO for the start of the revised market arrangements, and to monitor and report on the preparation efforts.

This paper only considers matters that relate to **Industry Testing** under the Market Readiness work stream. Further information on the Program, including past industry meeting papers, is available on the POC section of AEMO's website.[2]

## 1.2 Definition of industry testing

Throughout this document, "industry testing" refers to the testing of NEM participant's market interfacing systems with AEMO's market systems, in order to test updates made to these systems to comply with the new procedural arrangements starting on 1 December 2017 (that is, the scheduled "go-live" date for the POC reforms).

## 1.3 Industry Test Strategy

A key document under AEMO's Market Readiness Strategy is this Industry Test Strategy. The objective, purpose and scope of this Strategy is set out below.

### 1.3.1 Objective of the Industry Test Strategy

The objective of the Industry Test Strategy is to facilitate uninterrupted systems operations for AEMO and NEM participants and, as a consequence, continued service delivery to NEM end-use customers, prior to and effective from the "go-live" date.

### 1.3.2 Purpose of the Industry Test Strategy

The purpose of the Industry Test Strategy is to set out a plan for managing, coordinating, monitoring and reporting on AEMO's and NEM participants' industry testing activities.

### 1.3.3 Scope of the Industry Test Strategy

The following POC related rule changes are relevant to this Industry Test Strategy:[3]

- Expanding Competition in Metering and Related Services (MC) rule change;[4]

[1] See AEMC website, http://www.aemc.gov.au/Major-Pages/Power-of-choice.
[2] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice.
[3] See AEMC website, Power of Choice overview page, http://www.aemc.gov.au/Major-Pages/Power-of-choice.
[4] Rule made; AEMC final rule determination published 26 November 2015.

- Meter Replacement Processes (MRP) rule change;[5]
- Embedded Networks (EN) rule change;[6] and
- Updating the Electricity B2B Framework (B2B) rule change.[7]

### Items inside scope

This Industry Test Strategy, and associated Industry Test Plans, prescribes all activities that will allow AEMO and NEM market participants to test their systems changes (as required under the MC, MRP, EN and B2B rule changes) in the following areas:

- Communication flows between AEMO's market systems and NEM participants' market interfacing systems.
- Communication flows between NEM participants' market interfacing systems when they are via AEMO's market systems.

### Items outside scope

This Industry Test Strategy and associated Plans do not prescribe activities required for any testing activities associated with:

- Changes to NEM participants' supporting business systems that do not directly interact with AEMO's market systems (i.e. back-end systems).
- Bilateral communications outside AEMO's market systems.
- 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.

[5] Rule made; AEMC final rule determination published 10 March 2016.
[6] Rule made; AEMC final rule determination published 17 December 2015.
[7] Rule made; AEMC final rule determination published 30 June 2016.

## 1.4 Approach to development of the Industry Test Strategy

### 1.4.1 Industry Test Strategy and associated Test Plans

The Industry Test Strategy is a high-level document that details the testing approach that applies to the entire POC Industry Testing phase. The Strategy will be supported by individual Industry Test Plans containing details specific to each phase of industry testing. The Industry Test Plans will consist of a number of materials, including detailed calendars, checklists and templates.

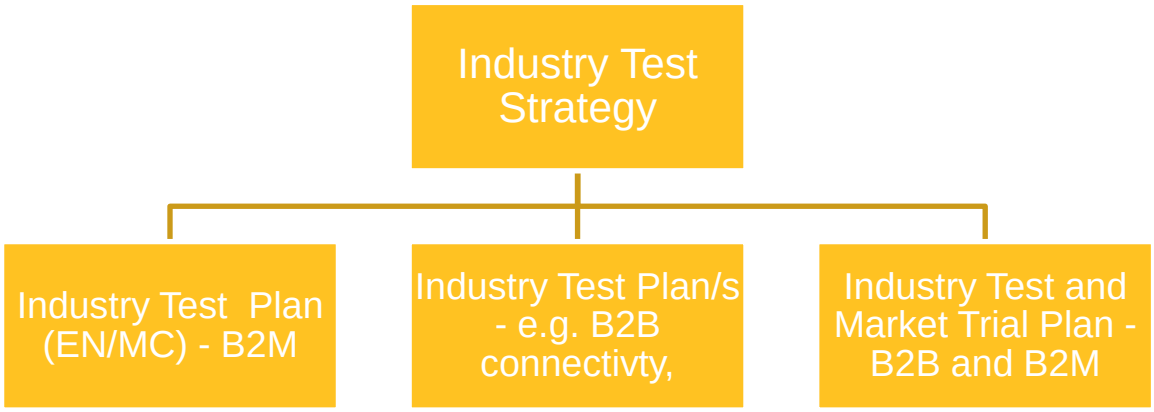


**Figure 1 Industry Test Strategy and associated Plans**

### 1.4.2 Utilise the Industry Test Working Group

AEMO will collaborate with NEM participants on the development of the Industry Test Strategy and associated Industry Test Plan via the POC Industry Test Working Group (POC-ITWG).

In order to develop the Schedule and associated Industry Test Plans in a timely manner, AEMO and NEM participants must take all reasonable steps to provide continuity of representation at POC-ITWG meetings, ideally with:

- A detailed understanding of the retail electricity market and POC program.
- Experience in developing test strategies and test plans, and managing and coordinating testing programs.
- Authorisation to consider matters, and provide views and commitments, on behalf of their organisation.

Each participant is expected to provide an industry test lead (and a delegate if required) to be part of the ITWG for the duration of industry testing preparation and execution activity. It is expected that these resources will be adequately skilled to meet the needs of the preparation and execution activities. AEMO will chair the ITWG.

AEMO and NEM participants working group representative(s) will be responsible for:

- Development of the Industry Test Strategy and Plans.
- Internal communication of the Industry Test Strategy and Plans within their represented organisation.
- Coordination of their internal testing teams to align with the activities in this Strategy and the Industry Test Plans, including test planning, preparatory activities (preparing test scripts, scenarios and calendars), actual test execution and progress reporting.

## 1.5 About this paper

### 1.5.1 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 overall POC industry testing phase.
- Chapter 4 details the organisation of the industry testing phase, including test team structure, testing tools, roles and responsibilities and reporting and communications.
- Chapter 5 details the high-level test planning approach including test scenario, scripts and data management and environment requirements
- Chapter 6 details high-level testing approach including entry and exit criteria, test execution approach, scheduled stand-ups and defect management approach.
- Chapter 7 gives a brief description of the various industry testing phases.
- Appendix A contains the defect severity classifications
- Appendix B contains the defect status classifications.

### 1.5.2 Reference documents

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

| # | Document Name |
|---|---|
| 1 | Market Readiness Strategy[8] |
| 2 | Accreditation and Registration Plan |
| 3 | Industry Transition and Cutover Plan |
| 4 | Industry Readiness Reporting Plan[9] |

[8] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream.
[9] See AEMO website, http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Power-of-Choice/Readiness-Work-Stream/Industry-Readiness-Reporting.

# 2. KEY DATES AND MILESTONES

## 2.1 Industry Testing Phases

The POC Industry Testing will occur over a number of phases:

- **Phase 1: B2M – EN/MC** - B2M Testing for EN and MC rule changes, commencing from 3 April 2017. This phase will be detailed in the **Industry Test Plan (EN/MC)**.
- **Phase 2: B2B - As released** – Targeted testing of B2B functionality as released from 1 June 2017. This may include connectivity testing and testing of interfaces. These phase will be detailed in separate Industry Test Plan/s as required
- **Phase 3: Full functionality** - Testing for all POC related rule changes, commencing from mid-August 2017. This phase will include a period of Industry Testing and a Market Trial and will be detailed in the **Industry Test and Market Trial Plan**.

## 2.2 Key milestones for the Industry Test Strategy

**Table 1 – Key milestones**

| # | Milestone | Indicative date | NEM Participant |
|---|---|---|---|
| 1 | Industry Test Strategy – first draft<br>Phase 1: Industry Test Plan (EN/MC) – first draft | 6 February 2017 | AEMO |
| 2 | POC-ITWG meeting –review first drafts:<br>Industry Test Strategy<br>Phase 1: Industry Test Plan (EN/MC) | 13 February 2017 | All |
| 3 | Participant feedback due on first draft<br>Industry Test Strategy<br>Phase 1: Industry Test Plan (EN/MC) | 20 February 2017 | All |
| 4 | POC ITWG meetings/teleconferences<br>Industry Test Strategy<br>Phase 1: Industry Test Plan (EN/MC) – planning and registration | February – March 2017 | All |
| 5 | Final drafts<br>Industry Test Strategy<br>Phase 1: Industry Test Plan (EN/MC) final draft | 24 March 2017 | AEMO |
| **6** | **Phase 1: Pre-production available – EN/MC** | **3 April 2017** | **AEMO** |
| 7 | Phase 1: Industry Testing (EN/MC) - execution | 3 April 2017 – July 2017 | All |
| 8 | POC ITWG meetings/teleconferences<br>Phase 2 and Phase 3: – planning and registration, development of the Industry Test Plan/s and Market Trial Plan | Mid-March 2017 – July 2017 | All |
| 9 | Phase 2: Staged release of sand-box environments | From June 2017 | AEMO |

| # | Milestone | Indicative date | NEM Participant |
|---|---|---|---|
| 10 | **Phase 3: Full pre-production release** | **Mid-August 2017** | **AEMO** |
| 11 | Phase 3: Industry Testing execution | Mid-August – mid-September 2017 | All |
| 12 | Phase 3: Market Trial execution | Mid-September – early November 2017 | All |
| 13 | Final Industry Testing (including Market Trial) report | Mid November 2017 | AEMO |
| 14 | "Go-live" date for POC reforms | 1 December 2017 | All |

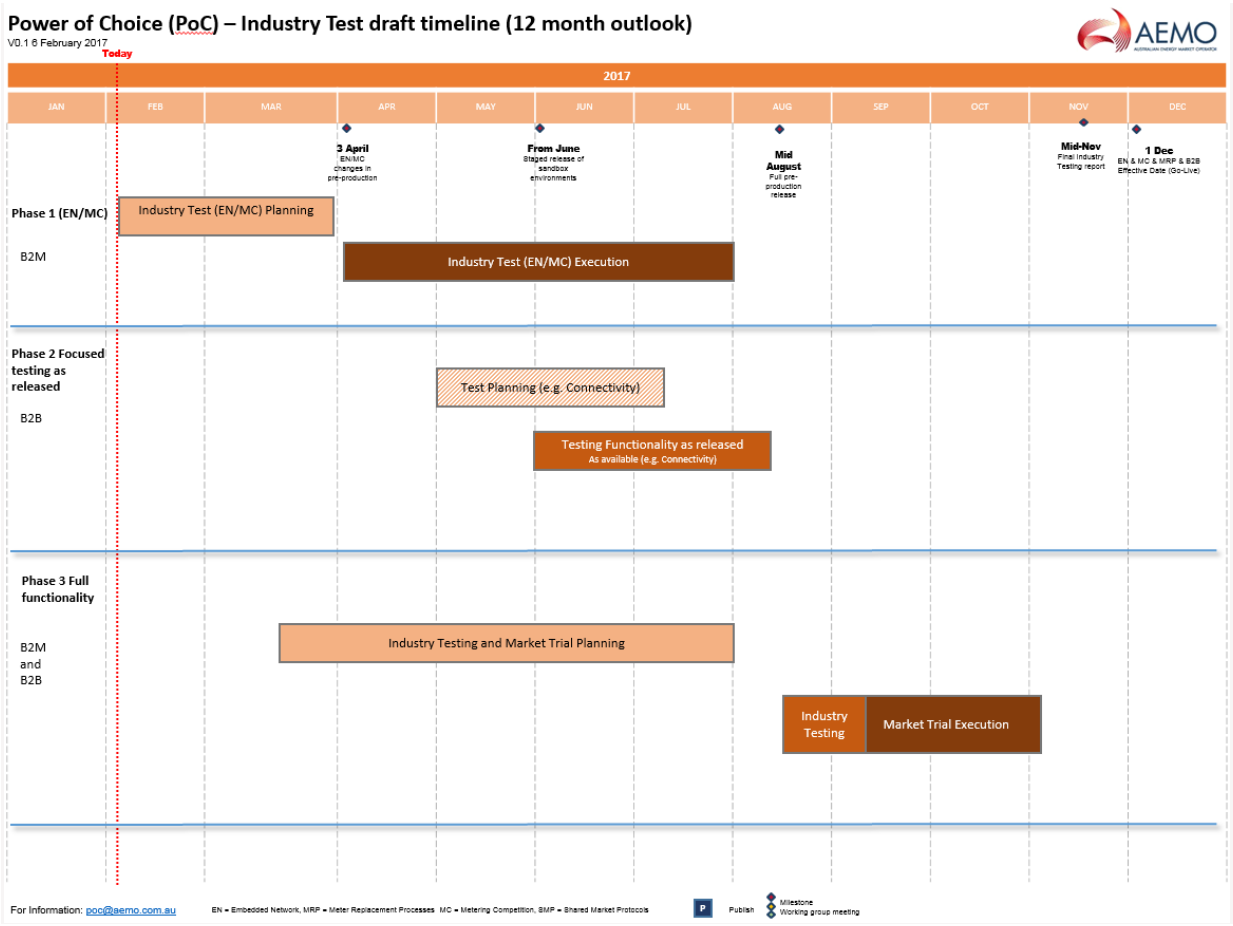


**Figure 2 Draft industry testing timeline**

# 3. SCOPE AND OBJECTIVES OF INDUSTRY TESTING

## 3.1 Industry testing objectives

The overall objective of industry testing is to confirm industry's operational preparedness for the "go-live" date by providing market participants the tools to verify technical, functional and operational of AEMO and participant systems and processes against the updated electricity retail market procedures.

## 3.2 Industry testing key principles

Industry testing of multiple-party interactions requires cooperation between participants to be successful. The following principles should guide all parties involved in industry testing:

1. Adherence to the Industry Test Strategy and associated Plans: all parties participating in industry testing must use their best endeavours to adhere to the Industry Test Strategy and Plans – including meeting key dates, fulfilling entry criteria, adhering to defect management guidelines, etc.
2. Appropriately skilled resource capability: all parties participating in industry testing must be appropriately resourced for the test planning and test execution effort.
3. Scope limited to critical business processes: any coordinated testing that requires interactions between multiple parties will be limited to critical business processes, unless otherwise agreed by the impacted parties.
4. Focus on the overall objective (reliability, safety and security of supply to end-use customers): all parties participating in industry testing should be committed to cooperating with each other and be prepared to be responsive and flexible when responding to events.

## 3.3 Industry testing scope

Industry testing will consist of system integration testing between NEM participants and AEMO's market systems.

### 3.3.1 Scope inclusions

Industry testing scope inclusions:

- Industry capability based technical, functional and business operational 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.
  - Industry operational capability verification and validation:
    - Determines the state of the solution from a "go-live: perspective and verifies technical, functional and operational compliance to obligations. Mirrors as close as possible the "go-live" state of the solution from the perspective of data, timing etc. Covers key business processes including but not limited to transfers, service orders and wholesale settlements.
  - Within this context industry testing includes:

    - NMI discovery
    - Change requests
    - Service orders
    - Customer and Site Details Notification
    - One way notifications
    - Meter data processes
    - Reporting
- Industry and market transactions:
  - There are three principle communications that occur:
    - Business to Market (B2M) - communications to AEMO from other NEM participant market systems via MSATS.
    - Market to Business (M2B) - communications from AEMO to other NEM participant market systems via MSATS.
    - Business to Business (B2B) - Participants other than AEMO communicating with each other via the B2B e-hub.

### 3.3.2 Scope exclusions

Industry testing scope exclusions:

- 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.
- Any portals or communication platforms other than MSATS or the B2B e-hub.

# 4. INDUSTRY TESTING ORGANISATION

## 4.1 Test management structure

Figure 3 shows the POC test management structure. AEMO's Test Lead will chair the ITWG, which will comprise of Test Leads from all participants. Test Leads will be responsible for managing their internal test teams. AEMO's Test Lead will report back to AEMO's Readiness workstream lead, who in turn will report back to, and escalate any issues, to the POC Consultative Forum (POC-CF).

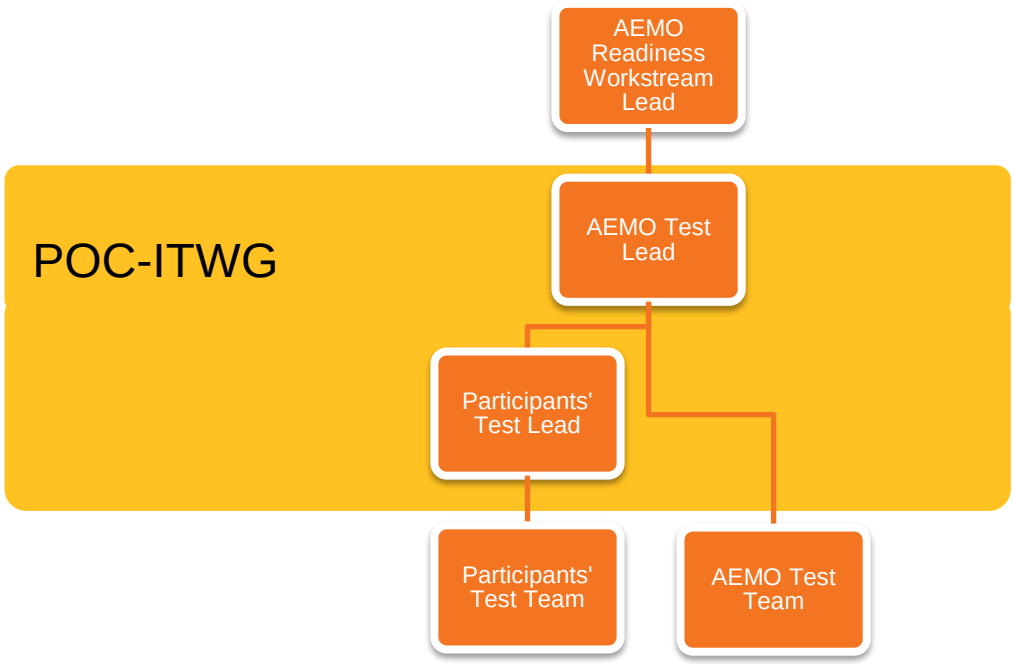


**Figure 3 POC Industry Testing reporting structure**

## 4.2 Test management 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 Roles and responsibilities

### 4.3.1 POC-ITWG

AEMO and Participant Test leads on the POC-ITWG will be responsible for:

- Developing all test preparation materials, including test scenarios, test scripts and data sets, and populating HP SAAS QC, as required.
- Submitting test registration requests, entry criteria checklists, software or connectivity requests to AEMO, when requested.
- Managing the testing process as prescribed in this Industry Testing Strategy and any Industry Test Plans, including:

  - Undertaking test execution as scheduled.
  - Updating HP SAAS QC with test progress and results.
  - Communicating with testing counterparties as required.
  - Attending scheduled stand-up and ad-hoc meetings.
  - Adhering to the defect management process.
- Preparing progress reports and test completion reports.

The POC-ITWG chair (AEMO's test lead), in addition to the above responsibilities, will be responsible for:

- Coordinating the test preparation activities.
- Requesting and collecting test registration requests, entry criteria checklists, and software and connectivity requests, and coordinating the issuing of any required licences or connectivity credentials.
- Coordinating test counterparties (e.g. arranging pairings or grouping for test scenarios).
- Coordinating the test execution process as prescribed in this Industry Testing Strategy and the Industry Test Plans including:
  - Scheduling and chairing regular stand-up and ad-hoc meetings.
  - Communicating test readiness (i.e. giving individual participants, participant pairings or participants groups, the go-ahead to begin test activities).
- Communicating status reports and updates to the ITWG, RWG and other POC forums.
- Escalating participant issues to their Readiness working group representative, i.e. Participant non-responsiveness in test execution (running behind test schedule, not updating HP SAAS QC or following the defect management process).
- Escalating defects that cannot be resolved at the individual participant or at the ITWG level to the RWG for resolution.

### 4.3.2 POC Readiness Working Group (POC-RWG)

The POC-RWG will be have oversight of the ITWG, including monitoring test preparation, test execution and defect management.

The POC-RWG will be responsible for resolving any issues or defects escalated from the ITWG. This may include involving escalating to the POC-CF or referring the defect to the appropriate procedures working group.

### 4.3.3 POC Program Consultative Forum (POC-PCF)

The POC-PCF will receive regular status reports on the testing progress. The RWG will escalate any participant issues or defects that can be resolved at the RWG level to the POC-CF.

### 4.3.4 Procedures Working Groups (POC-PWG and B2B-WG)

The RWG will refer defects to the procedures working group if industry testing uncovers:

- A showstopper defect in the procedures themselves (e.g. something that cannot technically work as prescribed).
- An area in the procedures which is open to interpretation, and guidance is required from the procedures working group as the correct interpretation. If possible, the ITWG will first agree on a proposed interpretation for the procedures working groups' endorsement.

It is the procedure working groups' responsibility to convene as soon as possible to address the issue and report back to the RWG and ITWG chairs.

## 4.4 Participant test registration

Each participant will need to register with AEMO for the following:

- Representation on the ITWG.
- Participation in the Industry Testing Phases, as detailed in the respective Industry Test Plans.

AEMO will prompt for Registration requests and may request participants to complete templates or checklists as part of the Registration activities. Registration requirements will be discussed with the ITWG as part of the development of the Industry Test Plans.

Test registration is required so that multi-party test scenarios can be planned and scheduled.

All registration requests and queries for the Industry Test should be sent via email to POC@aemo.com.au.

## 4.5 Communication and status reporting

The progress of industry testing will be monitored and reported on as follows:

- Continual basis: AEMO and Participant Test Leads via HP SAAS QC.
- Regular basis: Daily or weekly status reports prepared by the ITWG (frequency defined in Industry Test Plan/s.
- Milestone reports: Test Completion and Test Cycle Completion reports prepared by the ITWG.

In addition, testing progress will be reported on in the POC Industry Monthly Readiness Reports and at the POC-related forums.

### 4.5.1 Regular status reports

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.

Test measurement during the industry test will be based on but not limited to the following metrics:

- Number of test scenarios executed versus the number planned.
- Number of passed, failed, blocked or deferred test scenarios versus test scenarios executed.
- Defects will be reported with a focus on status, severity, priority, ownership, participants impacted, subject (functional area), version & date detected against and actions required.

### 4.5.2 Milestone reports

Milestone reports will be produced at the completion of test cycles. 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.

Milestone reports will include:

- Testing outcomes highlighting a results summary, defects summary, outstanding defects, summary of other outstanding issues and items to consider for future testing.
- Recommendations and conclusions.

# 5. INDUSTRY TEST PREPARATION

Each participant will provide industry test resources to be part of the ITWG for the duration of industry testing preparation activity. It is expected that those resources will be adequately skilled to meet the needs of the preparation activity. The ITWG will meet as required to drive the planning and preparation process, as per the ITWG Terms of Reference.

## 5.1 Industry Test Plans

As part of the preparation for industry testing, a series of workshops will be held by the ITWG to develop the Industry Test Plans for the different phases of testing.

The Industry Test Plans will include:

- Test phase objectives
- Detailed scope of testing
- Pre-requisite activities
- Entry and exit criteria
- Test cycle approach
- Data management
- Configuration management
- Defect management
- Test execution calendar (including test counterparties)
- Frequency and run sheets of scheduled stand-ups
- Test reporting requirements

## 5.2 Test scenarios, test scripts and test data

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

- Define the test scenarios required for industry testing, including identifying:
    - Scenario priority
    - Testing counterparties
- Define and prepare the subsequent test scripts that will need to be executed.
- Define the approach and timing of test script execution.
- Define the data requirements, both baseline and dynamic, to support the execution of test scripts.

Detailed data profiles for test scenarios will be prepared as required by the responsible participants for inclusion in the detailed test plan that is prepared within HP SAAS QC. These profiles will then be used to source data from participants' production databases for inclusion in a data baseline.

Each participants' data baseline will be created and backed up by their respective configuration management teams.

Participants are responsible for ensuring that any required data is available within their test environments for industry test execution.

## 5.3 Test environments

The test environments that are to be prepared and ready prior to the commencement of industry testing are:

- Industry Test Environment – this environment is where the industry testing will occur. This environment will be configured by AEMO and made available to participants throughout the test execution phase of industry testing.
- Participants' individual test environments configured as closely as possible to their internally proposed production configuration.

The Production environment and Pre-Production environment will have the identical configuration and releases of software providing the same level of functionality, except where it has been agreed by the ITWG through configuration management to have the environments otherwise. All participant test environments will be maintained and managed by the respective participants.

Relevant configuration information on participant test environments will be gathered and managed as appropriate by participant test leads. This will include but is not limited to the tracking of software builds during the test execution phase.

# 6. INDUSTRY TEST EXECUTION APPROACH

The ITWG will monitor and manage all industry testing execution activities. Participants are responsible for supplying their own teams for test execution during industry testing.

## 6.1 Industry Test entry and exit criteria

The entry and exit criteria for each industry test phase will be defined in the relevant Industry Test Plans. Depending on the test phase, the criteria are likely to be based on those listed below.

### 6.1.1 Entry criteria

Participants will be asked to submit entry criteria checklists before commencing testing. This may include, but is not limited to the following criteria:

- Pre-production environment available.
- Internal testing complete.
- Connectivity testing complete.
- Pre-testing or self-certification (as required) is complete.
- Test data preparation is complete.
- Appropriately skilled resource capability available to execute and support testing.

AEMO test lead will confirm the following:

- Industry Test Plan is complete and delivered to the ITWG.
- HP SAAS QC is configured with all required test information and is accessible and useable by test counterparties.
- Testing counterparties have confirmed readiness (via submission of completed entry criteria checklist).

### 6.1.2 Exit criteria

Exit criteria for the text execution phase include:

- Successful completion of all high-priority test scenarios.
- No outstanding severity 1 or 2 defects.
- Any open defects (severity 3 or 4) have agreed resolutions.

## 6.2 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 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.

### 6.2.1 Test status

At the conclusion of each test script the appropriate status, test status will be assigned in HP SAAS QC:

- Test passed:
  - Test met expected result.
- Test failed:
  - Test did not meet expected result.
- Test deferred:
  - The parties involved in the test agree to defer the test. Reasons for deferment must be captured in HP SAAS QC. Where the parties involved do not agree on deferral the participant wishing to defer the test must note the test as a fail.
- Test blocked:
  - A test cannot be executed due to an outstanding defect.

## 6.3 Defect management

### 6.3.1 Process and classification

Defect management will be undertaken as per the defined below:

- Defects raised during industry testing will be captured in HP SAAS QC, with the following information:
  - Description of defect and severity, and who detected it and the date it was defected.
  - The particular test scenario and/or test script associated with the defect.
  - Defect owner (entered after gaining agreement between testing counterparties as to who owns the defect).
  - Target fix date (entered by defect owner).
- The term defect is to be viewed generically insofar as that information to be captured within HP SAAS QC may relate to information that would fall outside the normal IT definition of the word defect (against application software or infrastructure). For example:
  - Information could be captured regarding lack of required support. This impacts test execution from a timing perspective; and
  - Testing may indicate that a particular automated business process needs manual intervention to work correctly and given constrained timings an automated fix cannot be developed and tested in time for go-live. Information such as this can feed into the deployment\cutover planning for go-live.

As a general principle any information that occurs during industry testing and assists with risk mitigation for the “go live” solution may be captured.

Each defect will also be assigned a priority based upon expected impact to the POC Implementation Project. Defect priority will indicate the degree to which the defect affects the progress of testing, and the overall project.

Defects will be classified according to severity and priority by the participant test leads in consultation with other impacted participants. Severity will indicate the degree to which the defect affects both the application and more specifically testing.

**Error! Reference source not found.** shows the defect severity and priority classifications.

These defect classifications are to be used by all participants’ when assessing each and every defect that is raised against the execution of those test scripts that make up the agreed industry testing.

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

Appendix B shows the defect status.

## 6.4 Stand-up meetings

The frequency and run-sheet of the stand-up meetings during the test execution phases will be detailed in the Industry Test Plans. As a minimum the following will be covered:

- Test execution progress:
  - Confirmation of readiness to commence scheduled tests.
  - Actual progress against scheduled progress, discuss any exceptions.
- Review of open defects.

# 7. INDUSTRY TEST PHASES OVERVIEW

## 7.1 Phase 1: Industry Test (B2M – EN/MC)

Phase 1 of the industry testing will be focused on any Business to Market (B2M) system changes due to the EN and MC rule changes to the following:

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

The testing will consist of both individual testing using the MSATS pre-production environment and coordinated multi-party testing. The ITWG will coordinate testing of multi-party transactions as participants are ready to commence testing.

This phase will be detailed in the Industry Test Plan (EN/MC).

## 7.2 Phase 2: B2B as released

Phase 2 of the industry testing will involve targeted testing of functionality as it becomes available from 1 June 2017. This may include testing of connectivity and targeted self-testing of functionality.

The ITWG will develop Industry Testing Plan/s as required for this phase.

## 7.3 Phase 3: Full Functionality

Phase 3 will commence from mid-August when all system changes will be available in pre-production. This period will include an Industry Test and a Market Trial:

- The Industry Test will focus on technical and functional verification and validation, e.g. ability to send a service order and receive a service order response.
- The Market Trial will focus on operational verification and validation, e.g. covering end-to-end business processes.

The ITWG will determine the relative lengths of the Industry Test and the Market Trial (including number and length of cycles) as part of the test planning process.

The phase 3 testing will include system changes due to changes to the following B2B procedures:

- Customer and Site Details Notification Process
- Meter Data Process
- Service Order Process
- One Way Notification Process

It may also include end-to-end scenarios identified by the ITWG due to the EN/MC changes that were not covered in Phase 1.

Pre-requisites for participation in the Industry Test will include test registration and submission of agreed entry criteria. Participation in the Industry Test will be a pre-requisite for participation in the Market Trial.

Testing will consist of coordinated scripted testing between participants in line with a scheduled calendar. There may also be an opportunity for an unscripted, full volume component as part of the Market Trial.

This phase will be detailed in the Industry Test and Market Trial Plan.

# APPENDIX A. 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:<br>• System hangs or performance is degraded to the point of being unusable.<br>• System crashes repeatedly.<br>• Critical functionality is not available.<br>• An error occurs that results in a catastrophic negative business impact.<br>• 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:<br>• System performance is significantly degraded due to the error.<br>• A total system failure occurs which is caused by an unusual or unlikely sequence of user actions.<br>• Important functionality has incorrect behaviour that significantly disrupts user operation.<br>• An error occurs that results in significant business impact for the participant.<br>• An error occurs that results in a loss or corruption of data that does not affect completion of a business process.<br>• Loss of essential administrative functions.<br>• The specific error cannot be circumvented. |

| 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:<br>• Minor degradation of business functions.<br>• Loss of routine administration functions.<br>• An error occurs that results in some negative business impact for the participant.<br>• The specific error can be circumvented and the business process can continue with manual or additional systems intervention.<br>• 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. |

The descriptions of each classification of priority are:

| Priority | Description |
|---|---|
| **1- High** | Defect is considered critical to business operations and/or testing. Core business and project impact. |
| **2- Medium** | Defect is considered moderate impact to the business operations and/or testing. However, core business processes are still able to be completed (possibly via workarounds, etc.) and testing is still able to continue. |
| **3- Low** | Defect is considered low impact to the business operations and/or testing. Core business processes are unaffected and testing is still able to continue. |

# APPENDIX B. DEFECT MANAGEMENT STATUS

| Status | Description |
|---|---|
| Open | HP SAAS QC (QC) item that is considered valid to be set to 'Open' for further analysis.<br>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'.<br>AEMO will set QC item to 'Rejected' with ITWG consultation during daily meetings.<br>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'.<br>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. |