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)

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.

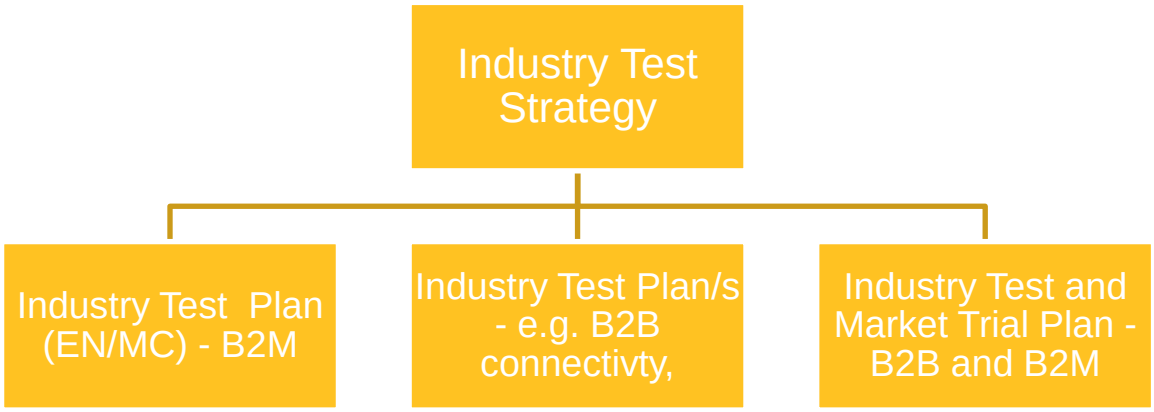

Figure 1 Industry Test Strategy and associated Plans

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 Phase 1: Industry Test Plan (EN/MC) – first draft	6 February 2017	AEMO
2	POC-ITWG meeting –review first drafts: Industry Test Strategy Phase 1: Industry Test Plan (EN/MC)	13 February 2017	All
3	Participant feedback due on first draft Industry Test Strategy Phase 1: Industry Test Plan (EN/MC)	20 February 2017	All
4	POC ITWG meetings/teleconferences Industry Test Strategy Phase 1: Industry Test Plan (EN/MC) – planning and registration	February – March 2017	All
5	Final drafts Industry Test Strategy 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 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

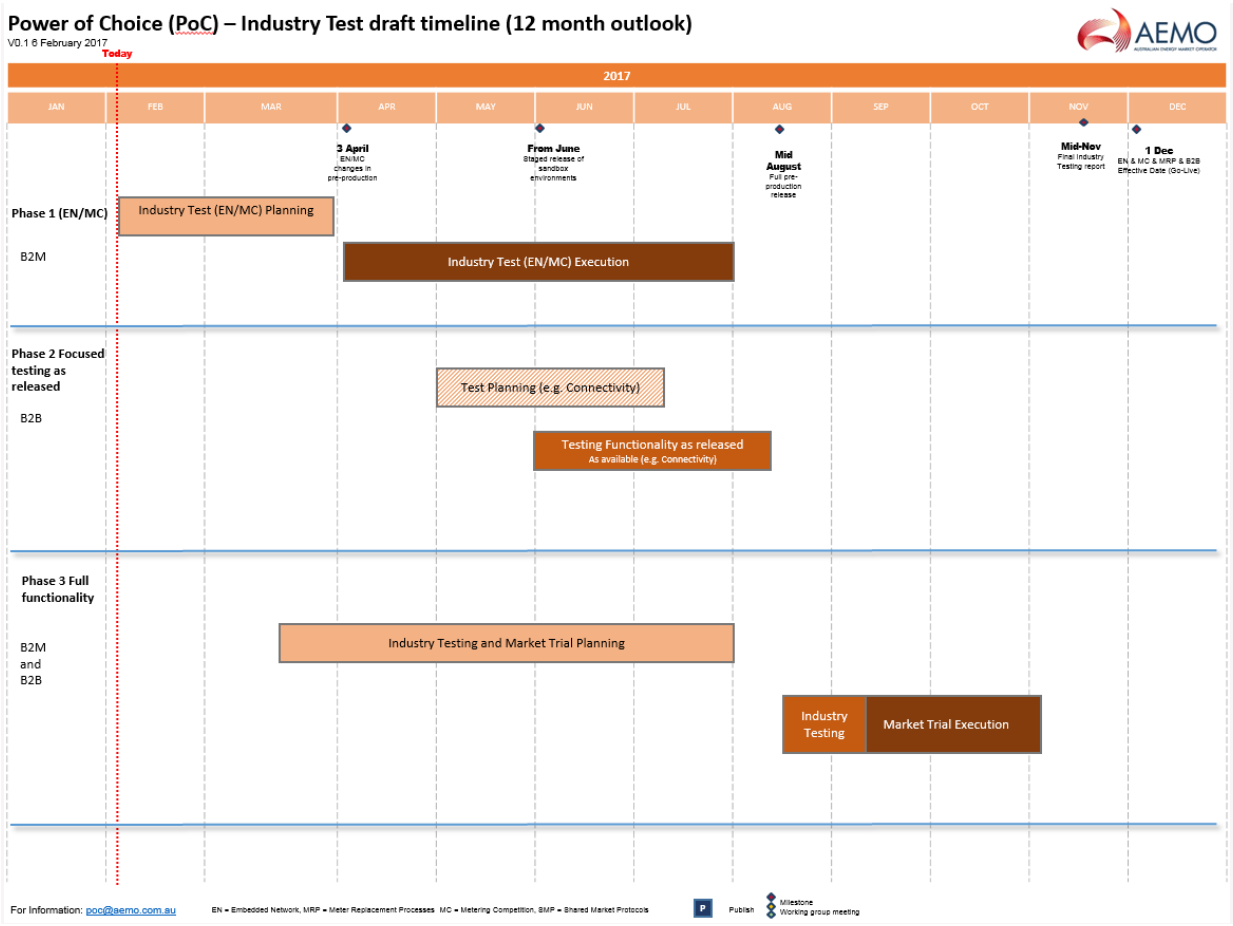

Figure 2 Draft industry testing timeline

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).

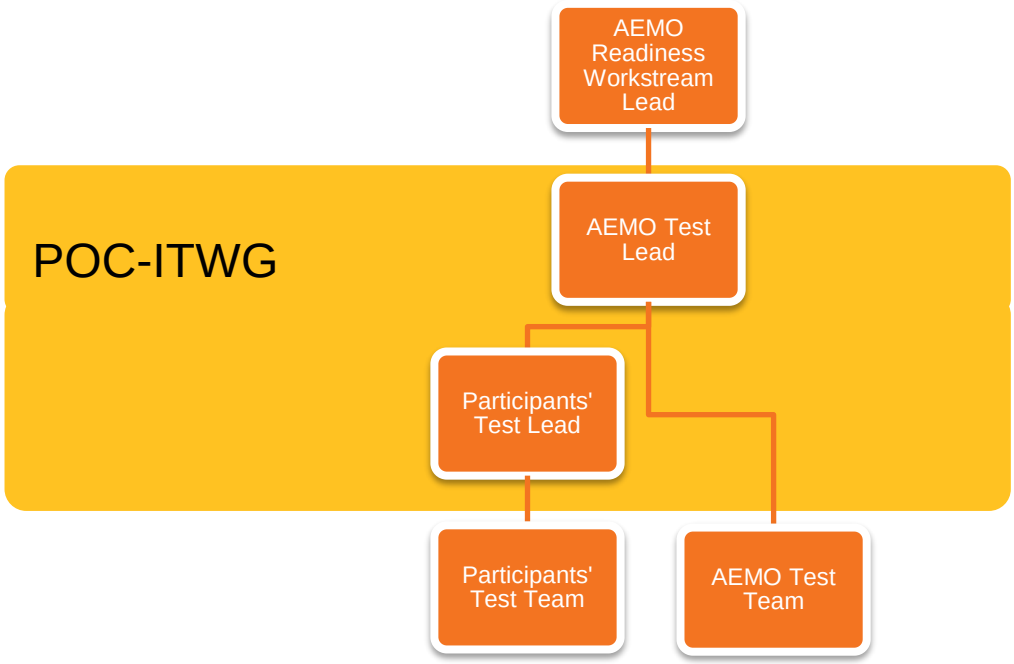

Figure 3 POC Industry Testing reporting structure

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: • 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.

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.

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. 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.

POWER OF CHOICE IMPLEMENTATION PROGRAM

INDUSTRY TEST PLAN EN/MC (VERSION 0.1)

Published: **February 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)

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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).
- 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.

[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

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	Market Readiness Strategy
2	Industry Test Strategy
3	Registration and Accreditation Plan

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	Registration for Industry Test (EN/MC)	13 February 2017 – 3 March 2017	All
5	POC ITWG meeting – discuss feedback and second draft of Industry Test Plan (EN/MC)	7 March 2017	All
6	POC ITWG meetings/teleconferences – detailed planning Industry Test Plan (EN/MC)	March 2017	All
7	POC-ITWG meeting – review final Industry Test Plan (EN/MC)	24 March 2017	All
8	**Phase 1: Pre-production available – EN/MC**	3 April 2017	All
9	Industry Test (EN/MC) - execution	3 April – July 2017	All

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

3.1 Industry Test (EN/MC) objectives

The objective of the Industry Testing (EN/MC) is to support industry's operational preparedness for the "go-live" date by providing market participants the 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.[5]

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.
  - 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

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.

[5] 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

4. INDUSTRY TEST PREPARATION

The 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 scenario 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

Participants are responsible for identifying the test data required for executing their test cases. All pertinent test data will be vetted with the other related participant(s) that will be engaged with those specific tests run in the cycle and agreed upon.

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.

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 participant matrix and test schedule.

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.

5. INDUSTRY TEST EXECUTION APPROACH

5.1 Pre-requisites

New participants will have commenced registration or accreditation activities as required.

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.
- Internal testing complete.
- 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 is accessible and useable.
- Appropriately skilled resource capability available to execute and support testing.

5.3 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.

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 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 the HP SAAS QC updates, participants will complete a Status Traffic light report on a twice-weekly basis. This report will detail:

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

5.5 Defect management

The defect management process is as detailed in the Industry Testing Strategy.

5.6 Test process

AEMO will initially schedule twice weekly 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.

These meetings will be:

- Scheduled twice weekly (e.g. on Tuesday and Thursdays 10:00 am to 10:30 pm (AEDT))
- 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.

5.7 Test reporting

The progress of the Industry Test can be monitored on a continuous basis by all market participants using HP SAAS QC.

Regular reports 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 execution summary by participant:
  - Planned count versus actual count
  - Planned % versus actual %
- Defect summary:
  - 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-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 all test reports using data from HP SAAS QC and inputs provided by participants.

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

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 – test version of actual system		
2	Completed internal testing (e.g. System Testing and System Integration Testing)		
3	Connectivity confirmed		
4	HP SAAS QC accessible and usable		
5	Test planning completed and understood – test processes and schedule, scenarios and scripts		
6	Test systems are pre-populated with test data		
7	HP SAAS QC configured with all test information		
8	Appropriately skilled resource capability available to execute and support testing		

Industry Test (EN/MC) Workbook

v0.1	10/02/2017	Initial first draft for discussion at the 13 Febru

ary ITWG

	Responsible Role	Test Scenarios (NMI Transactions)	CR Code	NMI Class	Status
	AEMO	Embedded Network Identifier Codes			
	AEMO	Define, NMI range blocks Note: participant should have LNSP role defined			
	LNSP	Create NMI- 2000 - Create NMI details	2000	WIGS	A
	LNSP	2021 - Embedded Network Child	2021	LARGE, SMALL	N
	LNSP	2500 - Data stream + Meter details	2500	WIGS	A
	LNSP	2520 - Data stream + Meter details +EN Child(MDM Contributory Suffix and Network Tariff Code is mandatory)	2520	LARGE, SMALL	A
	NEMM	2100 - Create External Profile Shape	2100	LARGE, SMALL	N
	LNSP	LNSP of the NMI validate the REQ status Notifications			
	FRMP	FRMP of the NMI validate the REQ status notification			
	MDP	MDP of the NMI Raise an Objection - objection code 'BADMETER' (Objection should raised within one business day)	2000		
	MDP	MDP receives the Objection notification. Change Request status move to OBJ status	2000		
	LR	LR of the NMI- Receives the Objection notification	2000		
	AEMO	Move the change Request to REJ status	2000		
	MDP/LR	Receives notification for CR moves to REJ status	2000		
	AEMO	Change request Status moved to COM status.	2021 2500 2520 2100		
	LNSP/LR/MDP/FRMP/RP	Receives notification for CR's moves to COM status			
	LNSP/LR/MDP/FRMP/RP	Trigger NMI Discovery , verify the NMI details	2021 2500 2520		
	AEMO	Trigger C5 data population.			
	LNSP/LR/MDP/FRMP/RP	Trigger and validate C7 report data			

	Responsible Role	Test Scenarios (CR Transactions)	CR Code	Jurisdiction	Initiating Party
	FRMP	FRMP <> RP (removal of FRMP=RP validation) Initiate CR 1030 on a existing NMI	1030	ALL	FRMP
	FRMP	Verify, Read Type codes (NI,NB) are removed	1030	ALL	FRMP
	AEMO	Change request Status moved to COM status.	1030		
	FRMP	Verify CR moved to COM status	1030		
	RP	RP <> LNSP (remove validation that RP=LNSP) Create CR 3080 on a existing NMI	3080	ALL	RP
	MDP	MDP receives an outbound request to submit CR 1500.	1500	ALL	MDP
	AEMO	Change request Status moved to COM status.	1500		
	MDP	Verify CR 1500 is moved to COM status.			
	RP	RP, Verify CR 3080 is moved to COM status			
	LNSP	LNSP, verify the notification for CR 3080 COM status.			
	RP	RP create change Request on a existing NMI	6800	ALL	RP
	MDP,MPB,MPC	Create Objection "**NOACC**" on CR 6800	6800		
	AEMO	CR 6800 moves to OBJ status			
	MDP,MPB,MPC	Withdraw the objection			
	MDP,MPB,MPC	Verify Notifications on Objection Withdrawal.			
	AEMO	CR status change to REQ status			
	RP	Create objection "**DECLINED**" on CR 6800			
	RP	Withdraw the objection			
	RP	Verify Notifications on Objection Withdrawal.			
	AEMO	CR status change to COM			
	FRMP	FRMP create CR for existing NMI	1083	ALL	FRMP
	RP	RP Create an Objection **"CONTRACT" on CR 1083**	1083		
	AEMO	CR 1083 moves to OBJ status			

	FRMP	FRMP create CR for existing NMI	1082	ACT, NSW, VIC, QLD, SA.	FRMP
	RP	RP Create a Objection **"CONTRACT" on CR 1082**			
	AEMO	CR 1082 moves to OBJ status			
	RP	RP withdraws objection on CR 1082			
	AEMO	CR 1082 moves to COM status			
	FRMP	FRMP create CR for existing NMI	1000 1020		
	RP	RP Create a Objection **"CONTRACT"**	1000		
	RP	RP Create a Objection **"CONTRACT"**	1020		
	AEMO	CR 1000/1020 moves to OBJ status			
	RP	Verify RP receive notifications			
	New LNSP	NEW LNSP create CR	5090	ALL	LNSP
	Current LNSP	Create Objection **'NOTAWARE'** on CR5090	5090		
	AEMO	CR 5090 moves to OBJ status			
	New LNSP	LNSP, Create CR 2021	2021	ALL	LNSP
	ROLR	ROLR ,raise an Objection on CR 2021 Objection is **not** raised or is not CR Rejected (ROLR does not have the ability to object to any CRs)	2021		
	ROLR	ROLR does not receive any notifications			
	LNSP	LNSP, Create an Objection 'NOTRESP' Objection is not completed or Rejected.	2021	ALL	LNSP
	LR	LR, Create Objection **'NOTRESP'** Objection is successfully completed	2021	ALL	LR
	AEMO	CR 2021 moves to OBJ status	2021		
	LR	LR withdraws objection on CR 2021	2021		
	AEMO	CR 2021 moves to REQ status			

	LR	Create Objection **'RETRO'** Objection is successfully completed	2021	ALL	LR
	AEMO	CR 2021 moves to OBJ status			
	Current LNSP	LNSP, Create CR 5060 *(CR can only be created on NMIs which were created by using 2021,2520)*	5060	ALL	LNSP
	AEMO	CR is CAN or REJ Status.	5060		
	Current LNSP	LNSP, receives the CAN or REJ notification	5060		
	LR	LR **doesn't** receive CAN or REJ notifications.			
	LNSP	LNSP, Create CR 5090 *(CRs can be created on NMIs which were created by using 2021,2520)*	5090	ALL	LNSP
	AEMO	CR is COM Status.			
	LNSP	LNSP receives the COM status notification			
	LR	LR receives the COM status notification			
	FRMP	FRMP, Create CR 5080 Remove 'FRMP's ability to initiate CR 5080	5080	ALL	FRMP
	ANY	CRs are disabled (to be triggered for NMI classifications of 'LARGE' and 'SMALL')	2003, 3003, 4003 , , 5053, 1050	ALL	Any
	ANY	CRs are disabled (not be able to be trigger for NMI classifications of 'WHOLESAL', 'GENERATR' and 'SAMPLE')	1050, 1051	ALL	Any

	ANY	Objections period reduced to 1 day after CR initiated.	1000, 2520, 6100, 6800	ALL	Any
	ANY	Objections period reduced to 1 day after CR initiated.	2000, 5001, 6500	ALL	Any
	ANY	objections cannot initiate	2100, 5111	ALL	Any

Meter Status	Register Status		
R	C		
D	R		

Impacted Party	Read Type Code	NMI Class	
FRMP		SMALL/LARGE	
FRMP	SP	SMALL/LARGE	
RP		SMALL/LARGE	
MDP		SMALL/LARGE	
RP		SMALL/LARGE	
FRMP		LARGE	

FRMP		LARGE	
		WIGS	
LNSP		Small/Large/Wholesale/Generator	
LNSP		SMALL/LARGE	
LNSP		SMALL/LARGE	
LR			

LR			
LNSP		Small/Large/Wholesale/Generator	
LNSP		Small/Large/Wholesale/Generator	
FRMP		Small/Large/Wholesale/Generator	
Any		Small, Large	
Any		WHOLESAL/GENERATR/SAMPLE	

Any		SMALL, LARGE	
Any		LARGE	
Any		SMALL/ LARGE/ WIGS	

Changes to CATS and WIGS CRs due to the POC EN/MC procedure c

Procedure	Section	Item
CATS	Obligations by Role	Metering provider - Category B
CATS	Role codes and rule	Role codes
CATS	Role codes and rule	Status codes - NMI status codes
CATS	Role codes and rule	Status Codes - Meter Register Statu
CATS	Role codes and rule	Read type codes
CATS	Role codes and rule	Read type codes
CATS	Role codes and rule	Read type codes
CATS	CR1000 series	CR[1000, 1010*, 1020, 1030, 1040]
CATS	*CR1000 series*	*CR[1000, 1020, 1030, 1040]*
CATS	CR1000 series	CR[1000, 1010, 1020, 1030, 1040]
CATS	CR1000 series	CR[1000, 1020, 1030, 1040]
CATS	*CR1000 series*	*CR[1021, 1022, 1023, 1024, 1025, 1*
CATS	*CR1000 series*	*CR[1021, 1022, 1023, 1024, 1025, 1*
CATS	CR1000 series	CR[1021, 1022, 1023, 1024, 1025, 1
CATS	CR1000 series	CR[1080, 1081, 1082, 1083, 1084]
CATS	*CR1000 series*	*CR[1080, 1081, 1082, 1083, 1084]*
CATS	CR1000 series	CR[1080, 1081, 1082, 1083, 1084]
CATS	CR1000 series	CR[1080, 1083, 1084]
CATS	CR1000 series	CR[1082]
CATS	CR1000 series	CR[1050, 1051]
CATS	CR1000 series	CR[1050, 1051]
CATS	CR2000 series	CR[2000]
CATS	CR2000 series	CR[2000, 2001]
CATS	CR2000 series	CR[2003]
CATS	CR2000 series	CR[2020,2021]
CATS	CR2000 series	CR[2020,2021]
CATS	CR2000 series	CR[2020,2021]
CATS	CR2000 series	CR[2020,2021]
CATS	CR2000 series	CR[2020,2021]
CATS	*CR2000 series*	*CR[2020,2021]*
CATS	*CR2000 series*	*CR[2021]*
CATS	CR2000 series	CR[2500,2501]
CATS	CR2000 series	CR[2500,2501]
CATS	CR2000 series	CR[2500,2501]
CATS	CR2000 series	CR[2520, 2521]
CATS	CR2000 series	CR[2520, 2521]
CATS	CR2000 series	CR[2520, 2521]
CATS	CR2000 series	CR[2520, 2521]
CATS	CR2000 series	CR[2520, 2521]
CATS	CR3000 series	CR[3000,3001]
CATS	CR3000 series	CR[3000,3001]
CATS	CR3000 series	CR[3003]
CATS	CR3000 series	CR[3004,3005]
CATS	CR3000 series	CR[3004,3005]
CATS	CR3000 series	CR[3050, 3051]

CATS	CR3000 series	CR[3050, 3051]
CATS	CR3000 series	CR [3053]
CATS	CR3000 series	CR[3080, 3081]
CATS	CR3000 series	CR[3080, 3081]
CATS	CR3000 series	CR[3080, 3081]
CATS	CR3000 series	CR[3080]
CATS	CR3000 series	CR[3090, 3091]
CATS	CR3000 series	CR[3090, 3091]
CATS	CR3000 series	CR[3090, 3091]
CATS	CR3000 series	CR[3090]
CATS	CR4000 series	CR[4003]
CATS	CR4000 series	CR[4053]
CATS	CR5000 series	CR[5001]
CATS	CR5000 series	CR[5001]
CATS	CR5000 series	CR[5021]
CATS	CR5000 series	CR[5021]
CATS	CR5000 series	CR[5021]
CATS	CR5000 series	CR[5053]
CATS	CR5000 series	CRs [5060, 5061]
CATS	CR5000 series	CRs [5060, 5061]
CATS	CR5000 series	CRs [5060, 5061]
CATS	CR5000 series	CR[5080, 5081]
CATS	*CR5000 series*	*CR[5090, 5091]*
CATS	*CR5000 series*	*CR[5090, 5091]*
CATS	*CR5000 series*	*CR[5090, 5091]*
CATS	CR6000 series	CR[6100, 6110]
CATS	CR6000 series	CR[6200, 6210]
CATS	CR6000 series	CR[6200]
CATS	CR6000 series	CR[6300, 6301]
CATS	CR6000 series	CR[6300]
CATS	CR6000 series	CR[6400, 6401]
CATS	CR6000 series	CR[6421]
CATS	CR6000 series	CR[6500, 6501]
CATS	CR6000 series	CR[6500, 6501]
CATS	CR6000 series	CR[6700, 6701]
CATS	CR6000 series	CR[6700]
CATS	CR6000 series	CR[6800, 6801]
CATS	CR6000 series	CR[6800, 6801]
CATS	CR6000 series	CR[6800]
CATS	CR6000 series	CR[6800, 6801]
CATS	CR6000 series	CR[6800, 6801]
WIGS	CR1000 series	CR[1000, 1020]
WIGS	CR1000 series	CR[1000, 1020]
WIGS	CR1000 series	CR[1050, 1051]
WIGS	CR1000 series	CR[1080, 1082]
WIGS	CR2000 series	CR[2000, 2001]
WIGS	CR2000 series	CR[2020, 2021]
WIGS	CR2000 series	CR[2100, 2101]
WIGS	CR2000 series	CR[2500, 2501]
WIGS	CR2000 series	CR[2500, 2501]

WIGS	CR3000 series	CR[3000, 3001]
WIGS	CR3000 series	CR[3000, 3001]
WIGS	CR3000 series	CR[3004, 3005]
WIGS	CR3000 series	CR[3004, 3005]
CATS	CR5000 series	CR[5001]
WIGS	CR5000 series	CR[5021]
WIGS	CR5000 series	CR[5060, 5061]
WIGS	CR5000 series	CR[5080, 5081]
WIGS	*CR5000 series*	*CR[5090, 5091]*
WIGS	CR5000 series	CR[5100, 5111]
WIGS	CR6000 series	CR[6200]
WIGS	CR6000 series	CR[6500, 6501]
WIGS	CR6000 series	CR[6700]
WIGS	Other	ECLR
WIGS	Other	EPRF

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CR description	Description of change
N/A	MPB must update the Meter Register St
N/A	Clarification
Various CRs	NMI status code "N" added
CR3000 series	New meter register status code of D is a
All	Removal of Read Type Codes
All	Read Type Codes now apply to type 4A
All	Read Type Codes now apply to type VICA
Change Retailer - small or large	Initiation party - validation
Change Retailer - small or large	*Mandatory/Optional - MDP*
Change Retailer - small or large	Objection logging period
Change Retailer - small or large	Objection code
Change Retailer - Error Corrections - s	*Initiation party - validation*
Change Retailer - Error Corrections - s	*Mandatory/Optional - MDP*
Change Retailer - Error Corrections - s	Objection logging period
Change Retailer - Embedded Networl	Initiation party - validation
Change Retailer - Embedded Network	*Mandatory/Optional - MDP*
Change Retailer - Embedded Networl	Objection logging period
Change Retailer - Embedded Networl	Objection code
Change Retailer - Embedded Networl	Objection code
Change Retailer – Where FRMP is NC	Disabled
Change Retailer – (ENC) Where FRMF	Disabled
Create NMI	Objection logging period
Create NMI	Objection party
Create Tier 1 NMI	Disabled
Create NMI – Child NMI	Objection logging period
Create NMI – Child NMI	Initiation party
Create NMI – Child NMI	Objection code
Create NMI Details –Child – Retrospe	Objection code
Create NMI Details –Child – Retrospe	Notifications
Create NMI – Child NMI	*Objection code*
Create NMI Details –Child – Retrospe	*Objection code*
Create NMI, Meter, Datastream	Objection logging period
Create NMI, Meter, Datastream	Objection code
Create NMI, Meter, Datastream	Mandatory/Optional
Create NMI, Meter, Datastream – Ch	Objection logging period
Create NMI, Meter, Datastream – Ch	Initiation party
Create NMI, Meter, Datastream – Ch	Objection code
Create NMI, Meter, Datastream – Ch	Objection code
Create NMI, Meter, Datastream – Ch	Mandatory/Optional
Create Metering Installation Details	Mandatory/Optional
Create Metering Installation Details	Mandatory/Optional
Create Tier 1 Metering Installation D	Disabled
Exchange of Metering Information	Mandatory/Optional
Exchange of Metering Information	Mandatory/Optional
Change metering installation details	Mandatory/Optional

Change metering installation details	Mandatory/Optional
Change Tier 1 Metering Installation D	Disabled
Advanced Change Metering Installati	Initiation party - validation
Advanced Change Metering Installati	Notifications
Advanced Change Metering Installati	Mandatory/Optional
Advanced Change Metering Installati	Data request/CR1500
Advanced Exchange of Metering	Initiation party - validation
Advanced Exchange of Metering	Notifications
Advanced Exchange of Metering	Mandatory/Optional
Advanced Exchange of Metering	Data request/CR1500
Create Tier 1 Datastream Details	Disabled
Change Tier 1 Datastream Details	Disabled
Backdate NMI Start Date	Objection logging period
Backdate NMI Start Date	Objection code
Backdate NMI Start Date – Child	Objection logging period
Backdate NMI Start Date – Child	Objection code
Backdate NMI Start Date – Child	Initiation party
Change Tier 1 NMI Standing Data	Disabled
Change NMI – Child NMI	Initiation party
Change NMI – Child NMI	Notifications
Change NMI – Child NMI	Notifications
Change Parent Name	Initiation party
Make a NMI a Child NMI	*Initiation party*
Make a NMI a Child NMI	*Notifications*
Make a NMI a Child NMI	*Objection code*
Change LNSP	Objection logging period
Change MDP	Objection logging period
Change MDP	Data request/CR1500
Change MC	Objection logging period
Change MC	Data request/CR1500
Change LR	Objection logging period
Change LR Child NMI	Objection logging period
Change RoLR	Objection code
Change RoLR	Objection logging period
Change MPB, MPC, or Both	Objection logging period
Change MPB, MPC, or Both	Data request/CR1500
Change Multiple Roles – MC, MDP, M	Iniating party
Change Multiple Roles – MC, MDP, M	Objection logging period
Change Multiple Roles – MC, MDP, M	Objection code
Change Multiple Roles – MC, MDP, M	Objection code
Change Multiple Roles – MC, MDP, M	Notifications
Change FRMP	Initiation party - validation
Change FRMP	Objection code
Change Retailer – Where FRMP is NC	Disabled
Change FRMP - Embedded Networks	New WIGS CR
Create NMI	Objection party
Create NMI – Child NMI	New WIGS CR
Create External Profile Shape	Objections
Create NMI, Meter, Datastream	Objection code
Create NMI, Meter, Datastream	Mandatory/Optional

Create Metering Details	Mandatory/Optional
Create Metering Details	Mandatory/Optional
Exchange of Metering Information	Mandatory/Optional
Exchange of Metering Information	Mandatory/Optional
Backdate NMI Start Date	Objection code
Backdate NMI Start Date – Child	New WIGS CR
Change NMI – Child NMI	New WIGS CR
Change Parent Name	New WIGS CR
Make NMI a Child NMI	*New WIGS CR*
Change External Profile Shape	Objections
Change MDP	Data request/CR1500
Change ROLR	Objection code
Change MPB, MPC, or Both	Data request/CR1500
Change LR – Child NMI Auto	New WIGS CR
Change Secondary FRMP – Parent NM	New WIGS CR

Detailed description

The MPD will be the only party who can update the remove disconnection status at the meter level (using CR3
LNSP role id will be used for the ENM, RP role id will be used for the MC
Description of code is Non Market Child NMI
Description of codes is Remotely Disconnected
Read type codes "NI - New Interval meter" and "NB- Future Move In (Basic) are no longer applicable
Read type codes now apply to the type 4A (MRAM) meter: NS, RR, SP, ER,PR
Read type codes now apply to the type VICAMI, COMMS4C and COMMS4D metering installation type code: EI
FRMP can now change MDP if not RP (removal of FRMP=RP validation))
MDP is now optional
Objection logging period changed from 5 to 1 business day
Current RP can now object using objection code of "CONTRACT"
FRMP can now change MDP if not RP (removal of FRMP=RP validation))
MDP is now optional
Objection logging period changed from 5 to 1 business day
FRMP can now change MDP if not RP (removal of FRMP=RP validation))
MDP is now optional
Objection logging period changed from 5 to 1 business day
Current RP can now object using objection code of "CONTRACT"
Current RP can now object using objection code of "CONTRACT"
CR code no longer available
CR code no longer available
Objection logging period changed from 5 to 1 business day
RORL can no longer object using objection code of "NOTRESP"
CR code no longer available
Objection logging period changed from 5 to 1 business day
Initation role changes from LR to ENM (ENM in the role id of LNSP)
LNSP can no longer object using objection code of 'NOTRESP'
RORL can no longer object using objection code of "NOTRESP"
RORL to no longer receive any notifications
New LR can now object using objection code of 'NOTRESP'
New LR can now object using objection code of 'RETRO'
Objection logging period changed from 5 to 1 business day
RORL can no longer object using objection code of "NOTRESP"
MDM Contributory Suffix is now mandatory
Objection logging period changed from 5 to 1 business day
Initation role changes from LR to ENM (ENM in the role id of LNSP)
RORL can no longer object using objection code of "NOTRESP"
RORL to no longer receive any notifications
MDM Contributory Suffix is now mandatory
MDM Contributory Suffix is now mandatory
Network Tariff Code is now mandatory
CR code no longer available
MDM Contributory Suffix is now mandatory
Network Tariff Code is now mandatory
Network Tariff Code is now mandatory - if changes required

MDM Contributory Suffix is now mandatory
CR code no longer available
Initiation role changes from RP (LNSP) to MC (remove validation that RP=LNSP)
Current LNSP to receive all notifications
MDM Contributory Suffix is now mandatory
CR1500 now required
Initiation role changes from RP (LNSP) to MC (remove validation that RP=LNSP)
Current LNSP to receive all notifications
MDM Contributory Suffix is now mandatory
CR1500 now required
CR code no longer available
CR code no longer available
Objection logging period changed from 5 to 1 business day
RORL can no longer object using objection code of "NOTRESP"
Objection logging period changed from 5 to 1 business day
RORL can no longer object using objection code of "NOTRESP"
Intitation role changes from (AEMO or ENLR) to (AEMO or ENM)
CR code no longer available
Initation role changes from LR to ENM (ENM in the role id of LNSP)
Current LNSP to receive notifications for Cancelled and Rejected Statuses
Current LR to no longer receive notifications for Cancelled and Rejected Statuses
Current FRMP can no longer initiate, only the current LNSP
Initation role changes from AEMO or LNSP to ENM (ENM in the role id of LNSP)
Current LNSP to receive all notifications
Current LNSP can now object using objection code of "NOTAWARE"
Objection logging period changed from 5 to 1 business day
Objection logging period changed from 5 to 1 business day
CR1500 now required
Objection logging period changed from 5 to 1 business day
CR1500 now required
Objection logging period changed from 5 to 1 business day
Objection logging period changed from 5 to 1 business day
RORL can no longer object using objection code of "NOTRESP"
Objection logging period changed from 5 to 1 business day
Objection logging period changed from 5 to 1 business day
CR1500 now required
Current MC can now iniate (as well as current FRMP)
Objection logging period changed from 5 to 1 business day
Objection code = "NOACC" added for new and current MPD, MPB and MPC
New RP can now object with Objection code = "DECLINED"
Add rejected notification for the new and current MC (RP)
FRMP can now change MDP if not RP (removal of FRMP=RP validation))
Current RP can now object using objection code of "CONTRACT"
CR code no longer available
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
RORL can no longer object using objection code of "NOTRESP"
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Remove all objections
RORL can no longer object using objection code of "NOTRESP"
MDM Contributory Suffix is now mandatory

MDM Contributory Suffix is now mandatory
Network Tariff Code is now mandatory
MDM Contributory Suffix is now mandatory
Network Tariff Code is now mandatory
RORL can no longer object using objection code of "NOTRESP"
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Remove all objections
CR1500 now required
RORL can no longer object using objection code of "NOTRESP"
CR1500 now required
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions
Enabled for WIGS - all related Notification rules and objection rules should be as per the CATS transactions

NMI Class	Jurisdiction	Intiating Party	Impacted Party
3000 series)		Current MPB	Current MPB
All	All		
All	All		
LARGE, SMALL	All	New FRMP	New FRMP
LARGE, SMALL	*All*	*New FRMP*	*New FRMP*
LARGE, SMALL	All	New FRMP	All
LARGE	All	New FRMP	Current MC (RP role
LARGE, SMALL	*All*	*New FRMP*	*New FRMP*
LARGE, SMALL	*All*	*New FRMP*	*New FRMP*
LARGE, SMALL	All	New FRMP	New FRMP
LARGE, SMALL	All	New FRMP	New FRMP
LARGE, SMALL	*All*	*New FRMP*	*New FRMP*
LARGE, SMALL	All	New FRMP	All
LARGE	All	New FRMP	Current MC (RP role
LARGE	ACT, NSW, VI	New FRMP	Current MC (RP role
LARGE	All	New FRMP	All
LARGE	All	New FRMP	All
LARGE	All	New LNSP	All
LARGE, SMALL	All	New LNSP	New RORL
LARGE, SMALL	All	New LNSP	All
LARGE	All	New ENM	All
LARGE, SMALL	All	New ENM	New ENM
LARGE, SMALL	All	New ENM	New LNSP
LARGE, SMALL	All	New LNSP	New RORL
LARGE, SMALL	All	New LNSP	New RORL
LARGE, SMALL	All	*New ENM*	*New LR*
LARGE, SMALL	All	*New ENM*	*New LR*
LARGE	All	New LNSP	All
LARGE, SMALL	All	New LNSP	New RORL
LARGE, SMALL	All	New LNSP	New LNSP
LARGE, SMALL	All	New ENM	All
LARGE, SMALL	All	New ENM	New ENM
LARGE, SMALL	All	New ENM	New RORL
LARGE, SMALL	All	New ENM	New RORL
LARGE, SMALL	All	New ENM	New ENM
LARGE, SMALL	All	Current MPB	Current MPB
LARGE, SMALL	All	Current MPB	Current MPB
LARGE, SMALL	All	Current MPB	All
LARGE, SMALL	All	Current MPB	Current MPB
LARGE, SMALL	All	Current MPB	Current MPB
LARGE, SMALL	All	Current MPB	Current MPB

LARGE, SMALL	All	Current MPB	Current MPB
LARGE, SMALL	All	Current MPB	All
LARGE, SMALL	All	Current MC	Current MC
LARGE, SMALL	All	Current MC	Current LNSP
LARGE, SMALL	All	Current MC	Current MC
LARGE, SMALL	All	Current MC	MDP
LARGE, SMALL	All	Current MC	Current MC
LARGE, SMALL	All	Current MC	Current LNSP
LARGE, SMALL	All	Current MC	Current MC
LARGE, SMALL	All	Current MC	MDP
LARGE, SMALL	All	Current MDP	All
LARGE, SMALL	All	Current MDP	All
LARGE	All	AEMO or LNSP	All
LARGE, SMALL	All	New ENM	New RORL
LARGE	All	AEMO or ENM	All
LARGE, SMALL	All	AEMO or ENM	New RORL
LARGE, SMALL	All	AEMO or ENM	ENM
LARGE, SMALL	All	Current LNSP	
LARGE, SMALL	All	Current ENM	Current ENM
LARGE, SMALL	All	Current ENM	Current LNSP
LARGE, SMALL	All	Current ENM	Current LR
LARGE, SMALL	All	Current LNSP	Current FRMP
LARGE, SMALL	*All*	*New ENM*	*AEMO*
LARGE, SMALL	*All*	*New ENM*	*Current LNSP*
LARGE, SMALL	*All*	*New ENM*	*Current LNSP*
LARGE, SMALL	All	New LNSP	All
LARGE, SMALL	All	Current FRMP or	All
LARGE, SMALL	All	Current FRMP or	MDP
LARGE, SMALL	All	New MC	All
LARGE, SMALL	All	New MC	MDP
LARGE	All	New LR	All
LARGE	All	New LR	All
LARGE, SMALL	All	New RORL	Current RORL
LARGE	All	New RORL	All
LARGE, SMALL	All	Current MC	All
LARGE, SMALL	All	Current MC	MDP
LARGE, SMALL	All	Current FRMP or	Current MC
LARGE, SMALL	All	Current FRMP or	All
LARGE, SMALL	All	Current FRMP or	Current and new M
LARGE, SMALL	All	Current FRMP or	New RP
LARGE, SMALL	All	Current FRMP or	New MC (RP role) a
WHOLESAL, INTERCC	All	New FRMP	New FRMP
WHOLESAL, INTERCC	All	New FRMP	Current MC (RP role
WHOLESAL, INTERCC	All	New FRMP	All
WHOLESAL, GENERA	All	New FRMP	All
WHOLESAL, INTERCC	All	New LNSP	New RORL
WHOLESAL, GENERA	All	New ENM	New ENM
EPROFILE	All	AEMO	All
WHOLESAL, INTERCC	All	New LNSP	New RORL
WHOLESAL, INTERCC	All	New LNSP	New LNSP

WHOLESAL, INTERCC	All	Current MPB	Current MPB
WHOLESAL, INTERCC	All	Current MPB	Current MPB
WHOLESAL, INTERCC	All	Current MPB	Current MPB
WHOLESAL, INTERCC	All	Current MPB	Current MPB
WHOLESAL, INTERCC	All	New ENM	New RORL
WHOLESAL, INTERCC	All	AEMO or LNSP/E	All
WHOLESAL, GENERATR		Current ENM	Current ENM
WHOLESAL, GENERATR		Current LNSP	Current LNSP
WHOLESAL, GENERATR		*New ENM*	*New ENM*
EPROFILE	ALL	AEMO	Alll
WHOLESAL, INTERCC	All	Current FRMP or	MDP
WHOLESAL, INTERCC	All	New RORL	Current RORL
WHOLESAL, INTERCC	All	Current MC	MDP
WHOLESAL, INTERCON, GENERATF		AEMO/MSATS	AEMO
WHOLESAL, INTERCON, GENERATF		AEMO/MSATS	AEMO

Procedure
MSAT Procedures - CATS v4.2
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MSAT Procedures - CATS v4.2

Change Retailer (FRMP)

Change Reason Code	Description
1000, 1010 (SMALL only), 1020 (LARGE only), 1030, 1040	Change Retailer
1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029 (All these codes are for SMALL only)	Change Retailer – Error Corrections (Small NMIs only)
1050,1051 (Both codes are for Large only)	Change Retailer – Where FRMP is NOT the RP
1080, 1081 (SMALL only), 1082, 1083, 1084	Change Retailer – Child NMI - Small or Large
1090, 1091 (Both codes are for Large only)	Change Retailer – Child NMI - Where FRMP IS NOT the RP

Provide Data

Change Reason Code	Description
1500	Provide Actual Change Date

Create NMI

Change Reason Code	Description
2000, 2001	Create NMI
2003	Create Tier 1 NMI
2020, 2021	Create NMI – Child NMI
2500, 2501	Create NMI, Meter, Datastream
2520, 2521	Create NMI, Meter, Datastream – Child NMI

Maintain Metering

Change Reason Code	Description
3000, 3001	Create Metering Installation Details
3003	Create Tier 1 Metering Installation Details
3004, 3005	Exchange of Metering Information
3050, 3051	Change Metering Installation Details
3053	Change Tier 1 Metering Installation Details
3080, 3081	Advanced Change Metering Installation Details
3090, 3091	Advanced Exchange of Metering
3100, 3101	Change Network Tariff Code

Maintain Datastream

Change Reason Code	Description
4000, 4001	Create Datastream Details
4003	Create Tier 1 Datastream Details
4004, 4005	Exchange of Datastream Information
4050, 4051	Change Datastream Details
4053	Change Tier 1 Datastream Details

Maintain NMI

Change Reason Code	Description
5070, 5071	Update Next Scheduled Read Date
5001, 5021	Backdate NMI Start Date
5050, 5051	Change NMI
5053	Change Tier 1 *NMI Standing Data*
5054, 5055	Change NMI (Customer Classification Code)
5060, 5061	Change NMI – Child NMI
5080, 5081	Change Parent Name
5090, 5091	Make a NMI a Child NMI

Change Roles (excluding FRMP)

Change Reason Code	Description

6100, 6110	Change LNSP
6200, 6210	Change MDP
6300, 6301	Change MC
6400, 6401	Change LR
6421	Change LR Child NMI
6500, 6501	Change RoLR
6700, 6701	Change MPB, MPC, or Both
6800, 6801	Change Multiple Roles – MC, MDP, MPC, MPB

Auto change roles

Change Reason Code	Description
ECLR	Change LR – Child NMI - Auto
EPFR	Change Secondary FRMP – Parent NMI

AEMO only

Change Reason Code	Description
5100, 5101	Standing data updates
ROLR	Invoke BCT for RoLR
BCxx	Invoke BCT Process

Change FRMP

Section & Page No	Change Reason Code
Sec 7, Page 44	1000, 1020
Sec 8, Page 49	1050,1051 (Both codes are for Large only)
Disabled from 1 December 2017	1080, 1082
Sec 9, Page 53	
Disabled from 1 December 2017	

Provide Data

Section & Page No	Change Reason Code
Sec 10, Page 59	1500

Create NMI

Section & Page No	Change Reason Code
Sec 11, Page 61	2000, 2001
Disabled from 1 December 2017	2020, 2021
Sec12, Page 64	2500, 2501
Sec 13, Page 67	
Sec 14, Page 70	

Maintain Profile Shapes

Section & Page No	Change Reason Code
Sec 15, Page 74	2100, 2101
Disabled from 1 December 2017	5110, 5111
Sec 16, Page 77	
Sec 17, Page 80	
Disabled from 1 December 2017	
Sec 18, Page 83	
Sec 19, Page 86	
Sec 20, Page 90	

Maintain Metering

Section & Page No	Change Reason Code
Sec 21, Page 92	3000, 3001
Disabled from 1 December 2017	3004, 3005
Sec 22, Page 94	3050, 3051
Sec 23, Page 96	3100, 3101
Disabled from 1 December 2017	

Maintain Datastream

Section & Page No	Change Reason Code
Sec 24, Page 98	4000, 4001
Sec 25, Page 100	4004, 4005
Sec 26, Page 103	4050, 4051
Disabled from 1 December 2017	
Sec 27, Page 105	
Sec 28, Page 107	
Sec 29, Page 109	
Sec 30, Page 111	

Maintain NMI

Section & Page No	Change Reason Code
	5001, 5021
	5050, 5051
	5060, 5061
	5080, 5081
	5090, 5091

Change Roles (excluding FRMP)

Section & Page No	Change Reason Code

Sec 31, Page 113
Sec 32, Page 115
Sec 33, Page 118
Sec 34, Page 120
Sec 35, Page 122
Sec 36, Page 124
Sec 37, Page 126
Sec 38, Page 128

Section & Page No
Sec 39, Page 131
Sec 40, Page 132

Section & Page No
Sec 41, Page 133
Sec 42, Page 136
Sec 42, Page 136

6100, 6110
6200, 6210
6300, 6301
6400, 6401
6421
6500, 6501
6700, 6701

AEMO only

Change Reason Code
5100, 5101
BCxx
ECLR
EPFR

Description	Section & Page No
Change FRMP	Sec 2, Page 13
Change Retailer – Where FRMP is NOT the RP	Disabled from 1 December 2017
Change FRMP – Child NMI	Sec 3, Page 17

Description	Section & Page No
Provide Actual Change Date	Sec 4, Page 21

Description	Section & Page No
Create NMI	Sec 5, Page 23
Create NMI – Child NMI	Sec 6, Page 26
Create NMI, Meter, Datastream	Sec 7, Page 29

Description	Section & Page No
Create External Profile Shape Change External Profile Shape	Sec 8, Page 32

Description	Section & Page No
Create Metering Details	Sec 9, Page 35
Exchange of Metering Information	Sec 10, Page 38
Change Metering Details	Sec 11, Page 41
Change Network Tariff Code	Sec 12, Page 44

Description	Section & Page No
Create Datastream Details	Sec 13, Page 46
Exchange of Datastream Information	Sec 14, Page 48
Change Datastream Details	Sec 15, Page 50

Description	Section & Page No
Backdate NMI Start Date	Sec 16, Page 52
Change NMI	Sec 17, Page 55
Change NMI – Child NMI	Sec 18, Page 57
Change Parent Name	Sec 19, Page 59
Make NMI a Child NMI	Sec 20, Page 61

Description	Section & Page No

Change LNSP	Sec 21, Page 63
Change MDP	Sec 22, Page 65
Change MC	Sec 23, Page 68
Change LR	Sec 24, Page 71
Change LR Child NMI Generator and Wholesale	Sec 25, Page 73
Change ROLR	Sec 26, Page 75
Change MPB, MPC, or Both	Sec 27, Page 77

Description	**Section & Page No**
Standing Data Updates	Sec 28, Page 79
Invoke Bulk Change Tool	Sec 29, Page 82
Change LR – Child NMI Auto	Sec 30, Page 85
Change Secondary FRMP – Parent NMI	Sec 31, Page 86

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Table 3-A – MSATS Transaction Type Codes

Code	Name of Transaction Type	Initiated by
CR	Change Request	Participant
NOT	Change Request Status Notification	MSATS
RDAT	Request for Participant data	MSATS
OBJ	Objection	Participant
WCR	Change Request Withdrawal	Participant
WOBJ	Objection Withdrawal	Participant
NMID	NMI Discovery Request	Participant
NMIR	NMI Discovery Response	MSATS
CRR	Change Request Response	MSATS
OBJR	Objection Response	MSATS
ACK	Acknowledgment	MSATS
CODE	Codes Update	MSATS
RPTR	Report Request	Participant
RPTD	Report Data	MSATS

Description
Used to initiate a Change Request. Submitted by a Participant anytime they wish to create or update any standing data.
Notifies a Participant of a Change Request's change in status in accordance with the applicable Change Request Status Nofification Rules.
A request by MSATS to a Participant for provision of the necessary data in a Change Request in accordance with the applicable Field Validation Rules it that data is not already contained in the NMI Master Record.
A Participant can raise an Objection to a Change Request in accordance with the applicable Objection Rules. Other Participants will be informed in accordance with the applicable Change Request Status Nofification Rules.
The initiating Participant may Cancel a Change Request at any time prior to Completion. Other Participants will be informed in accordance with the applicable Change Request Status Nofification Rules.
The initiating Participant may withdraw an Objection. Other Participants will be informed in accordance with the applicable Change Request Status Nofification Rules.
A Participant wants to view CATS Standing Data. Further particulars of the search types can be found in section 43.
MSATS sends a Participant information in response to a NMI Discovery Search.
MSATS response to a Change Request with an approval or rejection as it reaches the Pending Validation status.
MSATS response to an Objection with an approval or rejection. Other Participants will be informed in accordance with the applicable Change Request Status Nofification Rules.
MSATS responds to ALL transactions with an acknowledgment of receipt.
MSATS notifies Participants of any changes to codes, rules or Participant data.
Participant requests a report.
The data generated by a report request.

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Table 4-A – Change Reason Codes

Code	Description	Initiating Participant
1000	Change Retailer	New FRMP
1010	Change Retailer – Retrospective – Align to Meter Reading	New FRMP
1020	Change Retailer–Retrospective –Long Term/Error (not SMALL)	New FRMP
1021	Error Correction – Missed CR 1500	New FRMP
1022	Incorrect transfer date	New FRMP
1023	New *NMI* – LNSP set up wrong *retailer* in MSATS	New FRMP
1024	Transfer missed	New FRMP
1025	Transferred in error	New FRMP
1026	Cooled Off	New FRMP
1027	End User Moves Out on or before CR completion date	New FRMP
1028	Non-account holder signs contract	New FRMP
1029	Other Error Corrections (SMALL only)	New FRMP
1030	Change Retailer – Move-In	New FRMP
1040	Change Retailer – Move-In – Retrospective	New FRMP
1080	Change Retailer – Child NMI	New FRMP
1081	Change Retailer – Child NMI – Retrospective Align Meter Reading	New FRMP
1082	Change Retailer Child – Retrospective Long Term/Error	New FRMP
1083	Change Retailer Child NMI – Move In	New FRMP
1084	Change Retailer Child NMI – Move In – Retrospective	New FRMP
1500	Provide Actual Change Date	New and Current MDP
2000	Create *NMI* Details	New LNSP
2001	Create *NMI* Details – Retrospective	New LNSP
2020	Create *NMI* Details –Child	New ENM
2021	Create NMI Details –Child – Retrospective	New ENM
2100	Create External Profile Shape	New AEMO
2101	Create External Profile Shape – Retrospective	New AEMO
2500	Create *NMI* , NMI Datastream & *metering installation* details	New LNSP
2501	Create *NMI* , NMI Datastream & *metering installation* details – Retrospective	New LNSP
2520	Create NMI, MDM Datastream & Metering Installation Details – Child NMI	New ENM
2521	Create NMI, MDM Datastream & Metering Installation Details – Child NMI – Retrospective	New ENM
3000	Create *metering installation* details	Current MPB
3001	Create *metering installation* details – Retrospective	Current MPB
3004	Exchange of Metering Information	Current MPB
3005	Exchange of Metering Information – Retrospective	Current MPB
3050	Change *metering installation* details	Current MPB
3051	Change *metering installation* details – Retrospective	Current MPB
3080	Advanced change *metering installation* details	Current MC
3081	Advanced change *metering installation* details – Retrospective	Current MC
3090	Advanced Meter Exchange	Current MC
3091	Advanced Meter Exchange – Retrospective	Current MC
3100	Change Network Tariff Code	Current LNSP
3101	Change Network Tariff Code – Retrospective	Current LNSP
4000	Create NMI Datastream Details	Current MDP
4001	Create NMI Datastream Details – Retrospective	Current MDP

4004	Exchange of Datastream Information	Current MDP
4005	Exchange of Datastream Information – Retrospective	Current MDP
4050	Change NMI Datastream Details	Current MDP
4051	Change NMI Datastream Details – Retrospective	Current MDP
5001	Backdate *NMI* Start Date	AEMO or LNSP
5021	Backdate *NMI* Start Date – Child	AEMO or ENM
5050	Change *NMI* Details	Current LNSP
5051	Change *NMI* Details – Retrospective	Current LNSP
5054	Change *NMI* Details – Customer Classification Code	Current FRMP
5055	Change *NMI* Details – Customer Classification Code – Retrospective	Current FRMP
5060	Change *NMI* Details – Child	Current ENM
5061	Change *NMI* Details – Child – Retrospective	Current ENM
5070	Update Next Scheduled Read Date	Current MDP
5071	Update Next Scheduled Read Date – Retrospective	Current MDP
5080	Change Parent Name	Current LNSP
5081	Change Parent Name – Retrospective	Current LNSP
5090	Make a *NMI* a Child NMI	New ENM
5091	Make a *NMI* a Child NMI – Retrospective	New ENM
5100	5100 – Change *NMI* Details – Prospective (AEMO only)	AEMO
5101	5100 – Change *NMI* Details – Retrospective (AEMO only)	AEMO
5110	Change External Profile Shape	Current AEMO
5111	Change External Profile Shape – Retrospective	Current AEMO
6100	Change LNSP	New LNSP
6110	Change LNSP – Retrospective	New LNSP
6200	Change MDP	Current FRMP or Current MC
6210	Change MDP – Retrospective	Current FRMP or Current MC
6300	Change MC	New MC
6301	Change MC – Retrospective	New MC
6400	Change LR	New LR
6401	Change LR – Retrospective	New LR
6421	Change LR – Retrospective – Child NMI	New LR
6500	Change RoLR	New RoLR
6501	Change RoLR – Retrospective	New RoLR
6700	Change MP	Current MC
6701	Change MP – Retrospective	Current MC
6800	Change Multiple Roles	Current FRMP or Current MC
6801	Change Multiple Roles - Retrospective	Current FRMP or Current MC
BCxx	Invoke Bulk Change Process	AEMO
ECLR	Change of Local Retailer – Child (Auto)	AEMO/MSATS
EPFR	Change of Secondary FRMP – Parent (Auto)	AEMO/MSATS
ROLR	Invoke Retailer of Last Resort	AEMO

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Table 3-B – Assignment of Change Reason Codes to Events

Group of events	Description of event
Change Retailer	SMALL NMI
	LARGE NMI
	Embedded network SMALL & LARGE
Provide Data	Provide Actual Change Date SMALL & LARGE (for CR 1000, 1030, 1080, 1083, 1010, 1040, 1081, 1084, 3080, 3090, 6200, 6700, 6800)
Create NMI	Create a *NMI* SMALL & LARGE
	Create a Child NMI SMALL & LARGE
	Create *NMI* , *metering installation* details & NMI Datastream SMALL & LARGE
	Create NMI, *metering installation* details & MDM datastream – Child NMI SMALL & LARGE
Maintain Metering	Create *metering installation* details SMALL & LARGE
	Exchange of Metering Information SMALL & LARGE
	Change *metering installation* details SMALL & LARGE
	Advanced Change Metering Installation Details SMALL & LARGE
	Advanced Meter Exchange SMALL & LARGE
	Change Network Tariff Code SMALL & LARGE
Maintain Datastream	Create NMI Datastream SMALL & LARGE
	Exchange of Datastream Information SMALL & LARGE
	Change NMI Datastream SMALL & LARGE
Maintain NMI	Update NSRD SMALL & LARGE
	Change a *NMI* SMALL & LARGE
	Change *NMI* – Customer Classification Code
	Change Child NMI SMALL & LARGE
	Backdate *NMI* start date
	Backdate Child NMI Start Date
	Change Parent Name SMALL & LARGE
	Make a *NMI* a Child NMI

Change Role	Change LNSP SMALL & LARGE
	Change MDP SMALL & LARGE
	Change MC SMALL & LARGE
	Change Local Retailer SMALL & LARGE
	Change Local Retailer Child NMI SMALL & LARGE
	Change RoLR SMALL & LARGE
	Change Metering Provider SMALL & LARGE
	Change Multiple Roles SMALL & LARGE
System	Change of Child Local Retailer (Auto)
	Change of Secondary FRMP – Parent (Auto)
AEMO only	Invoke Retailer of Last Resort
	Invoke Bulk Change Process
	AEMO-Initiated standing data updates
Manage External Profiles	Create External Profile [(1)]
	Change External Profile [(1)]

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Change Reason Code Assignment
1000, 1010, 1030, 1040, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029
1000, 1020, 1030, 1040,
1080, 1081, 1082, 1083, 1084
1500
2000, 2001
2020, 2021
2500, 2501
2520, 2521
3000, 3001
3004, 3005
3050, 3051
3080, 3081
3090, 3091
3100, 3101
4000, 4001
4004, 4005
4050, 4051
5070, 5071
5050, 5051
5054, 5055
5060, 5061
5001
5021
5080, 5081
5090, 5091

6100, 6110
6200, 6210
6300, 6301
6400, 6401
6421
6500, 6501
6700, 6701
6800, 6801
ECLR
EPFR
RoLR
BCxx
5100, 5101
2100, 2101
5110, 5111

Table 3-C – Retrospective Change Reason Codes

CR Code	CR Code	CR Code	CR Code	CR Code	CR Code	CR Code
Change Retailer	Provide Data	Create NMI	Maintain Metering	Maintain Datastream	Maintain NMI	Change Roles
1010	1500	2001	3001	4001	5001	6110
1020		2021	3005	4005	5021	6210
1021		2101	3051	4051	5051	6301
1022		2501	3081		5055	6401
1023		2521	3091		5061	6421
1024			3101		5071	6501
1025					5081	6701
1026					5091	6801
1027					5101	
1028					5111	
1029						
1040						
1081						
1082						
1084						

Table 3-D – Prospective Change Reason Codes

CR Code	CR Code	CR Code	CR Code	CR Code	CR Code
Change Retailer	Create NMI	Maintain Metering	Maintain Datastream	Maintain NMI	Change Roles
1000	2000	3000	4000	5050	6100
1030	2020	3004	4004	5054	6200
1080	2100	3050	4050	5060	6300
1083	2500	3080		5070	6400
	2520	3090		5080	6500
		3100		5090	6700
				5100	6800
				5110	

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(a) For a Re

(b) Retrosp

(a) For a Pr

(b) The max

(c) Prospect

erences

trospective Change, the Proposed Change Date must either be the date the Change Request is raised or

ective Changes have 0 days for the Prospective Days in the Timeframe Rules for the Jurisdiction/Change

ospective Change, the Proposed Change Date must be the day following the date on which a Change Req

imum number of days for a Prospective Change depends on the Timeframe Rules/Change Reason Code

tive Changes have 0 days for the Retrospective Days in the Timeframe Rules/Change Reason Code/NMI

a date in the past and within the number of days allowed by the Timeframe Rules/Change Reason Code

Reason Code/NMI Classification Code combination.

uest is submitted, or a date after that date.

/NMI Classification Code for the relevant Change Request. The maximum number of days is the value sto

Classification Code combination.

e/NMI Classification Code on this Change Request. The maximum number of days is the value stored in F

ored in Prospective Days. At present, the maximum allowable number of days for any Prospective Change

Retrospective Days. At present, the maximum number of days in the past for any Role Change Request is

is 65 *business days* .

s 130 business days, the maximum number of days in the past for changing NMI Standing Data is 140 bu

siness days.

CR Life cycle

#	Stage	Pre-cursers
1	Initiated	N/A
2	Pending validation	1
3	Rejected	2,4,6
4	Requested	2,5
5	Objected	4,6
6	Pending	4
7	Completed	6
8	Cancelled	2,4,5,6

Possible next states
Initiated->Pending validation
Pending validation ->Requested, Pending validation ->Rejected, Pending validation->Cancelled
Rejected
Requested->Pending, Requested->Rejected, Requested->Objected, Requested->Cancelled
Objected->Requested, Objected->Cancelled
Pending->Completed, Pending->Rejected, Pending->Objected, Pending->Cancelled
Completed
Cancelled

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Table 5-A – MSATS Reports

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Report Name	Description
CATS C1	Data Replication Resynchronisation Report
CATS C3	NMI Change Request Report
CATS C4	NMI Master Report
CATS C7	New Participant Access Report
CATS C9	NMI Count Report
MDM RM8	DatePPSBMPGenerated
MDM RM9	Actual Versus Estimate Data Report
MDM RM11	Missing Data
MDM RM13	NMI Datastreams History Report
MDM RM14	MDP Data Version Comparison Report
MDM RM15	Count of Multiple Versions Report
MDM RM16	Level 1 Settlement Reconciliation Report
MDM RM17	Level 3 Settlement Reconciliation Report for Non-Aggregated Data
MDM RM18	Interval Data Report
MDM RM19	Aggregated Energy Actual-vs-Estimate Report
MDM RM20	PPS Report
MDM RM21	Level 2 Settlement Reconciliation Report
MDM RM22	Data Estimation Report
MDM RM26	MDP Substitution and Estimation Report

Table 4-B – Role Codes

Code	Description
FRMP	Financially Responsible Market Participant
LNSP	Local Network Service Provider or *Embedded Network Manager* for *child connection points*
LR	Local Retailer
MDP	Metering Data Provider – Category D
MPB	Metering Provider – Category B
MPC	Metering Data Provider – Category C
NEMM	National Electricity Market Operator
ROLR	Retailer of Last Resort
RP	Metering Coordinator
NSP2	Second Network Service Provider (For Wholesale NMIs only)

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Table 4-C – Jurisdiction Codes

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Code	Description
ACT	Australian Capital Territory
ALL	All Jurisdictions
NEM	National Electricity Market
NSW	New South Wales
QLD	Queensland
TAS	Tasmania
SA	South Australia
VIC	Victoria

Table 4-D – Objection Codes

Code	Description
BADDATA	Used by a Participant to confirm that the standing data in the change request or the NMI Master Record is incorrect (e.g. Meter Serial ID). If the Participant role is incorrect; use NOTRESP.
BADMETER	Used by the MDP for change retailer requests, where the Read Type Code is not compatible with the method for collecting *metering data* at the *metering installation* .
BADPARTY	Used by the MC when the MDP, MPB, or MPC nominated on a change retailer request is incorrect as they are not the party appointed by the MC, or do not have the capability or capacity to operate in the Role proposed.
DATEBAD	Used by the MDP for *meter installation* types 4A, 5 and 6 to inform the FRMP that the proposed date in the Change Request does not align with the date the Metering Reading is scheduled to be taken. Used by the Current FRMP, or MDP for retrospective change of *retailer* requests where one or both of the Proposed Change Date, or Actual End Date is incorrect.
DEBT	Used by the Current FRMP for change *retailer* requests, were there is an aged debt reaching Jurisdictional limits.
DECLINED	Used by a Participant who does not wish to perform the Role for which it is nominated in the Change Request.
NOACC (1)	Used where no access can be obtained to the *metering installation* to perform the manual collection of *metering data* required to facilitate a transfer of FRMP, or Meter Churn.
NOTAPRD	Used by the LNSP where a Participant is not accredited or authorised to operate within the LNSP area, most typically applying to the Role of MP.
NOTPRUD	No prudential approval. AEMO has not approved the transaction for prudential reasons.
NOTRESP	Not responsible for *NMI* in the identified Role. For use by a nominated Participant to Object on the basis that they are not responsible in the Role in which they are nominated.
RETRO	Participant does not agree to a Retrospective Change.
BLOCK	AEMO Objection to the transaction either at the request of a Jurisdiction or for operational reasons.

CONTRACT	Must only be used where an existing contractual obligation takes precedence over the proposed change and: • a FRMP transfer is sought, in Queensland only, prior to the termination or end date of a term contract for the supply of electricity; or • A change of MC is proposed and the Current MC has been appointed in the Role of MC by a large End User.
NOTRANS	Used by the Current FRMP and only applies to retrospective change of *retailer* requests. A check of records shows no previous change of *retailer* request exists for the error correction change of *retailer*.
NOTAWARE	Used by the Current FRMP when no communication has been received from the New FRMP confirming that an error correction transaction will be processed. Used by the Current LNSP when no communication has been received from any of the ENM, FRMP, or the *Exempt Embedded Network Service Provider re* garding making one of their *NMIs* a Child NMI.
CRCODE	Can be used if the Change Reason Code being used does not apply to the *NMI* concerned.

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Table 4-E – NMI Classification Codes

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Code	Description [2]
EPROFILE	External *profile* shape
GENERATR	Generator
INTERCON	Interconnector
LARGE [1]	Victoria: >=160 MWh NSW: >=160 MWh ACT: >= 160 MWh QLD: >=100 MWh SA: >=160 MWh TAS: >=150MWh
SAMPLE	Sample Meter
SMALL[1]	Victoria: <160 MWh NSW: <160 MWh ACT: < 160 MWh QLD: < 100 MWh SA: <160 MWh TAS: <150 MWh
WHOLESAL	Wholesale Transmission Node Identifier

Table 4-F – Customer Classification Codes

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Code
BUSINESS
RESIDENTIAL

Table 4-G – Customer Threshold Codes

Customer Threshold Code	Description
LOW	Consumption is less than the ‘lower consumption threshold’ as defined in the National Energy Retail Regulations
MEDIUM	Consumption is equal to or greater than the ‘lower consumption threshold’, but less than the ‘upper consumption threshold’, as defined in the National Energy Retail Regulations
HIGH	Consumption is equal to or greater than the ‘upper consumption threshold’ as defined in the National Energy Retail Regulations

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Table 4-H – NMI Status Codes

Code	Name of code	Description of code
A	Active NMI	Applies when a *NMI* is energised.
D	Not energised NMI	Applies when the *NMI* exists in MSATS and the *connection point* is de-energised.
X	Extinct NMI	Applies when the *network connection* has been permanently removed from the *connection point*. Under this condition the existing *NMI* will not be reallocated to any other *connection point* in the future. A *NMI* with this status can never be transferred.
G	Greenfield site NMI	Applies to a Site that has never been energised. The *connection point* may require further Site works to be undertaken and will also require energisation. Once the NMI Status Code is changed from 'G', it cannot revert to 'G'.
N	Off Market Child NMI	Applies when a *child connection point* is no longer settled in the *NEM.*

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Table 4-I – Datastream Status Codes

Code	Name of code	Description of code
A	Active NMI Datastream	Applies when an NMI Datastream is to be used in *settlements*.
I	Inactive NMI Datastream	Applies when the NMI Datastream is not to be used in *settlements*.

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Table 4-J – Meter Register Status Codes

Code	Name of code	Description of code
C	Current	Applies when a *meter* at the *NMI* is current and not *remotely disconnected*.
R	Removed	Applies when a *meter* at the *NMI* is removed.
D	Remotely Disconnected	Applies when a *meter* at the *NMI* is *remotely disconnected*.

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Table 4-K – Register Identifier Status Codes

Code	Name	Description
C	Current	Applies when a Meter Register at the *NMI* is current, i.e. connected to a *connection point*.
R	Removed	Applies when a Meter Register at the *NMI* is removed, i.e. not connected to a *connection point*.

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Table 4-L – Metering Installation Type Codes

Code	Description	Manually Read Flag
BASIC	Basic Consumption Meter – Type 6	Y
COMMS1	Interval Meter with communications – Type 1	Y
COMMS2	Interval Meter with communications – Type 2	Y
COMMS3	Interval Meter with communications – Type 3	Y
COMMS4	Interval Meter with communications – Type 4 (Note: This code is used for *large customer* with type 4 *metering installations* and for *small customer* type 4 *metering installation* installed before 1 December 2017)	Y
COMMS4D	Whole current *metering installation* that meets the *minimum services specifications*	Y
COMMS4C	CT connected *metering installation* that meets the *minimum services specifications*	Y
MRAM	*small customer metering installation* – Type 4A	Y
VICAMI	a relevant *metering installation* as defined in clause 9.9C of the NER.	Y
MRIM	Manually Read Interval Meter – Type 5	Y
UMCP	Unmetered Supply – Type 7	N
PROF	For Profile Setup	N
SAMPLE	Sample Meter	Y

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Table 4-M – Read Type Codes

Code	Name of code
NS	Next Scheduled Read Date[1]
RR	Next Read Date
SP	Special Read
ER	Estimated Read
CR	Consumer Read
PR	Previous Read Date[2]
UM	Unmetered Connection Point
EI	Existing Remotely-Read Interval Meter

Description of code
Advice from New FRMP to MDP that the Proposed Change Date for the End User transfer is the Next Scheduled Read Date, which is, therefore, a date in the future. No other Meter Reading is required. An acceptable date is a window that is up to 3 *business days* before or 2 *business days* after the published Next Scheduled Read Date. If the date proposed by the New FRMP is not within this same window (i.e. up to 3 *business days* before or 2 *business days* after), the MDP must advise the FRMP that there is a problem with the date proposed within 2 days of receipt of the Data Request. If the *meter* is read outside this window, the MDP is not obliged to provide an Actual Change Date CR 1500. Applies to types 4A, 5 and type 6 *metering installations* .
Advice from New FRMP to MDP that the Proposed Change Date for the End User transfer is to be the date the *meter* is next read, which is, therefore, a date in the future. This code should be used if it is intended that the transfer is to occur on the date that the *meter* is read next, whenever that date is (i.e. the Proposed Change Date has no relevance). Applies to types 4A, 5 and type 6 *metering installations* .
Advice from New FRMP to MDP that the Proposed Change Date for the End User transfer is a date that does not align with the scheduled reading cycle. The MDP/MPC is to arrange for the Special Meter Reading. Applies to type 4A, 5 and type 6 *metering installations* .
Available if approved by Jurisdictional policy. Advice from the New FRMP to MDP that the End User has agreed to transfer on an Estimated Reading. No Meter Reading is required for this transfer. MDP is to provide an Estimated Reading in accordance with the *metrology procedure* and any other Jurisdiction requirements. Applies to type 4A, 5 and type 6 *metering installations* .
Available if approved by Jurisdictional policy. Advice from New FRMP to MC or MDP that the End User has agreed to transfer on a Meter Reading it provides. MDP/MPC is not required to undertake a Special Meter Reading. Applies to type 6 *metering installations* .
Available if approved by Jurisdictional policy. Advice from the New FRMP to the MDP that the transfer is to occur on the previous Meter Reading. Applies to type 4A, 5 and type 6 *metering installations* .
Used when the *NMI* being transferred is an unmetered *connection point* .
Advice from the New FRMP to the MDP that there is an existing remotely-read Interval Meter at the *connection point* and that the existing *meters* will continue to be used after the transfer. Applies to type 1 to 4 *metering installations* only.

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Table 4-N – Valid Combinations of Read Type Codes, Metering Installation Type Codes and Change Reason

	CR Code		1000		1010, 102X, 1040		1030	
	Metering Installation Type Code		BASIC	MRIM / MRAM	BASIC	MRIM / MRAM	BASIC	MRIM / MRAM
Read Type Code	NS	Next Scheduled Read Date	Yes	Yes	No	No	No	No
	RR	Next Read Date	Yes	Yes	No	No	Yes	Yes
	SP	Special Read	Yes	Yes	No	No	Yes	Yes
	ER	Estimated Read	Yes	Yes	Yes	No	Yes	Yes
	CR	Consumer Read	Yes	No	No	No	No	No
	PR	Previous Read Date	No	No	Yes	Yes	No	No
	UM	Unmetered Connection Pt	No	No	No	No	No	No
	EI	Existing Interval Meter	No	No	No	No	No	No

Note: 1080 is the same as 1000, 1081 is the same as 1010, 1083 is the same as 1030, and 1084 is the same as 1040.

Note: 102X refers to 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028 and 1029.

Note: COMMSx refers to COMMS1, COMMS2, COMMS3, COMMS4, COMMS4C, COMMS4D.

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All CR Codes	
COMMSx / VICAMI	**UMCP**
No	No
No	No
No	No
No	No
No	No
No	No
No	Yes
Yes	No

Table 4-O – Field Validation Data Source Codes

Code	Explanation
RI	Required to Initiate. This means it must be supplied by the initiator of the Change Request.
OI	Optional on Initiation. This means it is optionally supplied by the initiator of the Change Request.
RQ	Requested by CATS if the data is not already in CATS. For all RQ fields, the Participant that supplies the data must be identified. For all RQ fields, it is also necessary to identify whether this data is required prior to the transaction passing from Pending Validation to Requested.
RA	Requested by CATS regardless of whether it is already in CATS. For all RA fields, the Participant that supplies the data must be identified. For all RA fields, it is also necessary to identify whether this data is required prior to the transaction passing from Pending Validation to Requested. This code will be used for requesting the Actual Change Date on End User transfer Change Requests. (However, in this special case, the request will only be sent if the *metering installation* is flagged as manually read).
RD	This is only required for the Actual Change Date on the transaction that is returned as a consequence of a request to provide an Actual Change Date (currently 1500 is the only one).

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Table 4-P – CATS Configuration Tables Available for Download

Type	Description
Code	List of the available Change Reason Codes
Rule	Change Request Initiation Rules
Code	Change Request Status codes
Code	Data source code used for Field Validation Rules
Code	De-registration codes
Rule	Rule governing NMI Discovery Search
Rule	Rules defining if Site address is returned in NMI Discovery Search
Code	DLF Codes
Code	Parent Name codes
Code	Error codes used by MSATS
Code	List of Jurisdiction Codes
Rule	Jurisdiction rules governing Change Request Initiation
Code	Meter installation type codes
Code	NMI Classification Codes
Code	NMI Status Codes
Rule	Change Request Status Notification Rules that specify which notifications are generated by MSATS
Code	List of available Objection Codes
Rule	The rules governing the use of Objections
	List of Roles along with their assigned Participant IDs used by MSATS
Code	List of *Registered Participant* IDs
Code	List of allowable Read Type Codes
Code	List of available Roles
Code	*Transmission connection point* identifier codes
Rule	Transaction Field Validation Rules
Code	List of transaction types in MSATS
Code	Calender used by MSATS
Code	Network Tariff Codes

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