

HINTS AND TIPS - CATS & NMI DISCOVERY

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VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1.0	01 Dec 2017	This document combines the following two documents: <ul style="list-style-type: none">• MSATS – CATS HINTS AND TIPS• MSATS – NMI DISCOVERY QUESTIONS AND ANSWERS and incorporates changes as a result of the following rule changes: <ul style="list-style-type: none">• National Electricity Amendment (Expanding competition in metering and related services) Rule 2015. No.12;• National Electricity Amendment (Embedded Networks) Rule 2015 No. 15; and• National Electricity Amendment (Meter Replacement Processes) Rule 2016 No. 2.
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1. INTRODUCTION

1.1. Purpose and scope

This document contains a number of hints and tips on different transactions in CATS, including explanations of common errors and rejections, tips on reports and answers to common questions arising from a failed NMI Discovery Search.

1.2. Definitions and interpretation

The Retail Electricity Market Procedures – Glossary and Framework:

- (a) is incorporated into and forms part of this document; and
- (b) should be read with this document.

1.3. Related documents

Title	Location
Retail Electricity Market Procedures – Glossary and Framework	http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Glossary-and-Framework
CATS Procedures	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions
WIGS Procedures	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions
MDM Procedures	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions
MSATS CATS history Model	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions
MSATS guides	http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions

2. REJECTED TRANSACTIONS AND ERROR MESSAGES

2.1. Common Reasons for Rejections

The most common causes for rejected transactions in MSATS are:

- Invalid data fields on Change Requests
- The Participant initiating a Change Request is not a valid initiator of the transaction
- Change Requests are missing mandatory field data
- Attempting to create a *NMI* that already exists

The next section summarises the lessons that can be learned from analysing these reasons in order to try to reduce the number of rejections in the future.

2.2. Tips to avoid Rejected Transactions

- Ñ Ensure Field Validation Rules are applied.
- Ñ You can only include fields in a Change Request that have a Field Validation Data Source Code of RI or OI
- Ñ You must complete all the mandatory fields (the RI ones).
- Ñ To be a valid initiator of a transaction:
 - If it is initiated by a Participant in a Current Role, the Participant must have been in that Role for the period covered by the Change Request (i.e., from at least the proposed date on the Change Request).
 - If it is initiated by a Participant in a New Role, the Participant must be in that Role at least from the proposed date on the Change Request.

- Ñ Codes to create *NMIs* (e.g. CR 2001 or CR 2500) can only be used if the *NMI* is not already in MSATS.
- Ñ Attempted updates to *meter* records have been for *meters* that are not registered in MSATS – a CR 3051 for a new *meter* will reject if it has no Metering Installation Type Code and Meter Register Status Code.
- Ñ The proposed date for a transaction must be within the allowable number of days:
 - For a Retrospective Change, it must be between today and no further into the past than the Retrospective Period for the relevant Change Request.
 - For a Prospective Change, the proposed date on the Change Request must be between tomorrow and no further into the future than the Prospective Period for the Change Request.

2.3. List of Common Error Numbers with Possible Explanations

Table 1 contains the following:

- The error number. (This is the number returned in a Change Request response if a transaction is submitted by batch and it fails functional validation).
- The error description. (This is the message you will see if you attempt to submit an invalid Change Request.) When you get an error message, there will be some additional information that identifies the process that generated the error. That additional information is not included here.

Table 1 does not include errors received when attempting a NMI Discovery Search and it also only includes the more common errors. If you receive an error that is not in Table 1 and cannot work out the cause, please contact the [AEMO support hub](https://aemo.com.au/support).

Table 1 Common CATS Error Numbers and Possible Explanations

NUMBER	ERROR (WITH EXAMPLE PARAMETERS)	POSSIBLE EXPLANATIONS
1002	Error: A duplicate row already exists	This indicates that you have tried to submit the same data twice. This would happen if, for example, you saved a Datastream, clicked on the Back button on the browser to return to that page, and then attempted to click Save again. If you return to the main screen you will see the entry. If you want to change any of the data in the entry, click on the Edit button.
1101	Data fields provided are not valid for this Change Request.	You have supplied invalid data. Check the Field Validation Rules to confirm which fields are allowed. You can also view the Field Validation Rules online or by requesting a C1 report for CATS_TRANS_FIELD_VALIDATION. (The only fields allowed are those that have a Field Validation Data Source Code of RA or RQ. Alternatively, you may have entered a Change Reason Code that does not exist.
1100	Invalid Data on Change Request	Check whether you have entered an Embedded Network Code that does not exist in the CATS_EMB_NET_ID_CODES table.
1109	Invalid NMI Classification Code	The NMI Classification Code is invalid. It is either not in the CATS_NMI_CLASS_CODES table (which you can view using the MSATS Browser or by running a C1 report for CATS_NMI_CLASS_CODES) or the start date for the NMI Classification Code is after the proposed date on the Change Request. You will also see this message if you try to change the jurisdiction on the NMI and the NMI's start date is more recent than the proposed date on the change request.
1111	Invalid TNI Code (or similar – e.g. DLF Code)	The TNI Code is invalid. It is either not in the CATS_TNI_CODES table (which you can view using the MSATS Browser or by running a C1 report for CATS_TNI_CODES), or the start date for the TNI Code is after the proposed date on the Change Request.
1113	Invalid Jurisdiction Code	You have entered an invalid Jurisdiction Code or a Jurisdiction Code with a start date that is after the proposed date on the Change Request. This message will also be sent if you try to enter a Change Request where the proposed date is prior to the start date on the <i>NMI</i> .

NUMBER	ERROR (WITH EXAMPLE PARAMETERS)	POSSIBLE EXPLANATIONS
1120	Invalid Participant ID	<p>Check whether you have nominated a Participant in a Role they are not entitled to perform, either because:</p> <ul style="list-style-type: none"> • They are not valid for that Role • They were not valid for that Role for the period covered by the Change Request • Participant ID you entered is not valid • The name you entered is not all uppercase <p>This information is on the CATS_PARTICIPANT_ROLES table for which you can run a C1 report.</p>
1121	The Participant is not valid for the given Role.	<p>The Participant you have nominated is not valid for the given Role.</p> <p>This information is on the CATS_PARTICIPANT_ROLES table for which you can run a C1 report.</p>
1122	TNI Code required for the <i>NMI</i> (orsimilar)	<p>It is likely that the Proposed Change Date is prior to the start date of the <i>NMI</i>.</p> <p>This message will also be sent if you try to remove the TNI Code from a <i>NMI</i>.</p>
1133	Date period causes a gap in NMI Master Record	You tried to make a Retrospective Change and have supplied an end date that is prior to the start date of the <i>NMI</i> .
1134	Date period causes a gap in the records in the CATS_METER_REGISTER table	The end date must be the day before, on, or after, the start date.
1135	Date period causes a gap in Roles	
1144	<i>NMI</i> not found for the Datastream	<p>Check that the <i>NMI</i> Status Code is not D or X. You will need to activate this <i>NMI</i> (i.e., change its <i>NMI</i> Status Code to A) before you can update any Datastreams.</p> <p>You activate a <i>NMI</i> using a Change Reason Code such as 5051, which will need to complete before you can create the Change Request to update or create the Datastream.</p>
1146	Meter Serial ID must exist for <i>meter</i>	Check that the Meter Serial ID you are attempting to update the next scheduled read date for exists for this <i>NMI</i> . You can run a Master report or you can use the <i>NMI</i> Master browser enquiry.
1147	Metering Installation Type Code must exist for <i>meter</i>	You have tried to create a record without specifying a Metering Installation Type Code. Check that you are not trying to update a Meter Serial ID that does not exist. If you are, you will need to create the record using CR 3001 or CR 3000.
1148	Invalid Profile Name for <i>NMI</i> 's Jurisdiction	You have assigned a Profile Name to a Datastream that is not valid in the Jurisdiction in which this <i>NMI</i> is located.
1149	ADL must be less or equal to 2000 for <i>NMI</i> s with <i>NMI</i> Classification Code of SMALL	MSATS has a validation that's designed to ensure that ADLs are reasonable. If you try to change the ADL on a <i>NMI</i> that has a <i>NMI</i> Classification Code of SMALL and the value you enter is greater than or equal to 2000, you will get this error.
1151	Not all required fields have been entered. Please ensure all fields have been completed.	<p>When you create a Change Request you must complete all fields that are required for the Change Reason Code you have selected.</p> <p>You can check which fields are required by viewing the Field Validation Rules online or by requesting a C1 report for CATS_TRANS_FIELD_VALIDATION.</p> <p>You must supply all fields on a Change Request where the Field Validation Data Source Code is RI.</p>
1150	Initiating Participant is not an active CATS Participant	The Participant submitting the Change Request is not active for the period of the transaction.

NUMBER	ERROR (WITH EXAMPLE PARAMETERS)	POSSIBLE EXPLANATIONS
152	Initiating Participant is not a valid initiator of the transaction.	<p>You have tried to initiate a transaction for which you are not a valid initiator.</p> <ol style="list-style-type: none"> If this is a Change Request initiated by a Current Role (e.g. CR 4001), check that: <ul style="list-style-type: none"> You are the valid Participant for that Role for the period covered by this Change Request. The <i>NMI</i> exists in MSATS (If this is a Change Request initiated by the Current Participant and the NMI does not exist, you will also get this message (because MSATS cannot find the Current Participant). The Proposed Change Date is after the start date of the <i>NMI</i>. If this is a Change Request initiated by a New Role (e.g. CR 2001), check that: <ul style="list-style-type: none"> the Participant ID you are using can act in the specified Role. The proposed Participant to act in this Role goes back as far as the Proposed Change Date on the Change Request. You have nominated yourself in the initiating Role.
1153	Date is not in the past.	You have entered a date after today for a Retrospective Change. The date you enter must be today's date or earlier.
1154	<i>NMI</i> does not match <i>NMI</i> on original Change Request	<p>You are trying to change an existing Change Request but the <i>NMI</i> you have supplied is not the <i>NMI</i> on the original Change Request.</p> <p>If you supply an ID on a Change Request that is identical to an existing Change Request, MSATS assumes that the transaction is a change to the existing Change Request.</p> <p>Another possible reason may be that the <i>NMI</i>s match, but the request ID specified does not match the ID of the existing Change Request.</p>
1156	<i>NMI</i> and NMI Checksum do not match	The <i>NMI</i> and NMI Checksum do not match
1157	Original Change Request is not found or is not active	<p>You have supplied an ID on a Change Request that is supposed to be identical to an existing Change Request but the ID you have supplied does not exist.</p> <p>Check whether there should be an ID on your Change Request (i.e. is it a CR 1500 or a change to an existing Change Request?). If it should, confirm the correct ID.</p>
1160	Date is not within the allowed number of days.	<p>The Proposed Change Date is too far in the past for a Retrospective Change or too far into the future for a Prospective Change.</p> <p>You can check the maximum allowable number of days (expressed in <i>business days</i>) by viewing the Timeframe Rules for the Change Reason Code. If it is a Retrospective Change, it is Retrospective Period. If it is a Prospective Change, it is the Prospective Period.</p>
1168	No Jurisdictional Rules found for Change Request, NMI Classification Code	<p>The Change Request you are trying to create is not valid for the <i>NMI</i>'s Jurisdiction and NMI Classification Code.</p> <p>If you are changing the Jurisdiction or NMI Classification Code you need to check that an entry exists for the new jurisdiction code or NMI Classification Code along with the CR code in Jurisdictional Parameters in the MSATS Browser or by requesting a C1 report for the CATS_JURISDICTIONAL_RULES table</p>
1169	Date submitted should not be in the past for this type of Change Request.	This is a Prospective Change. You can enter tomorrow's date, at the earliest.

NUMBER	ERROR (WITH EXAMPLE PARAMETERS)	POSSIBLE EXPLANATIONS
1172	Metering Installation Type Code does not exist.	If you are trying to submit a Prospective Change for a change of <i>retailer</i> (e.g. CR 1000 or CR 1030) and it is rejected because there is no <i>meter</i> record for this <i>NMI</i> . You could contact the Current MPB and arrange for one to be created or, alternatively, if it is permitted in the Jurisdiction, you can wait until after the Proposed Change Date and then submit a Retrospective Change.
1178	Attempting to create a <i>NMI</i> that already exists	The <i>NMI</i> on the Change Request already exists in MSATS but you are using one of the Change Reason Codes for creating <i>NMIs</i> (i.e. CR 2000, CR 2001, CR 2020, CR 2021, CR 2500, CR 2501, CR 2520 and CR 2521).
1179	Attempting to edit a <i>NMI</i> that does not exist. For example: <i>NMI</i> : 1000999900 CR 1000	The only Change Reason Codes Participants can use to create <i>NMIs</i> are CR 2000, CR 2001, CR 2020, CR 2021, CR 2500, CR 2501, CR 2520 and CR 2521). The <i>NMI</i> you have entered (1000999900 in the example) does not exist and the Change Reason Code you have used (CR 1000) is not one that you can use to create <i>NMIs</i> . Check that you have entered the correct <i>NMI</i> . If so, you will need to contact the relevant LNSP and arrange for the LNSP to create the <i>NMI</i> .
1198	Meter Register Status Code must be either C, R or D.	You attempted to include an invalid Meter Register Status Code in the Change Request.
1280	No Participant exists from whom data is to be requested for this <i>NMI</i> .	The most likely reason for this message is that the <i>NMI</i> does not exist in MSATS. This message appears because you have entered a Change Reason Code that has some RQ fields in its Field Validation Rules. RQ fields are fields that send out a Data Request if the data is missing for the <i>NMI</i> . When MSATS identifies that there is missing data for a <i>NMI</i> (because there is no <i>NMI</i>) it attempts to request the data but it can't find a Participant in the Role to send the Data Request to so it sends this error message. This message will also appear if, for example, someone tries to transfer a <i>NMI</i> from a date prior to the start date of the <i>NMI</i> (again because, for this period, there is no valid Participant).
5026	<i>NMI</i> extinct	This error occurs when a transfer request is submitted for a <i>NMI</i> with a <i>NMI</i> Status Code of X. The only valid <i>NMI</i> statuses for transferring a <i>NMI</i> are G, D, N or A.
5028	CAN – The change dates for this Change Request conflicts with another CR 1000 series Change Request in the system.	This relates to a concurrent transfer (See section 6 of the CATS Procedures). In a 'Type 2' situation it means that another Participant has submitted a Change Request to transfer <i>retailers</i> with a date range that matches or overlaps your existing Change Request and that your Change Request has been Cancelled, which can happen at any stage until your Change Requests Complete.
5029	REJ – The change dates for this Change Request conflicts with another CR 1000 series Change Request in the system.	This relates to a concurrent transfer situation (See section 6 of the CATS Procedures). In 'Type 1' situation it means that you have previously submitted a Change Request for this <i>NMI</i> which has still not reached COM status and that your subsequent Change Request has been Rejected. In a 'Type 2' situation it means that an existing Change Request from another Participant already exists in MSATS with a date range that matches or overlaps with your Change Request and that your Change Request has been Rejected.
5032	CAN – Change Request has been cancelled.	This identifies transfers that have been automatically Cancelled by MSATS as a result of remaining incomplete after 7 months.
5036	Invalid combination of Change Reason Code for Read Type Code	You are attempting to submit a transfer request with a Change Reason Code and a Read Type Code that are not allowed e.g. you may have submitted a Retrospective Change with a Read Type Code of NS (Next Scheduled Read Date) or you may have submitted a Prospective Change with Read Type Code of PR (Previous Read).
5038	FRMP cannot be Current FRMP	You cannot transfer a <i>NMI</i> to a Participant where that Participant ID is identified as the current FRMP in the 'CATS_NMI_PARTICIPANT_RELATIONS' table.
5039	MDP cannot be Current MDP	You have submitted a Change Request and nominated the MDP, yet the nominated MDP is the same party as the Current MDP. The MDP should only be nominated in this Change Request if it is changing from the Current MDP.

NUMBER	ERROR (WITH EXAMPLE PARAMETERS)	POSSIBLE EXPLANATIONS
5041	Invalid Transaction. Must nominate at least one of New MDP, MPB or MPC.	You have attempted to use a Change Request to update a Role yet you have not nominated which Roles you wish to update. You are required to nominate the New MC and at least one of either the New MDP, New MPB or the New MPC.
5042	The LR for a Child NMI must be the FRMP of the Parent NMI	You have attempted to change the LR on a Child NMI that does not match the Participant ID currently assigned as the Parent FRMP.
5044	The minimum mandatory data must be populated	You have not provided all of the mandatory data with the Change Request.
5045	The Change Request initiator must be a Current Participant	You are not the Current Participant assigned to the Role required to submit the relevant Change Request.
5046	The Change Request must only be used on NMIs in the status of	You are attempting to submit a Change Request for a NMI with an invalid NMI Status Code.
5059	MDM Contributory Suffix is mandatory	You did not provide the MDM Contributory Suffix in the Change Request or at the completion of the Change Request the MDM Contributory Suffix was missing.
5060	Network Tariff Code is mandatory	You did not provide the Network Tariff Code in the Change Request or the end result of completion of CR results in the Network Tariff Code as null.
5120	No NMI range is assigned for the Participant ID.	You tried to create a NMI when there is no NMI range assigned to you.
5121	NMI falls within an excluded NMI range.	You tried to create a NMI from an excluded NMI range.
5122	Proposed NMI is outside the allocated NMI range for the Participant ID.	You tried to create a NMI outside the allocated NMI range for your Participant ID.
5047	Meter Serial ID does not exist	You are attempting to submit a Change Request for a Meter Serial ID that does not exist.
5048	Register ID does not exist	You are attempting to submit a Change Request for a Meter Register record which does not exist
5049	Datastream does not exist	You are attempting to submit a Change Request for a Datastream that does not exist
5050	The Change Request must be used to remove at least one <i>meter</i> with a Meter Register Status Code of current or remotely disconnected.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a <i>meter</i> with a Meter Register Status Code of C or D to be removed.
5051	The Change Request must be used to create at least one <i>meter</i> with a Meter Register Status Code of current.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a meter with a Meter Register Status Code of C to be created.
5052	The Change Request must be used to remove at least one Register ID with a Meter Register status code of current.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a Register ID with a Meter Register Status Code of C to be removed.
5053	The Change Request must be used to create at least one Register ID with a Meter Register Status Code of current.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a Register ID with a Meter Register Status Code of C to be created.
5054	The Change Request must be used to deactivate at least one Datastream with an existing Datastream Status Code of active.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a Datastream with a Datastream Status Code of A to be made inactive (I).
5055	The Change Request must be used to create at least one Datastream with a Datastream Status Code of active.	You have submitted a Change Request for 'exchanging' data, yet you have failed to nominate a Datastream with a Datastream Status Code of A to be created.

3. READ TYPE CODE – TYPICAL SCENARIOS

This section assists Participants in understanding which Read Type Code should be used for a Change Request and what communications between Participants, if any, can be expected.

Table 2 Consequences and Permissible Actions for Different Combinations of Change Requests, Read Type Codes and Metering Installation Types

Change Reason Code	Read Type Code	Metering Installation Types	Consequences and Permissible Actions
1000	NS	4A, 5 & 6	<ul style="list-style-type: none"> MDP must advise in the form of an Objection if the Proposed Change Date is not within NSRD allowable window (-3/+2 days). If no Actual Meter Reading obtained during the NSRD allowable window, MDP must advise reason in the form of an Objection. Transfer can only complete on a day that an Actual Meter Reading is taken. The Actual Change Date submitted by the MDP can only be within the NSRD allowable window
	RR	4A, 5 & 6	<ul style="list-style-type: none"> Proposed Change Date serves no purpose for this CR and Read Type Code combination, namely: <ul style="list-style-type: none"> MDP not required to advise if no Actual Meter Reading obtained. Transfer can only complete on a day when an Actual Meter Reading is taken, which can be any day.
	SP	4A, 5 & 6	<ul style="list-style-type: none"> Transfer can only complete on a day that an Actual Meter Reading is taken. MDP may perform a Special Meter Reading on receipt of REQ Notification. If no Actual Meter Reading obtained during the NSRD allowable window, MDP must advise reason in the form of an Objection.
1010, 1040	PR	4A, 5 & 6	<ul style="list-style-type: none"> If the Proposed Change Date is not the date when an Actual Meter Reading is to be taken, the MDP must advise reason in the form of an Objection. Transfer can only complete on a day that an Actual Meter Reading is taken. Actual Completion Date must align with the Proposed Change Date or be within a date range agreed between the New FRMP and the MDP. The CR 1040 Meter Reading has to be a move-in Meter Reading, whereas the CR 1010 can be any Meter Reading.
102X	PR	4A, 5 & 6	<ul style="list-style-type: none"> If the Proposed Change Date is not the date when an Actual Meter Reading is to be taken, the MDP should advise reason in the form of an Objection. Proposed date will always be Actual Change Date (i.e. MDP does not submit CR 1500 with Actual Change Date)
1030	SP	4A, 5 & 6	<ul style="list-style-type: none"> MDP may perform a Special Meter Reading on receipt of REQ Notification and a corresponding B2B service order request. Transfer can only complete on a day when an Actual Meter Reading is taken
All	UM	UMCP only	<ul style="list-style-type: none"> If no <i>interval metering data</i> available (typically because of inventory/load data problem) for Proposed Change Date, the MDP must advise reason in the form of an Objection. Actual Change Date submitted by the MDP should align with the Proposed Change Date unless otherwise agreed between the New FRMP and the MDP.

Change Reason Code	Read Type Code	Metering Installation Types	Consequences and Permissible Actions
	EI (Comms only)	1, 2, 3 & 4	<ul style="list-style-type: none"> If no <i>interval metering data</i> available for Proposed Change Date, the MDP must advise reason in the form of an Objection. Actual Change Date submitted by the MDP should align with the Proposed Change Date unless otherwise agreed between the New FRMP and the New MDP.

4. STANDING DATA REQUIREMENTS FOR A TIER 2 SITE

If a retail transfer CR is completed and an End User has transferred to a second tier *retailer* (i.e. FRMP now <> LR):

- The LNSP, or the ENM in the case of *child connection points*, must ensure that the NMI Status Code is A.
- The MDP must ensure there is a Datastream(s) with a Datastream Status Code of A covering the period from the date of the retail transfer.

If the Datastream Status Code is "A" *metering data* needs to be submitted to MSATS, regardless of the status of the Site.

5. VALID METERING AND DATASTREAM FIELD COMBINATIONS

If the Metering Installation Type Code is COMMSx, COMMS4D, COMMS4C, MRIM, MRAM, VICAMI or UMCP:

- DataStreamType must be either I – Interval, P (P – Profile Area, Sample *meters* only) if the suffix is Nx (e.g. N1)¹
- The Profile Name must be NOPROF

If the Metering Installation Type Code is BASIC:

- DataStreamType must be C
- In Victoria and the ACT, the Profile Name must be NSLP
- In NSW and SA, the Profile Name must be NSLP or the relevant Controlled Load profile
- Suffix must be numeric (e.g. 11)

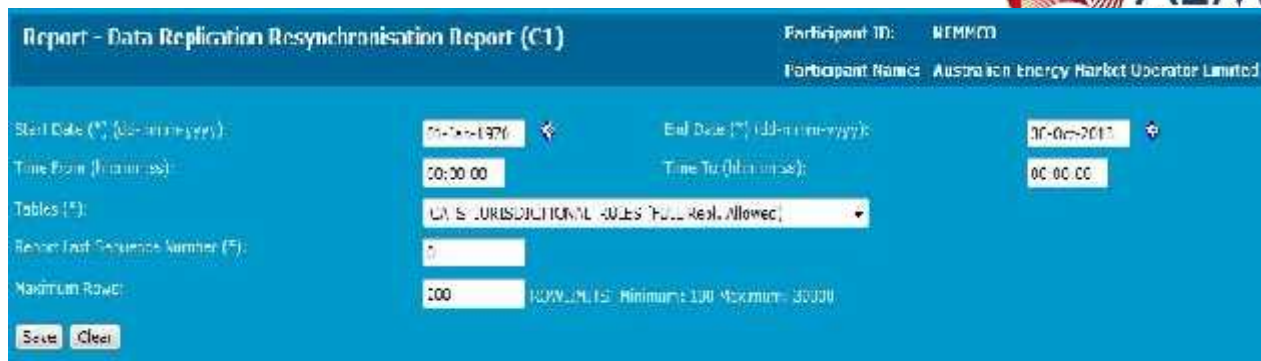
6. C1 REPORT PARAMETERS FOR CODES AND RULES TABLES

If you want a report with all the codes and rules for a particular table, you need to submit a report with the [Start Date] and [End Date]. The report returns records that were created between the Start Date and the End Date. To get all records where full replication is allowed use a very old Start Date (eg 01-Jan-1970) and today as the End Date.

You must only supply a very old start date on a C1 report for codes and rules tables, not for tables with significant quantities of data.

The report submission through the browser will be as follows:

¹ Refer to the 'Standing Data for MSATS' document



7. MANAGING YOUR INBOX AND OUTBOX & ARCHIVE

7.1. When you do not receive a .zip file you were expecting

MSATS is configured so that for each transaction group/priority (e.g. .catsm files, .nmidh files), you should normally never receive more than 30 files at a time. Once you have received 30 files, MSATS will not send any more until you or your system start acknowledging the ones that are already there.

On rare occasions, this number may be considerably higher. This will happen if the MSATS Batch Handler² loses contact with the database (e.g. if there is a fail-over because the database is unavailable). When this happens, the Batch Handler starts counting again so you could get an additional 30 files.

The maximum number of files delivered before MSATS does not send any more is configurable and while performance is being fine-tuned this number could change. See also section 7.5.

7.2. When files are not being picked up from your Inbox

MSATS is configured so that if you allow more than 20 .ack files to accumulate in your outbox (i.e. MSATS has acknowledged 20 files that you have not deleted from your inbox), it will stop processing your inbox. This means that no more of the files you submit to your inbox will be processed.

You need to delete the .zip files from your inbox corresponding to the .ack files before any new .zip files will be processed.

7.3. The .ack files in your Inbox are not being processed

MSATS will stop processing the .ack files in your inbox if it detects an .ack file that it cannot read (e.g. i.e. the .ack file is not well-formed). Until the bad .ack file is cleared no more .ack files will be processed.

If the oldest .ack file in your inbox has been there for some time, check that it is a valid .ack. If it's not, you will need to remove it (this will start the processing of the next one in the queue) and then write a valid one to replace the original.

7.4. The .zip files are no longer in your Outbox

Once you have acknowledged receiving the .zip files placed in your outbox by MSATS, these .zip files will then be copied into your archive directory. The archive directory is broken down into years, months and days. Transactions are only deleted from the archive directory after approx 13 months.

Access to the archive directory is through the 'Data Load Import' option of the MSATS browser. If you cannot see this option you will need to contact your PA to set your MSATS user rights to be able to see and retrieve files from the archive directory.

7.5. Next scheduled read date updates

Notifications to FRMPs and Change Request responses to MDPs for updates to NSRDs submitted by batch are sent out in batches of up to 500 at a time.

At present, the processing to send out these files is run every five minutes but only within three blocks of times a day:

- 4am to 7am

² The MSATS Batch Handler is a system that processes inbound XML transaction files into MSATS, delivers outbound XML messages, and manages the acknowledgement protocol, archiving and flow control. Details can be found at <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions>

- 12 noon to 1 pm
- 9pm to 11pm

The times above are *market* times.

For example, if you submit NSRD updates at 08:00 *market* time, the earliest you could expect to see Change Request responses is midday.

However, if there are more than 500 other transactions in MSATS' outbound tables waiting to be sent to you, no NSRD notifications or Change Request responses will be sent. You cannot identify how many transactions are waiting to be sent to you, however, as a rule of thumb, if your outbox remains full (i.e. soon after you acknowledge a file MSATS sends you another one), it is reasonable to assume that there are still files waiting to be sent. If your outbox is empty or has less than 30 .catsm files, it is reasonable to assume that there are no transactions waiting to be sent.

8. TRACKING THE REASONS FOR TRANSACTIONS BEING REJECTED

If a transaction is submitted by batch it goes through a number of validations to check whether it is valid. (These validations are similar to the validations that occur when you click on the Submit button using the MSATS browser.)

In the MSATS browser you can confirm that a Change Request submitted by batch has a status of Rejected. However, you need to use reports to find out why it has been rejected.

When a Participant submits a transaction by batch, as well as receiving an .ack file to confirm that their file has passed first level validation, for each Change Request submitted, they receive a Change Request response file. This tells the Participant whether the Change Request has passed the second-level functional validation.

If the transaction is rejected, the reason for the rejection is communicated to the initiator as part of the Change Request response.

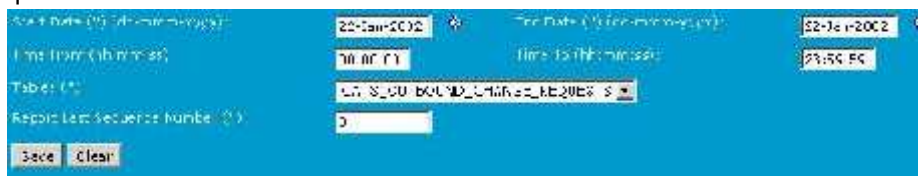
Assuming that you already know the Request ID of the Change Request that has been rejected, you can obtain the reason for the rejection by running two reports and combining the results.

The two reports you need are both Data Replication (C1) reports:

- CATS_OUTBOUND_CHANGE_REQUESTS
- CATS_OUTBOUND_ERRORS

The following steps explain how to work out the cause of the rejection.

1. Run the Data Replication (C1) report for CATS_OUTBOUND_CHANGE_REQUESTS. Your request should look similar to this:



If you know the date that the transaction was rejected, restrict your search to that date (i.e. use it as the start date and the end date) so that you limit the number of transactions to search through. You may also be able to put in a time range to further limit the transactions selected. This is important because there is a limit on how many transactions can be returned at a time and if you make the range too broad you may not find the transaction you want immediately and have to run the report.

2. When you receive the report, open it and search through the output until you find an entry for the Request ID you are looking for. (You may want to extract the output from the .zip file and load it into a tool such as Microsoft Word so that you can search for it.)

The output for each transaction selected will look similar to this example (the

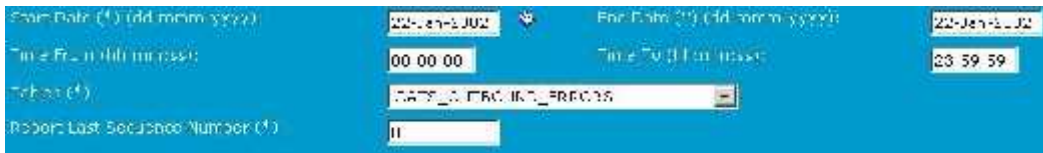
```
<ReplicationBlock tableName='CATSChangeResponses'>
  <Row xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:type='ase:CATSChangeResponseRow'>
    <SequenceNumber>3</SequenceNumber>
    <CreationDate>2002-01-13T00:08:50+10:00</CreationDate>
    <MaintenanceDate>2002-01-13T00:14:00+10:00</MaintenanceDate>
    <RowStatus>A</RowStatus>
    <RequestID>4</RequestID>
    <NMI>1234567890</NMI>
    <Participant>XXXXXX</Participant>
    <InitiatingTransactionID>PTH-4038a-20020112000000-00</InitiatingTransactionID>
    <TransactionID>29</TransactionID>
    <Status>R</Status>
  </Row>
</ReplicationBlock>
```

RequestID

TransactionID

Request ID is 4):

- Now, find the Transaction ID for the transaction with the Request ID you searched for. (This is the value in TransactionID, not the value in InitiatingTransactionID. It's 29 in this example.) You'll use this TransactionID to find the error.
- Now, run a Data Replication (C1) report for CATS_OUTBOUND_ERRORS. Your request should look similar to this:



- When you receive the report, open it and search through the output until you find an entry for the TransactionID from the previous report.

The output for each transaction selected will look similar to this example.

```
<ReplicationBlock tableName='CATSErrors'>
  <Row xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:type='ase:CATSErrorsRow'>
    <SequenceNumber>2</SequenceNumber>
    <CreationDate>2002-01-13T00:08:50+10:00</CreationDate>
    <MaintenanceDate>2002-01-13T00:08:50+10:00</MaintenanceDate>
    <RowStatus>A</RowStatus>
    <TransactionID>29</TransactionID>
    <Code>1101</Code>
    <Explanation>Data fields provided that are not valid for this Change Request Type.</Explanation>
  </Row>
</ReplicationBlock>
```

TransactionID

- The information you need to know why the error rejected is in the Code tag and the <Explanation> tag.
- If you want to know more about what might be causing this error you can check to see if it is listed in Table 1.

9. MSATS VALIDATIONS

Table 3 summarises the functional validations MSATS performs when it is checking a Change Request in PVAL status.

If any of these checks fail, the Change Request will move to REJ status.

Table 3 Validations and Descriptions

VALIDATION	DESCRIPTION
Checksum Validation	Ensure that the NMI Checksum is valid for the NMI supplied on the Change Request.

VALIDATION	DESCRIPTION
Initiating Party Validation	Check that: <ul style="list-style-type: none"> • The Participant submitting the transaction is currently active and was active from the period covered by the Change Request. • For a transaction submitted by a New Role, the Participant submitting the transaction is entitled to act in that Role for the period covered by the Change Request AND the Participant submitting the transaction is the Participant nominated in that New Role. • For a transaction submitted by a Current Role, the Participant submitting the transaction is acting in that Role for the entire period covered by the Change Request.
Jurisdictional Rules Validations	Check that, for the combination of the Jurisdiction and NMI Classification on the NMI Master Record or Change Request and for the Change Reason Code on the Change Request, there is a Jurisdictional rule. See CATS Jurisdictional Rules table. Where the <i>NMI</i> already exists (i.e. there is a NMI Master Record) and there is a NMI Classification Code, Jurisdiction Code, or both, on the Change Request, the NMI Classification Code and Jurisdiction Code on the Change Request takes precedence in determining whether Jurisdictional rules exist.
RQ Validations	If, in the Field Validation Rules for this Change Request, there are RQ fields and there is no data on the NMI Master Record for those fields, check that there is a Participant on the NMI Master Record for the period covered by the Change Request to send the Data Request for the missing data to.
RA Validations	If, in the Field Validation Rules for this change request there are RA fields, check that there is a Participant on the NMI Master Record for the period covered by the Change Request to send the Data Request for the missing data to.
Embedded Network Validations	Check that: <ul style="list-style-type: none"> • The Embedded Network Code is valid for the period covered by the Change Request. • The EmbedNetParent and EmbedNetChild fields in the CATS_NMI_DATA table are not the same. • If a Child NMI is being created, a Parent NMI has already been identified for that <i>embedded network</i>. • The change will not produce an <i>embedded network</i> circular relationship. • This CR is not a change of LR on a Child NMI (unless this transaction is creating the Child NMI). • This CR will not create an orphan (i.e. if a parent is being removed (and there are no other parents) and there are no children).
New NMI Validation	If the Change Reason Code is 2000, 2001, 2020, 2021, 2100, 2500, or 2501, check that there is not already a record on the CATS_NMI_DATA table for this <i>NMI</i> .
Field Completeness Validation	For the Change Reason Code on the Change Request, check that: <ul style="list-style-type: none"> • All fields in the Field Validation Rules for this Change Reason Code with a Data Source Code of RI have been supplied. • All fields supplied in the Change Request have a Data Source Code of either RI or OI.
Date Validations	For a Prospective Change, check that: <ul style="list-style-type: none"> • The Proposed Change Date is tomorrow or later; • The Proposed Change Date is not after the Prospective Period. For a Retrospective Change, check that: <ul style="list-style-type: none"> • The Proposed Change Date is today or earlier. • The Proposed Change Date is not prior to the Retrospective Period. If an ActualEndDate is submitted, ensure that it is either today or prior to today.

VALIDATION	DESCRIPTION
Field-level Validations	If this Change Request includes fields that are held in lookup tables, check that the value supplied for each field is a valid code on the lookup table and that it was valid for the whole period covered by the Change Request.
Actual Change Date Validations	If the Change Reason Code is one which is submitting an ACTUALCHANGEDATE (CR 1500), check that the Participant submitting the Change Request is the Participant to whom the Data Request was sent (use the initiating Request ID to identify the original Change Request). Ensure that the ActualChangeDate is within the Retrospective Period.
Changes to Change Requests Validations	Check that the Participant submitting the new Change Request is the same Participant that submitted the original Change Request and that the original Change Request status is not CAN, REJ or COM.
MDM Validations	Note that some of these validations also apply at the time the change request is about to move to COM status. The context for this validation is that if the Change Request completes, the configuration as of the day after the Actual Change Date or, for the period covered by the Proposed Change Date, must not break these rules: <ul style="list-style-type: none"> The <i>NMI</i> must have a valid NMI Classification Code, Jurisdiction Code, DLF Code, NMI Status Code, TNI Code, LR, FRMP, RP, ROLR, MDP and MPB. The transaction must not cause any gaps in the <i>NMI</i>'s history (on any of the four master tables). Every time a Datastream record is created or updated, it must have a Datastream Status Code, that is NOT 'NULL' for the ADL, a valid value in DataStreamType and a valid Profile Name. Every time a Datastream is created or updated there must be an active <i>NMI</i> covering the period for which the Datastream will be active. Every time a <i>meter</i> is created or changed it must always have a Metering Installation Type Code and a Meter Register Status Code. The Profile Name assigned to a Datastream must be valid in that <i>NMI</i>'s Jurisdiction. If NMI Classification Code is Small, the ADL must be <=2000 If the Datastream Type is C, the Profile Name cannot be NOPROF.

10. RETROSPECTIVE CHANGES WITH AN END DATE

If you wish to make a Retrospective Change that only applies for a specific period, you MUST enter a date in the ActualEndDate field. Otherwise, the change you make will 'overwrite' the current values, as well.

The following sequence of events reflects a common problem:

1. A NMI with an inactive Datastream is transferred to a New FRMP as of 04-Apr-2002. As of that date, the *NMI* is Tier 2 and, therefore, an active Datastream Status Code is required (i.e. the Datastream Status code needs to be changed from I to A).
2. The MDP activates the Datastream from 01-Apr-2002.

Assuming that the *NMI*'s start date was 22-Dec-2001, the CATS Datastream Table will look like this:

Table 4 CATS_NMI_DATA_STREAM table with example data

NMI	SUFFIX	DATASTREAM STATUS	START DATE	END DATE	MAINTACTFLG
1XXXXXXXX11	11	I	22-Dec-2001	31-Dec-9999	I
1XXXXXXXX11	11	I	22-Dec-2001	31-Mar-2002	A
1XXXXXXXX11	11	A	01-Apr-2002	31-Dec-9999	A

The MDP's Change Request made the original record redundant (MaintActFlg = I) and created two new records to replace it.

3. Having realised the error, the MDP needs to create a transaction to make the Datastream Status Code inactive from 01-Apr-2002 until 03-April-2002.

If the MDP was to put in a Change Request to make the Datastream Status Inactive from 01-Apr-2002 and **NOT** put in an ActualEndDate, this is what would happen to the NMI_DATASTREAM table once the Change Request was Completed:

Table 5 CATS_NMI_DATA_STREAM table with example data

NMI	SUFFIX	DATASTREAM STATUS	START DATE	END DATE	MAINTACTFLG
1XXXXXXXX11	11	I	22-Dec-2001	31-Dec-9999	I
1XXXXXXXX11	11	I	22-Dec-2001	31-Mar-2002	A
1XXXXXXXX11	11	A	01-Apr-2002	31-Dec-9999	I
1XXXXXXXX11	11	I	01-Apr-2002	31-Dec-9999	A

As you can see, this would not give the correct result.

To fix the problem with the data shown in the first table, the MDP must submit a Change Request with a ProposedDate of 01-Apr-2002 and an ActualEndDate of 03-Apr-2002. Doing that will result in these records, which give the correct result:

Table 6 CATS_NMI_DATA_STREAM table with example data

NMI	SUFFIX	DATASTREAM STATUS	START DATE	END DATE	MAINTACTFLG
1XXXXXXXX11	11	I	22-Dec-2001	31-Dec-9999	I
1XXXXXXXX11	11	I	22-Dec-2001	31-Mar-2002	A
1XXXXXXXX11	11	A	01-Apr-2002	31-Dec-9999	I
1XXXXXXXX11	11	I	01-Apr-2002	03-Apr-9999	A
1XXXXXXXX11	11	A	04-Apr-2002	31-Dec-9999	A

11. MSATS REPORTS – HINTS AND TIPS

11.1. Getting the most from the C4 Report

11.1.1. Understanding C4 date parameters

The C4 report has three date parameters. Table 6 explains what each one is for:

Table 7 C4 Report Date Parameters

DATE	DESCRIPTION
Start Date	<p>The start date of the period you are interested in.</p> <p>If you want to know about the current <i>day</i>, you enter today's date here. If you are checking a <i>settlements</i> week, you enter the start date of the <i>settlements</i> week here.</p> <p>This parameter is checked against the start date and end dates of each NMI Master Record.</p>
End Date	<p>The end date of the period you are interested in.</p> <p>If you want to know about the current <i>day</i>, you enter today's date here. If you are checking a <i>settlements</i> week, you enter the end date of the <i>settlements</i> week here.</p> <p>This parameter is checked against the start date and end dates on each NMI Master Record.</p>

DATE	DESCRIPTION
As At Date	<p>The date on which the records must have been active.</p> <p>This parameter is checked against the MaintCreatedT and the MaintUpdtdT on each NMI MasterRecord.</p> <p>If you enter the as 'at date' with today's date you will only get the current active records.</p> <p>When you enter an earlier date, it will pick up every record with a MaintCreatedT earlier than the 'as at date' and It will pick up every record where the 'as at date' is earlier than the MaintUpdtdT i.e. every active record because the MaintUpdtdT will be the high date and every record modified (made inactive) after the 'as at date'.</p>

For an extensive discussion on how these dates work, refer to the MSATS CATS History Model.

11.1.2. Working out the Last Sequence Number for a multi-NMI report – and knowing when you have selected all the records

If you run the C4 report with parameters that select multiple *NMIs* not all the data that matches your report parameters may be returned. This is because MSATS reports have row limits. In the case of the C4 report, the row limit is currently set to 500.

The steps below explain what steps you need to take to ensure that all data that matches the report parameters is eventually returned:

1. Run the report, entering your required filters (see below for examples). In Last Sequence Number, enter 0, which is the default value.
2. When the report output is returned, identify the last sequence number returned.

How?

The master data returned in a C4 report is sorted into four separate data blocks. They are, in the order in which they appear in the report:

<ReplicationBlock tableName='ElectricityNMIMaster'>

Contains the data from the CATS_NMI_Datatable.

<ReplicationBlock tableName='ElectricityNMIRoles'>

Contains the data from the CATS_NMI_Participant_Relations table.

<ReplicationBlock tableName='ElectricityNMIDataStreams'>

Contains the data from the CATS_NMI_Data_Streamtable.

</ReplicationBlock><ReplicationBlock tableName='ElectricityNMIMeters'>

Contains the data from the CATS_Meter_Registertable.

</ReplicationBlock><ReplicationBlock tableName='ElectricityRegisterIdentifier'>

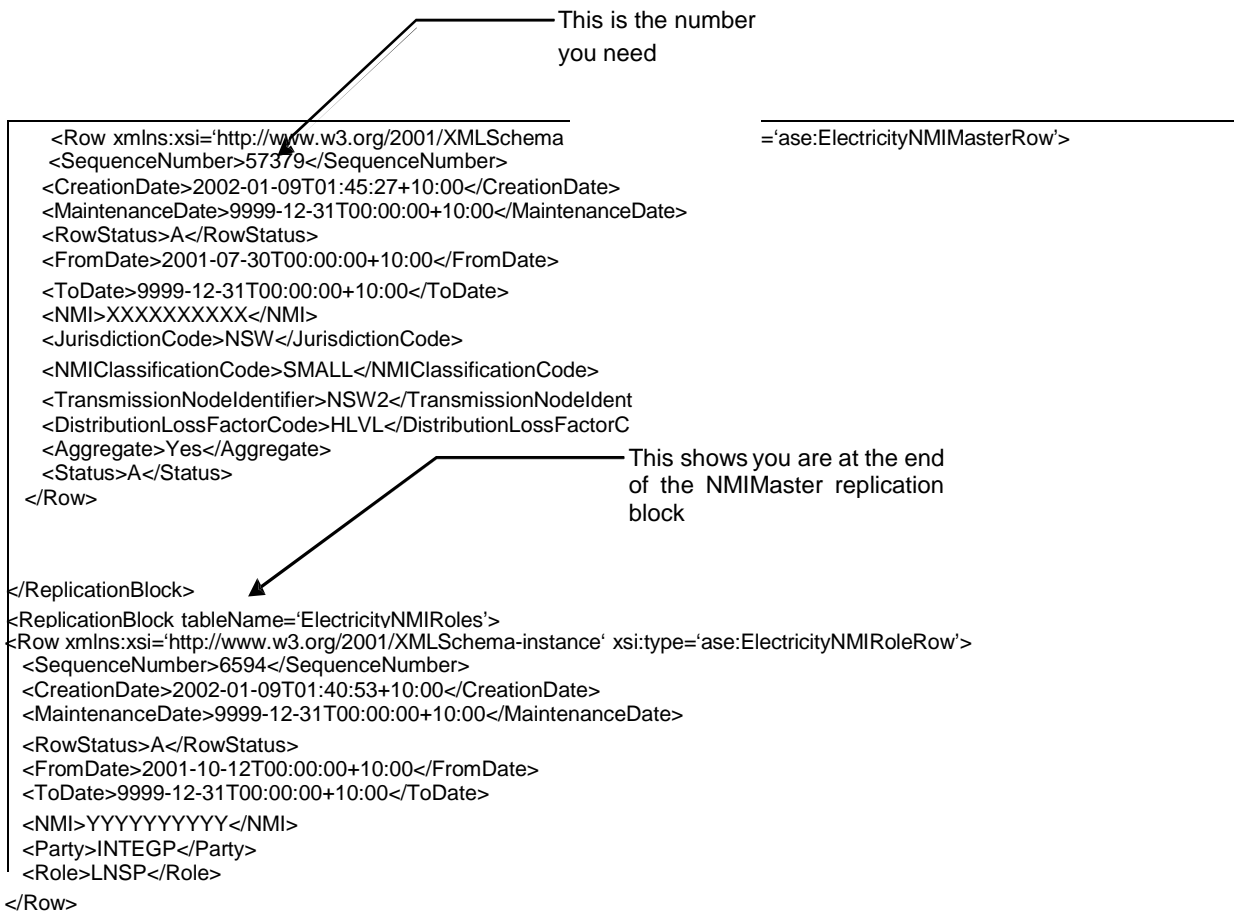
Contains the data from the CATS_Register_Identifier table

When you run a C4 report it applies a row limit (currently 700 records). This row limit **is applied to the NMIMaster** replication block, not the report as a whole. Once the row limit is reached, then, for all *NMIs* selected in the 700 rows, the other tables are populated .

Therefore, to work out the last sequence number you need to find the last record returned in the ElectricityNMIMaster replication block.

The example below shows the last record in the NMIMaster block and the first record in the NMIRoles row. The sequence number you need to be able to submit the next report request is 57379.

- Run the report again with exactly the same date parameters and other filters but, this time, in Report Last Sequence Number (the <LastSequence Number> tag if you are running this report by Batch, enter the number you identified, 57379 in this example.



```

<Row xmlns:xsi='http://www.w3.org/2001/XMLSchema
<SequenceNumber>57379</SequenceNumber>
<CreationDate>2002-01-09T01:45:27+10:00</CreationDate>
<MaintenanceDate>9999-12-31T00:00:00+10:00</MaintenanceDate>
<RowStatus>A</RowStatus>
<FromDate>2001-07-30T00:00:00+10:00</FromDate>
<ToDate>9999-12-31T00:00:00+10:00</ToDate>
<NMI>XXXXXXXXXX</NMI>
<JurisdictionCode>NSW</JurisdictionCode>
<NMIClassificationCode>SMALL</NMIClassificationCode>
<TransmissionNodeIdentifier>NSW2</TransmissionNodeIdent
<DistributionLossFactorCode>HLVL</DistributionLossFactorC
<Aggregate>Yes</Aggregate>
<Status>A</Status>
</Row>
</ReplicationBlock>
<ReplicationBlock tableName='ElectricityNMIRoles'>
<Row xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:type='ase:ElectricityNMIRoleRow'>
<SequenceNumber>6594</SequenceNumber>
<CreationDate>2002-01-09T01:40:53+10:00</CreationDate>
<MaintenanceDate>9999-12-31T00:00:00+10:00</MaintenanceDate>
<RowStatus>A</RowStatus>
<FromDate>2001-10-12T00:00:00+10:00</FromDate>
<ToDate>9999-12-31T00:00:00+10:00</ToDate>
<NMI>YYYYYYYYYY</NMI>
<Party>INTEGP</Party>
<Role>LNSP</Role>
</Row>
    
```

- When you receive the second set of data, you need to repeat the same process to find the last sequence number.
- Continue submitting report requests until you receive a report with no data in it (i.e. where the <Code> tag in the ReportResults replication block, which is the last replication block in the report, has the code 1004 and no NMI data is returned).

11.1.3. Understanding C4 participant and role filters

The following four examples illustrate how you can use the Participant and Role ID filters to select a subset of records.

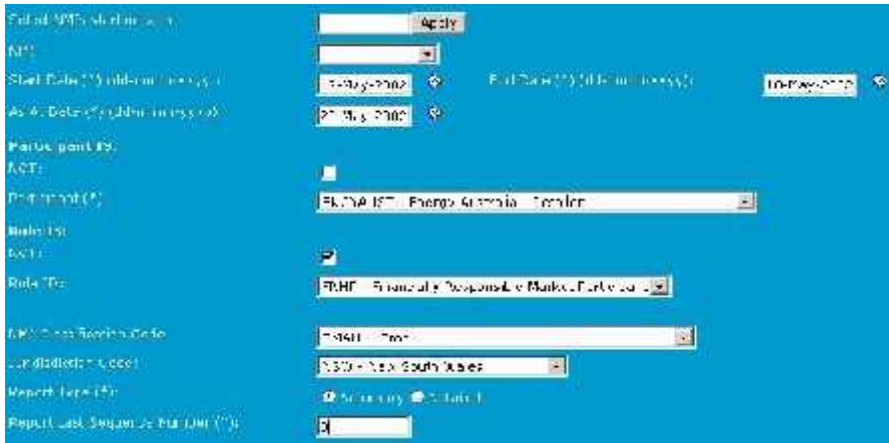
Following the examples is a summary table that explains each possible combination of Participant and Role ID and what data will be selected.

The examples are for reports created interactively using the MSATS browser. Reports can also be submitted by batch.

Example 1: Retailer reports on lost customers

This report is run by ENGYAUST (i.e. a *retailer*) to find all small NMIs in NSW for a *settlements* week where it is not the FRMP (its lost Second Tier NMIs).

The report parameters would look similar to this:



That is, find all *NMIs* where ENGYAUST is NOT the FRMP.

ENGYAUST is only entitled to a superset of *NMIs* for which it is an identified Participant during the nominated trading dates and as of a nominated date. ENGYAUST is entitled to see data for all of the *NMIs* where it is assigned to any Role. This includes the *NMIs* in the area where they are the LR (*NMIs* where they are allocated the role of LR and ROLR and where they may or may not be the FRMP) and *NMIs* in other *retailers'* areas where they are the FRMP. This is the superset of data they are entitled to see.

The effect of filtering to select only *NMIs* where ENGYAUST is NOT the FRMP is to select all *NMIs* where ENGYAUST is the LR but not the FRMP. It will exclude all won Second Tier *NMIs* because, by definition, ENGYAUST must be the FRMP and it will exclude all First Tier *NMIs* because ENGYAUST is also the FRMP for them.

In the report response the report parameters selected above will look like this:

```

ReportParameters xsi:type='ase:CATSMasterReportParameters'>
  <ReportName>Master</ReportName>
  <FromDate>2002-05-12</FromDate>
  <ToDate>2002-05-18</ToDate>
  <AsAtDate>2002-05-20</AsAtDate>
  <LastSequenceNumber>0</LastSequenceNumber>
  <NMIClassificationCode>SMALL</NMIClassificationCode>
  <JurisdictionCode>NSW</JurisdictionCode>
  <ExcludeParticipant>No</ExcludeParticipant>
  <Participant>ENGYAUST</Participant>
  <ExcludeRole>Yes</ExcludeRole>
  <Role>FRMP</Role>
  <ReportType>Summary</ReportType>
</ReportParameters>
    
```

Note the slight complication. On the screen you choose 'Not' but the associated tag is:

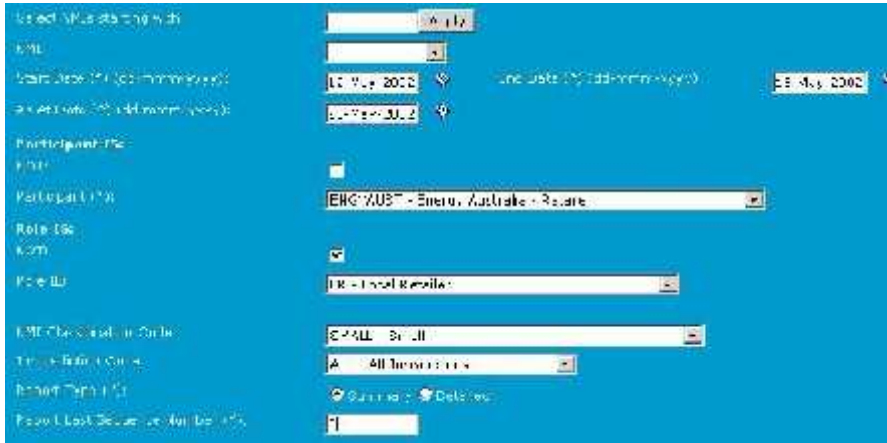
<ExcludeParticipant> or <ExcludeRole> so your 'Not' is translated to a 'Yes'.

After having run this report until the 1004 error code appears, ENGYAUST would have to run it again, changing the NMI Classification Code to LARGE to be sure of identifying all lost End Users.

Example 2: Retailer reports on won customers

This report is run by ENGYAUST (i.e. a *retailer*) to find all small *NMIs* for a *settlements* week where it is **not** the LR.

The report parameters would look similar to this:



Selected NMI starting with: [] Apply

NMI: []

Start Date (Y) (dd-mm-yyyy): [12 May 2002] End Date (Y) (dd-mm-yyyy): [18 May 2002]

As At Date (Y) (dd-mm-yyyy): [20 May 2002]

Participant (FRMP): []

Participant (LR): [ENGYAUST - Energy Australia - Retail]

Role (LR): []

Role (FRMP): [FRMP - Retail Retailer]

NMI Class (Retail Code): [ALL - Small]

Jurisdiction Code: [ALL - All Jurisdictions]

Exclude Participant: []

Participant: []

Exclude Role: []

Role: []

Report Type (FR): [Summary] [Detailed]

Report Last Sequence Number (FR): []

That is, find all *NMIs* where ENGYAUST is NOT the LR.

If ENGYAUST is not the LR but is still entitled to see the *NMI* records, the *NMIs* that are returned should be all Second Tier *NMIs* that EnergyAustralia has won (i.e. *NMIs* where ENGYAUST has the role of FRMP but not LR).

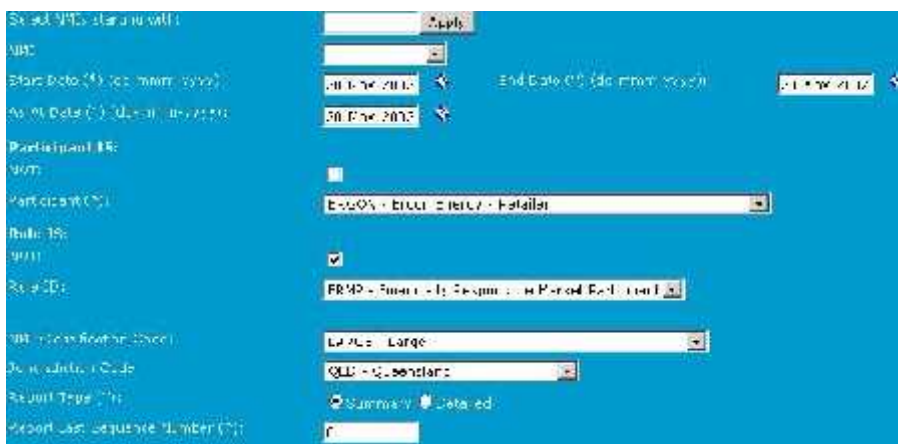
In the report response the report parameters selected above will look likethis:

```
<ReportParameters xsi:type='ase:CATSMasterReportParameters'>
  <ReportName>Master</ReportName>
  <FromDate>2002-05-12</FromDate>
  <ToDate>2002-05-18</ToDate>
  <AsAtDate>2002-05-20</AsAtDate>
  <LastSequenceNumber>0</LastSequenceNumber>
  <NMIClassificationCode>SMALL</NMIClassificationCode>
  <JurisdictionCode>ALL</JurisdictionCode>
  <ExcludeParticipant>No</ExcludeParticipant>
  <Participant>ENGYAUST</Participant>
  <ExcludeRole>Yes</ExcludeRole>
  <Role>LR</Role>
  <ReportType>Summary</ReportType>
</ReportParameters>
```

Example 3: LNSP reports on Tier 2 *NMIs* in its LNSP area

This report is run by ERGONETP (i.e. an LNSP in Queensland) to find all large *NMIs* as a nominated date that are Second Tier *NMIs* (where current date is 20-05-2002).

The report parameters look similar to this:



Selected NMI starting with: [] Apply

NMI: []

Start Date (Y) (dd-mm-yyyy): [12 May 2002] End Date (Y) (dd-mm-yyyy): [18 May 2002]

As At Date (Y) (dd-mm-yyyy): [20 May 2002]

Participant (FRMP): []

Participant (LR): [ERGON - Retail Retailer - Retailer]

Role (LR): []

Role (FRMP): [FRMP - Retail Retailer - Retailer]

NMI Class (Retail Code): [Large]

Jurisdiction Code: [ALL - Queensland]

Exclude Participant: []

Participant: []

Exclude Role: []

Role: []

Report Type (FR): [Summary] [Detailed]

Report Last Sequence Number (FR): []

That is, find all LARGE *NMIs* in Queensland that ERGONETP is able to see where ERGON (the LR for ERGONETP’s network) is not the FRMP.

In the report response the report parameters selected above will look likethis:

```

<ReportParameters xsi:type='ase:CATSMasterReportParameters'>
  <ReportName>Master</ReportName>
  <FromDate>2002-05-20</FromDate>
  <ToDate>2002-05-20</ToDate>
  <AsAtDate>2002-05-20</AsAtDate>
  <LastSequenceNumber>0</LastSequenceNumber>
  <NMIClassificationCode>LARGE</NMIClassificationCode>
  <JurisdictionCode>QLD</JurisdictionCode>
  <ExcludeParticipant>No</ExcludeParticipant>
  <Participant>ERGON</Participant>
  <ExcludeRole>Yes</ExcludeRole>
  <Role>FRMP</Role>
  <ReportType>Summary</ReportType>
</ReportParameters>
    
```

Example 4: Retailer finds large NMIs where a nominated participant is the MDP

This report is run by CITIP to find all small NMIs as of a nominated date for which TCAUSTM is the MDP.

The report parameters look similar to this:



This report will select NMIs where TCAUSTM is the MDP that:

- Are in CITIP’s area, whether or not they are Second Tier NMIs, (i.e. CITIP may be the FRMP and LR or just the LR);
- Are not in CITIP’s area but which CITIP has a relationship with. (These should all be Second Tier NMIs where CITIP is the FRMP.)

In the report response the report parameters selected above will look likethis:

```
<ReportParameters xsi:type='ase:CATSMasterReportParameters'>
  <ReportName>Master</ReportName>
  <FromDate>2002-05-20</FromDate>
  <ToDate>2002-05-20</ToDate>
  <AsAtDate>2002-05-20</AsAtDate>
  <LastSequenceNumber>0</LastSequenceNumber>
  <NMIClassificationCode>LARGE</NMIClassificationCode>
  <JurisdictionCode>QLD</JurisdictionCode>
  <ExcludeParticipant>No</ExcludeParticipant>
  <Participant>TCAUSTM</Participant>
  <ExcludeRole>No</ExcludeRole>
  <Role>MDP</Role>
  <ReportType>Summary</ReportType>
</ReportParameters>
```

Summary of C4 Report Participant and Role Filters

Table 8 summarises all the options that are theoretically possible using the Participant and Role ID filters together with 'Not Participant' and 'Not Role'. Some of the combinations give identical results.

In the Table, Participant A is running the report and can optionally choose to include/not include Participant B and Role X. The rightmost column describes what results will be returned to the report initiator (Participant A).

In all cases it is assumed that the report only returns records that the initiating Participant (Participant A) is entitled to.

Table 8 C4 Report Participant and Role Filters

CASE	NOT PARTICIPANT	PARTICIPANT	NOT ROLE	ROLE	RETURNS
1	-	All	<input type="checkbox"/>	Role X	Records where any Participant plays Role X
2	-	All	<input checked="" type="checkbox"/>	Role X	Records where Role X is not played
3	<input type="checkbox"/>	Participant B	-	Blank	Records where Participant B plays a Role.
4	<input type="checkbox"/>	Participant B	<input type="checkbox"/>	Role X	Records where Participant B plays Role X
5	<input type="checkbox"/>	Participant B	<input checked="" type="checkbox"/>	Role X	Records where Participant B does not play Role X
6	-	Blank	-	Blank	All records that Participant A is entitled to.
7	<input checked="" type="checkbox"/>	Participant B	-	Blank	Records where Participant B does not play a Role.
8	<input checked="" type="checkbox"/>	Participant B	<input type="checkbox"/>	Role X	Records where Participant B does not play Role X
9	<input checked="" type="checkbox"/>	Participant B	<input checked="" type="checkbox"/>	Role X	Records where Participant B plays Role X

11.2. Getting the most from the C1 report

11.2.1. Introduction

The C1 report has been designed so that if, for a short period, you miss some data from MSATS you can use it to resynchronise. The report has a medium priority but its row limit is currently only 200.

11.2.2. Understanding C1 Report date and time parameters

Table 9 Table explaining the date fields of the C1 report

DATE	DESCRIPTION
Start Date	The start date and time for all records you are entitled to view. Each record must have been created or updated on or after this date/time.
End Date	The end date and time for all records you are entitled to view. The record must have been created or updated on or before this date/time.
Table	The name of the table you are replicating (see Section 13.2.3 for a list of available

This means that, for a record to be returned (assuming you have a right to see it):

1. Its MaintCreatedt must be between the Report Start Date + Time From and Report End Date + Time To
OR
2. Its MaintUpdtdT must be between the Report Start Date + Time From and Report End Date + Time To.

A record's MaintCreatedT is never changed. It is the date/time this record was written to the MSATS database.

When most records are written to MSATS (including the records on the five master tables), their MAINTUPDTDT is set to 31-Dec-9999 (the high date).

Once that record becomes obsolete (e.g. for a NMI Master Record, because another Change Request is completed), it is made inactive (its MaintActFlg is set to I). At that time, its MAINTUPDTDT is changed from 31-Dec-9999 to the date and time when it was updated.

This means that running a C1 report for a nominated period will return you:

- All the new records that have been created in that period; and
- All the old records that were made inactive in that same period.

Using the example of a change of FRMP, where the new FRMP takes over from 1-Jul-2002, once the master records are updated MSATS would now have three records on the CATS_NMI_PARTICIPANT_RELATIONS table for the role of FRMP:

Table 10 Example 1 of FRMP records changing over time

PARTICIPANT	START DATE	END DATE	MAINT ACTFLG	MAINT CREATEDT	MAINT UPDTDT
RETNORTH	01-Jul-2001	31-Dec-9999	I	09-Jan-2002	02-Jul-2002
RETNORTH	01-Jul-2001	30-Jun-2002	A	02-Jul-2002	31-Dec-9999
RETSOUTH	01-Jul-2002	31-Dec-9999	A	02-Jul-2002	31-Dec-9999

If RETNORTH, the losing *retailer*, were to run a C1 report for the CATS_NMI_PARTICIPANT_RELATIONS table for 02-Jul-2002, the report would contain the first two records from the table above.

The first one, because its MaintActFlg is I, indicates that the original record that had RETNORTH as the *retailer* is now an inactive record. The second one, which is an active record, indicates that RETNORTH is the *retailer* from 01-Jul-2001 until 30-Jun-2002. The third record would not be delivered to RETNORTH because it is not entitled to it (as it is not the FRMP).

In the second example below, which is a change as a result of an error correction, RETSOUTH replaces RETNORTH as the *retailer* from the start date of the *NMI*:

Table 11 Example 2 of FRMP records changing over time

PARTICIPANT	START DATE	END DATE	MAINT ACTFLG	MAINT CREATEDT	MAINT UPDTDT
RETNORTH	01-Jul-2001	31-Dec-9999	I	09-Jan-2002	02-Jul-2002
RETSOUTH	01-Jul-2001	31-Dec-9999	A	02-Jul-2002	31-Dec-9999

In this example, if RETNORTH were to run a C1 report using the parameters above, they would only receive the first record. Because there is no second record showing them as the *retailer* for part of the period that this record originally covered, they know that they have been replaced as the *retailer* for this *NMI* for the entire period.

The important point here is that you receive both new records that have been created and old ones that have been made inactive. You need to look at both in order to be able to synchronise your data.

It is essential that you understand the history model if you are going to be working with the records delivered by a C1 report. If you are not familiar with the CATS history model you should read the CATS History Model

11.2.3. Tables available in a C1 report

Table 1 lists those tables which are available in a C1 report to which additional report security is applied to ensure you are entitled to the record (i.e. different Participants will obtain different records).

Table 2 lists the tables available in a C1 report for which no additional report security is applied (i.e. all Participants running this report with the same parameters would receive the same records). These are tables containing lists of codes and rules.

C1 Tables for which additional security applies:

Table 12 Tables available in C1 report to which additional security is applied

TABLE NAME	SECURITY APPLIED
CATS_INBOUND_CHANGE_REQUEST	<p>You are entitled to records from this table if you meet one or more of the following conditions:</p> <ul style="list-style-type: none"> You initiated the Change Request; You are a nominated Role on the Change Request; You had a relationship with the <i>NMI</i> for the trading dates nominated on the Change Request, as at the date this Change Request record was created <p>Note that multiple records are created on this table for each Change Request. Each Change Request has an initial status of PVAL and a ReadyForValidation flag of either F (if it is submitted by batch and O if it submitted online). When the transaction is ready for validation, a new record is created with the same status (PVAL) but with the ReadyForValidation flag set to T. Every time there is a subsequent change of status, another new record is created. (In a typical Change Request's lifecycle, this means there will be two PVAL records and then a record for each of the REQ, PEND and COM statuses.)</p>
CATS_INBOUND_METER_REGISTER & CATS_INBOUND_REGISTER_IDENTIFIER	<p>You are entitled to records from this table if you meet one or more of the following conditions:</p> <ul style="list-style-type: none"> You initiated the Change Request this record is related to; You are a nominated Role on the Change Request this record is related to; You had a relationship with the <i>NMI</i> for the dates nominated on the Change Request that were active between the create date (MaintCreatedt) of the first record for this Change Request and the create date (MaintCreatedt) of the most recent record on the CATS_INBOUND_CHANGE_REQUEST table for this Change Request³. <p>AND</p> <ul style="list-style-type: none"> The standing data access rules permit you (based on the roles you have that are active during the lifecycle of the Change Request) to view it. <p>Depending on the Roles you are acting in, you may only have access to some of the data from a record.</p> <p>Note that on this table, the MAINTCREATEDT of the record is the date that the first record for this Change Request was created (the one where the Change Request begins in PVAL status).</p>
CATS_INBOUND_NMI_DATA	Same as CATS_INBOUND_METER_REGISTER
CATS_INBOUND_STREAMS	Same as CATS_INBOUND_METER_REGISTER

³ If, for example, your relationship started midway through the lifecycle of the Change Request, you are entitled to this record.

TABLE NAME	SECURITY APPLIED
CATS_INBOUND_ROLES	The basic security is the same as CATS_INBOUND_METER_REGISTER. However, when the CATS Standing Data Access Rules are applied to this table, if you don't have access to data about a Role, the whole record is excluded, not just individual fields.
CATS_INBOUND_OBJECTIONS	You are entitled to a record on this table if you are the initiator of an Objection. (Other parties associated with a Change Request seeking information about Objections via C1 can obtain it from CATS_OUTBOUND_NOTIFICATIONS.)
CATS_METER_REGISTER, CATS_NMI_DATA, CATS_NMI_DATA_STREAM & CATS_REGISTER_IDENTIFIER	You are entitled to a record from this table if you have a relationship with this <i>NMI</i> that overlaps the Start Date and End Date on the record that was active at the time the record was active. You are only entitled to see data from these records relevant to the Role you were acting in at the time the record was active.
CATS_NMI_PARTICIPANT_RELATIONS	The basic security is the same as CATS_METER_REGISTER. However, when the CATS Standing Data Access Rules are applied to this table, if you don't have access to data about a Role, the whole record is excluded, not just individual fields.
CATS_OUTBOUND_CHANGE_REQUESTS	You are entitled to a record from this table if you are the initiator of the Change Request that this record relates to. See section 9 for more information on how to use this table.
CATS_OUTBOUND_ERRORS	You are entitled to a record from this table if you were the initiator of the Change Request or Objection that this record relates to. See section for more information on how to use this table.
CATS_OUTBOUND_NOTIFICATIONS	You are entitled to a record from this table if you are the recipient of the notification.
CATS_OUTBOUND_OBJECTIONS	You are entitled to a record from this table if you are the initiator of the Objection that this record relates to.
CATS_OUTBOUND_REQUESTS	You are entitled to a record from this table where you are the recipient of a Data Request.

Table 13 Tables available in C1 report to which no additional security is applied

TABLE NAME	TABLE NAME
CATS_CHANGE_REASON_CODES	CATS_NMI_STATUS_CODES
CATS_CR_INITIATION_RULES	CATS_NOTIFICATION_RULES
CATS_CR_STATUS_CODES	CATS_OBJECTION_CODES
CATS_DATA_SOURCE_CODES	CATS_OBJECTION_RULES
CATS_DEREG_CODES	CATS_PARTICIPANT_ROLES
CATS_DISCOVERY_ACCESS_RULES	CATS_PARTICIPANTS
CATS_DISCOVERY_SEARCH_RULES	CATS_READ_TYPE_CODES
CATS_DLF_CODES	CATS_RETROSPECTIVITY_CODES
CATS_EMB_NET_ID_CODES	CATS_ROLES
CATS_ERROR_CODES	CATS_TNI_CODES
CATS_JURISDICTION_CODES	CATS_TRANS_FIELD_VALIDATION
CATS_JURISDICTIONAL_RULES	CATS_TRANS_TYPE_CODES
CATS_METER_INSTALL_TYPE_CODES	MSATS_NATIONAL_CALENDAR
CATS_NMI_CLASS_CODES	CATS_NETWORKTARIFF_CODES
CATS_NMI_RANGES	

12. EDITING CHANGE REQUESTS (INCLUDING PROPOSED CHANGE DATES)

12.1. Overview of functionality

MSATS allows you to edit an existing Change Request. You can do this through the MSATS browser by selecting a Change Request and then clicking on the Edit button or you can submit a batch transaction

and supply a RelatedRequestId in the transaction. In the latter case, provided that it is not a Change Request to provide an Actual Change Date (i.e. CR1500) MSATS will assume that you want to edit the Request ID you specified.

When MSATS detects a valid new transaction to edit to an existing Change Request, it does the following:

1. Creates a new Change Request (i.e. with a new Request ID) that:

- Contains the data that the original transaction, plus
- The data in the new transaction

If a field is supplied on the new transaction that was also in the original one, MSATS replaces the old value with the new one.

If a field supplied in the new transaction was not in the original transaction, this additional data is included in the new Change Request.

2. Cancels the original transaction.
3. Cancels the transaction you submitted (either by batch or by clicking on the Edit button on the browser).

The new transaction then goes through the entire Change Request cycle again, i.e. its status is set to REQ and the Objection Logging Period begins again.

12.2. Editing the proposed date

When most Change Requests are submitted a Proposed Change Date must be supplied⁴. After checking that it is a valid date, MSATS either:

- Copies the value in the ProposedDate field to the ActualChangeDate field; or
- If the Field Validation Rules state that another Participant must supply the Actual Change Date, it sends out a Data Request.

This is all part of the processing that is done as part of a Change Request's initial validation.

If, when you edit a Change Request you change the Proposed Date, MSATS will simply place the new value you've supplied in the Proposed Date field.

If this was a Change Request that did not send out a Data Request (e.g. CR1020) the original Proposed Change Date will have been copied into the ActualChangeDate field. Changing the Proposed Change Date does not affect this original Actual Change Date and there is no way to edit the ActualChangeDate because it is not an allowable field. This means that even though you, as the initiator, have changed the Proposed Change Date, the Actual Change Date will remain the same.

If this was a Change Request that sends out a Data Request, the Actual Change Date will still be determined by the date supplied by the MDP, in which case your change to the Proposed Change Date will not have any effect.

If you need to change the Proposed Change Date on a Change Request that is still in progress and that Change Request does not send out a Data Request to the MDP, you will need to withdraw the original Change Request and submit a new one. This will not cause any delay because the effect of editing a Change Request is to restart the Objection Logging Period anyway but it will mean that you are sure that what is in the ActualChangeDate field is what you want.

13. EDITING AN ONLINE CHANGE REQUEST WHICH IS REJECTED DUE TO MISSING OR INCORRECT DATA IN THE CHANGE REQUEST

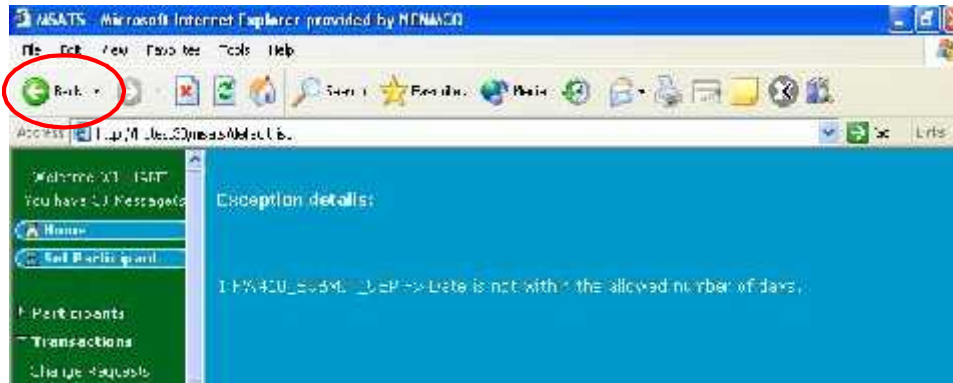
Occasionally, when a Participant enters a Change Request via the MSATS browser, it will reject due to the Proposed Change Date not being within the Prospective Period or Retrospective Period (as applicable). It can also reject when some data provided in the Change Request is not correct or data is missing. A sample screenshot of the error message returned when the Proposed Change date is not within the allowed number of days is shown below:



⁴ The only exceptions are CR1500 where only the ActualChangeDate is supplied

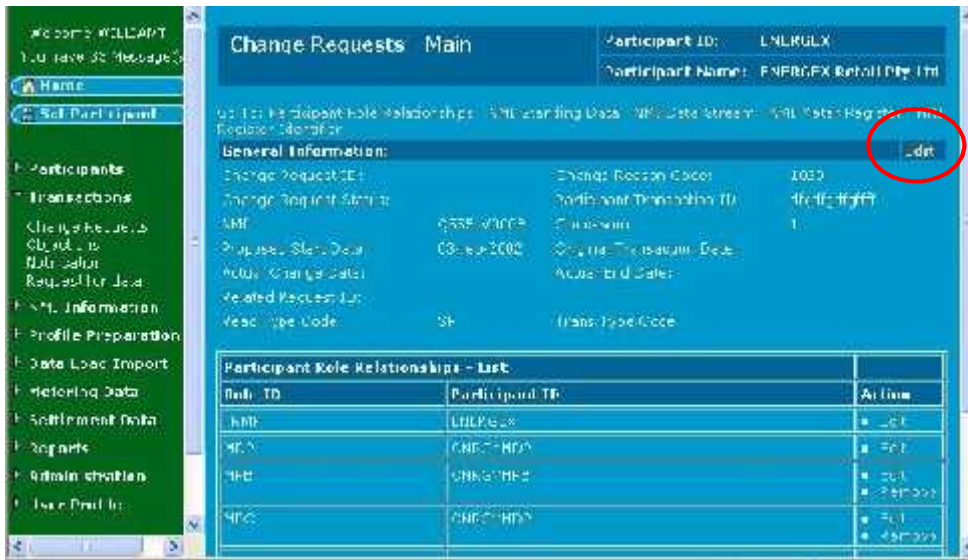
Following this error, the ideal process is to correct the error in the Change Request screens and re-submit the Change Request without having to re-enter all the input data again. This is achieved by performing the following steps.

1. Click the browser **[Back]** button (as shown below) **once** only:

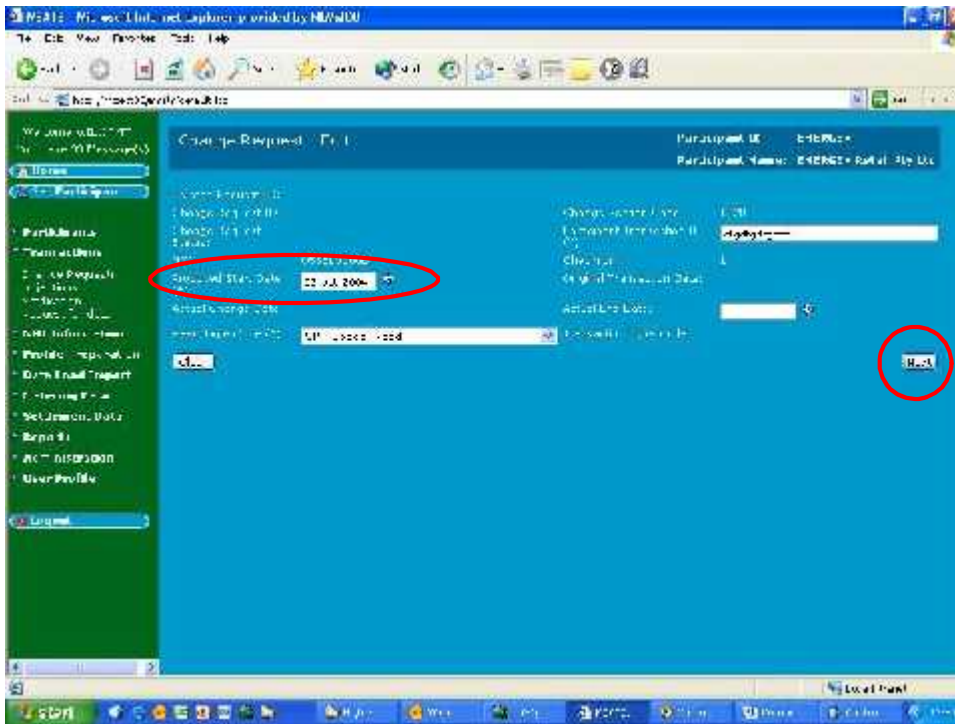


2. You will then be diverted to a screen similar to the one shown below. You should then click on the **[Edit]** button inside the Change Request window as shown below:

DO NOT USE THE [BACK] BUTTON IN THE BROWSER AT THIS POINT OR ALL PREVIOUSLY ENTERED DATA WILL BE LOST



Once you have clicked the **[Edit]** button, it will take you back to the first screen of the Change Request where you can change/edit the data (e.g. in this case, the ProposedStartDate).



1. Once you have performed this, click the **[Next]** button.
2. After having clicked the **[Next]** button, the information for the rest of the Change Request will be shown. You can proceed to alter any other data in the screens up to the final stage.
3. Click the **[Submit]** button. If no further errors in the Change Request exist, the transaction will be accepted by MSATS.

14. NMI DISCOVERY

NMI Discovery allows Participants who are prospective *retailers* or an NSP for an End User to:

Discover the End User's *NMI* and NMI Checksum if it is not known (i.e. when the End User cannot provide it).

Discover sufficient standing data about the *NMI* to enable them to provide the End User with a quotation.

In the case of an NSP or ENM, confirm that the details being returned by NMI Discovery are correct as identified by the relevant request. NSPs are restricted to performing NMI Discovery to those *NMIs* for which they have the LNSP Role, and ENMs are restricted to those Child *NMIs* where they have an LNSP Role.

Most of this section is written from the perspective of the MSATS browser's NMI Discovery function because all Participants have access to this. However, some Participants may use an in-house system to perform NMI Discovery, in which case your transaction will be submitted to AEMO by batch. You may find that the hints and tips here need to be modified to suit your own system.



Note that this section is not a step-by-step guide on how to use the NMI Discovery function.

This section assumes that you are already familiar with how the NMI Discovery screen works.

If you need some assistance on how to use the NMI Discovery screens, you should read the User Reference Guide to MSATS.

14.1. How NMI Discovery works

NMI Discovery Search 1 is the process of finding a *NMI* and the NMI Checksum by searching MSATS using any, or any combination of, the End User's address, the address's DPID and a Meter Serial ID.

The search criteria available are decided by each Jurisdiction and, at present, the rules are identical in each Jurisdiction:

- Address
- DPID

- Meter Serial ID

MSATS supports two types of address formats: Structured (based on an *Australian Standard*) and Unstructured. The majority of the address data stored in MSATS are Structured Addresses. When you search by address, you search based on this format. MSATS searches for a matching Structured Address and, if it cannot find one, it uses the values you supplied to search the Unstructured Address fields.

If more than one *NMI* matches your search criteria, the maximum number of records that will be returned in the event of a multiple match is configurable by Jurisdiction. At present, all Jurisdictions permit the return of up to 99 matching records.

For NMI Discovery Search 1, this data is returned for each matching *NMI*:

- *NMI*
- NMI Checksum
- Parent Name (if there is one)
- Child Name (if there is one)

In addition, if the Jurisdiction has allowed it, the full address is also returned. At present, all Jurisdictions allow return of the full address.

NMI Discovery Search 2 is the process of entering a *NMI* and NMI Checksum in order to obtain standing data about the *NMI*. Typically, the data returned is information that will assist a new *retailer* in preparing a quotation.

The data that is returned in a NMI Discovery Search 2 is also configurable by each Jurisdiction. At present, all Jurisdictions permit the same data to be returned. Table 15 lists the data that is currently available.

Further information on data to be returned by NMI Discovery can be found in the CATS Procedures.

NMI Discovery Search 3 is used in situations where there has been a transfer in error and the current FRMP wants to revert the site to the previous FRMP. The current FRMP enters the *NMI* and a reason code to obtain the details of the previous FRMP relating to the *NMI*

14.2. Questions and Answers

14.2.1. Search 1: Trying to find a NMI

How should I start trying to find a NMI using the End User's address?

Generally, you should enter as much as information as you can, trying to fit the data supplied into the Structured Address fields as best you can. But, remember these useful hints.



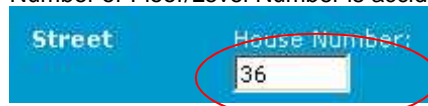
The End User's **suburb, town or region** goes in the Locality field. There are many examples of searches where this information has been put in other fields.




If you're very confident that the address is correct, you can save some time by not choosing the street type. It's a long list to select from and, usually, excluding it will still give you the same result. If the data returned isn't what you expected, you can always enter it then.



Ensure you put the house number in the House Number field. Many searches have failed because one or other Number fields such as Flat/Unit Number or Floor/Level Number is accidentally used.





If you're not sure how to spell a locality or think that the address may be unstructured (see 'The address I'm searching for may be unstructured. How can I find it when I have to fill in the structured address fields?'), leave out the Locality and just search using the Postcode. The search algorithm will use adjacent postcodes if it cannot find a match for the postcode specified.



If the *NMI's* DPID is stored in MSATS, the quickest search method is DPID. If you know the DPID, you just enter that. There's no need to provide additional information.

Once the record is returned, be sure to check that it is the correct address.

Only a very small percentage of *NMIs* in MSATS have the DPID field populated, thus making a search using this parameter unreliable.

My search only found one NMI. How do I know if it is an exact match?

If only one record is returned, you cannot assume that this is the only record in MSATS that matches your search criteria. If the data returned contains nothing that appears to contradict what the End User provided, you can be reasonably certain that you have found the correct *NMI*. However, MSATS may have used the 'wider address search' functionality as it was unable to find an 'exact address match' on the data you provided and some of the data returned may not be an exact match to your initial search.

If you submitted the NMI Discovery by batch, check the Error Code in the Event tag.

Table 14 Typical Error Codes and Explanation

ERROR CODE	MEANING
1410	There are more <i>NMIs</i> that match your search but you have exceeded the Jurisdictional limit (99).
0	You have a record returned, however, this may not be an exact match to your request as defined in your initial search parameters, as MSATS may have used the 'wider address search' functionality if it was unable to find an 'exact address match' on the data you provided.
1404	No records in matched your search criteria using either an 'exact address search' or a 'wider address search'.

I've confirmed I didn't get an exact match. What should I do now?

If more than one record is returned, you can simply check through the list of data returned to see if one matches.

If you received a message that there is more data available but you have reached the Jurisdictional limit (99), you have to find a way to refine the search, in order to be confident that you have found the correct *NMI*.



Look carefully at the data that was returned to see if it contains any clues. In the example below, a search for 6060 High St has returned one record with a message that there are more matching records. But notice that there is a Flat Number and a Flat Type. The fact that the *NMI* returned has a flat number and flat type suggests that you need to check if the address you are looking for is also for a flat.

Address			
Flat Number:	2	Flat Type:	F
Floor Number:		Floor Type:	
Building Name:			
Location Descriptor:			
House Number:	6060	House Number Suffix:	
Lot Number:			
Street Name:	HIGH	Street Type:	ST
Street Suffix:			
DPID Number:			



If you entered a house number and street address and one record has been returned with a message that there is more than one record matching your address, perhaps your address is a suffix, e.g. 60A.

There is a possibility that you will not be able to identify your *NMI* uniquely. If you've exhausted all options and you are certain that the address is correct, read the section called 'I give up. Is it possible the *NMI* I'm looking for is in MSATS but it's impossible to find it using *NMI* Discovery?'

What if I don't get any matches at all?

If you see the message '0 records found' or, via batch, you get the Error Code 1404, which means 'NMI Discovery. No Data Found', it means that your search criteria did not return any matches.

The most likely reasons why you did not get any matches are:

- ➔ You have been given incorrect information (e.g. a street name spelt incorrectly) or you have not spelt the name you were given correctly; or
- ➔ The address is and Unstructured Address



Use an Australia Post list to check the spelling of the Locality and the Postcode (e.g. Telstra's White Pages or Australia Post's website).

If the End User provided their phone number, try confirming if they provided the correct spelling of the street name by searching for their telephone number using the address supplied.

If this still doesn't work, try removing some of the criteria. For example, remove the:

- ➔ Street Type; or
- ➔ Flat/Unit Type or Floor/Level Type in case you have the number right but not the type.

If that fails, remove either:

- ➔ Postcode or Locality : Suggest first try without Locality as the search algorithm will also use adjacent postcodes if no match is found

The minimum data you must supply is the State and either the Locality or Postcode.

Eventually, you should get at least one match. If it is not exact, the data that's returned may give you some hints as to what you need to consider (e.g. the record returned may have a flat or unit number). If that happens, you'll then need to start adding back the search criteria you removed. Once you strike a problem (i.e. no records returned), you can predict that there is something wrong with the data element you just entered.

If you still can't get a match (e.g. with just the street name, postcode and jurisdiction or the street name, locality and Jurisdiction), either the information you have been given is seriously wrong or it may be that you're working with an unusual Unstructured Address. See 'The address I'm searching for may be unstructured. How can I find it when I have to fill in the structured address fields?' for hints on how to deal with Unstructured Addresses.

I give up. Is it possible the *NMI* I'm looking for is in MSATS but it's impossible to find it using *NMI* Discovery?



Yes... There are a number of reasons why this might happen, as the examples below illustrate.

Some data for *NMIs* in office towers has been created with a value in the Floor Type but the floor number stored in the Location Descriptor field. For example, if an address is 96 Elizabeth St, the Floor Type is FL, and the only other data is FL 2 RM 224 stored in Location Descriptor, you would need to know the way the data is stored in order to be able to retrieve this *NMI*. A search just for 96 Elizabeth St will not give any useful information.

There are some addresses that have a street name but no street number. There may be supplementary information that would identify the *NMI* in the Location Descriptor field but it will be impossible to find the

NMI to verify this unless it is the first one returned when a search is made just with the street name and no address.

Some data has been incorrectly entered as part of the original data load with a '/' symbol in the Flat Number field, e.g. '6/1'. These NMIs cannot be found using a NMI Discovery Search because you cannot enter the value '6/1' in the Flat Number field and if you try to use the correct structure by putting the values in Flat Number and Floor Number, it will search for data in those fields.

In some instances, it may also be impossible to find a NMI that has an Unstructured Address because the Structured Address fields that you have to fill in will not allow you to enter a text string that exactly matches what's been stored in the Unstructured Address fields.

The address I'm searching for may be an Unstructured Address. How can I find it when I have to fill in the Structured Address fields?

Although most addresses in MSATS are Structured Addresses, there are some that are Unstructured Addresses. Most of these are for NMIs in country locations.

Even though you can only fill in the Structured Address fields for a NMI Discovery, a search will look in both the Structured Address and Unstructured Address fields.

Initially, MSATS searches the Structured Address fields. If it does not find a match, it searches the Unstructured Address fields.

There are three Unstructured Address fields in the database and there may be data in any or all of them.

MSATS takes the values you've entered in any of these fields:

- ➔ Flat Number
- ➔ Floor Type
- ➔ Floor Number
- ➔ Building Name
- ➔ Location Descriptor
- ➔ House Number
- ➔ House Number Suffix
- ➔ Lot Number
- ➔ Street Name
- ➔ Street Type
- ➔ Street Suffix

and concatenates them. It then uses the concatenated value to search each of the three unstructured address fields, together with whatever you've entered in Locality, Postcode and State. (The values you've entered in these three latter fields only search the relevant MSATS fields, not the Unstructured Address.) For example, if you've entered these values:

FIELD	VALUE
House Number	105
Street Name	Sunny
Street Type	St
Locality	Orange
Postcode	2800
State	NSW

after completing a structured address search, MSATS would search for NMIs with the value '105 Sunny St' somewhere in one of the Unstructured Address fields (it does an Oracle-like '%105 SUNNY ST%' search), as well as Orange in Locality, 2800 in Postcode and NSW in State.

This works well if the Unstructured Addresses in MSATS also have values in Locality, Postcode and State.



In many cases where address data is unstructured, Locality has not been populated as a separate field. It is only part of the Unstructured Address and including it in the search will cause the search to fail.

If you think an address is unstructured, try removing Locality from your search and just enter the postcode, which is stored in the Postcode field.



If you think you're dealing with an Unstructured Address you may find it easier to start with a broad search and then gradually add more data.

What are the valid values for the codes I can enter for Street Type, etc

These Structured Address data items can only have certain values:

- ➔ Flat Type
- ➔ Floor or Level Type
- ➔ State Code
- ➔ Street Suffix
- ➔ Street Type

If you do a NMI Discovery Search through the browser, you don't have to worry about whether you have selected a valid code. You can only choose valid values from the drop-down list box.

If you do a NMI Discovery Search by batch, you need to ensure that you use the correct codes. If you don't, your transaction will be rejected by the XML schema.

You can check what values are valid for any field by reading the schema.

The location of the schema file that defines these values is:

http://www.aemo.com.au/media/Files/About%20the%20industry/Information%20Systems/aseXML/2015/Enumerations_7.0.xsd (note that MSATS currently uses schema version r10)

Note that the schema may have been updated since this document was released. Make sure that you are viewing the latest version.

Below is an example for AustralianFloorOrLevelType (Floor or Level Type):

```

=< xsd:simpleType name='AustralianFloorOrLevelType' >
=< xsd:annotation >
  < xsd:documentation >Purpose - Define floor or level types as per Australian
Standard AS4590</xsd:documentation >
  </xsd:annotation >
=< xsd:restriction base='xsd:string' >
  < xsd:enumeration value='B' />
  < xsd:enumeration value='FL' />
  < xsd:enumeration value='G' />
  < xsd:enumeration value='L' />
  < xsd:enumeration value='LG' />
  < xsd:enumeration value='M' />
  < xsd:enumeration value='UG' />

```

The valid values in this example are B, FL, G, L, LG, M or UG.

Does it matter whether I use upper or lower-case characters?

No it doesn't. All the data stored in the MSATS address fields is in upper-case characters. If you use lower-case characters in your search, MSATS converts them to upper-case.

Why do I have to select a State after you've already chosen the Jurisdiction?

The Jurisdiction you select is used to check the NMI Search rules and NMI Standing Data Access Rules. They determine which of the following search options you will then be able to choose from:

- ➔ Address
- ➔ DPID
- ➔ Meter Serial ID

Depending on the Jurisdiction you select, different options appear on the NMI Discovery Search screen.

The State you select is part of the *NMI*'s address. The value you enter here is matched against the value held in the State field on the CATS_NMI_DATA table. It is a completely different piece of information.

It would save some time if the State defaulted to whatever value you'd already specified in the Jurisdiction field but, unfortunately, it doesn't so you need to supply it.

I get the error 'No access rule'. What does this mean?

This means that either you are trying to search for a *NMI* in a Jurisdiction that does not allow NMI Discovery or that the Participant ID you are logged on as is not entitled to perform NMI Discovery. At present, only FRMPs, LNSPs or ENMs are allowed to perform NMI Discovery.

Note that this error can appear in a NMI Discovery Search Type 1 or Type 2 search.

14.2.2. Search 2: Obtaining the NMI Standing Data

If an End User has provided you with a *NMI* or you have found the *NMI* and NMI Checksum by doing a NMI Discovery Search 1, you can then obtain the *NMI Standing Data*.

What data am I entitled to see?

At present, NMI Discovery is available for *NMIs* in all Jurisdictions.

Table 15 shows which data will be returned for the *NMI* you selected.

Table 15 Data available following NMI Discovery

ELEMENT	DATA ITEM		
NMI	NMI*	FLATNUMBER	LOTNUMBER
	NMICLASSCODE*	FLATTYPE	POSTCODE
	NMISTATUSCODE*	FLOORNUMBER	STATE
	TNICODE*	FLOORTYPE	STREETNAME
	DLFCODE*	HOUSENUM	STREETSUFFIX
	EMBNETPARENT	HOUSENUMSUFFIX	STREETTYPE
	EMBNETCHILD	JURISDICTIONCODE	UNSTRUCTUREDADDRESS1
	LNSP*	LOCALITY	UNSTRUCTUREDADDRESS2
	BUILDINGNAME	LOCATIONDESCRIPTOR	UNSTRUCTUREDADDRESS3
Meter Register	METERINSTALLCODE	NEXTSCHREADDATE	METERSERIAL
	ADDLSITEINFO		
MDM Datastream	SUFFIX	PROFILENAME	STREAM STATUS CODE
	DATASTREAM TYPE		
Register Identifier	METERSERIAL	REGISTERID	DIAL FORMAT
	NETWORKTARIFFCODE	TIME OF DAY	CONTROLLED LOAD
	NTADDLINFO	MULTIPLIER	ACT/CUMID

* Data items marked with an asterisk will always be displayed. Others only appear if there is data stored in MSATS.

There may be multiple items for the Meter Register and MDM Datastream fields because a *NMI* may have multiple *meters* and multiple Datastreams.

These rules can be configured in MSATS so Jurisdictions can decide to either increase or decrease the types of available data. The configuration rules where this is defined are the CATS_DISCOVERY_ACCESS_RULES. You can check the current version of these rules via the MSATS browser.

14.2.3. Search 3: Obtain the identity of the FRMP of a NMI

Only a *retailer* can perform NMI Discovery Search 3, and they can only perform it for the reasons specified in the CATS Procedure.

What data am I entitled to see?

The standing data items that would be returned are detailed in the CATS Procedure.

14.3. Common NMI Discovery Error Messages

Table 16 Common NMI Discovery Error Messages

CODE	ERROR DESCRIPTION	EXPLANATION
0	Success	If this is a NMI Discovery Search 1, this means that record(s) have been returned but may not be an 'exact' match to your search criteria. If it is a NMI Discovery Search2, it means that the <i>NMI</i> and NMI Checksum you entered were valid and the standing data you are entitled to has been returned.
1403	NMI Discovery. No Access Rule for Jurisdiction Code	NMI Discovery Search is not allowed for the Role you are acting in. It may be that NMI Discovery is allowed in the Jurisdiction but not for your Role. Alternatively, it may be that there is no NMI Discovery allowed in this Jurisdiction at all.
1404	NMI Discovery. No Data Found	There were no matches for the search criteria you entered.
1410	More data available. Current search exceeds Jurisdictional limit.	Your search found some matches and has returned the maximum number of records allowed by the Jurisdiction. There are more matches than this limit, therefore, not all matching data has been returned.
1411	NMI Discovery. Locality or Postcode required.	Either the Locality or Postcode is mandatory in a NMI Discovery Search 1.
1412	NMI Discovery. State required.	The State is mandatory for a NMI Discovery Search 1.
1451	NMI Standing Data: Checksum Wrong	The NMI Checksum entered for a NMI Discovery Search does not match the <i>NMI</i> . Either the <i>NMI</i> or NMI Checksum is incorrect.
1452	NMI Standing Data: No Access Rule	NMI Discovery Search is not allowed for the Role you are acting in. It may be that NMI Discovery Search is allowed in the Jurisdiction but not for your Role. Alternatively it may be that a NMI Discovery Search is not allowed in this Jurisdiction at all.
1454	NMI Standing Data: No NMI or Jurisdiction Code	The <i>NMI</i> entered could not be found or you have not included the <i>NMI</i> in the batch file.