

<p style="text-align: center;"><b>Change Proposal – F40/02 (Page 1 of 5)</b></p>	<p><b>CP No: 626</b>  <b>NCR390</b>  <i>(mandatory by BSCCo)</i></p>
<p><b>Title</b> <i>(mandatory by originator)</i>  Out of Sequence File Handling</p>	
<p><b>Description of Change</b> <i>(mandatory by originator)</i></p> <p>The Balancing and Settlement Code, Section P 2.3.5 and 3.3.5 relates to the ordering of Volume Notifications (ECVNs and MVRNs respectively), and requires only that it be established whether one Volume Notification is prior to another (section O of the BSC and the Communications Requirement Document define how this is determined).</p> <p>Therefore, in order to ensure that Volume Notifications were processed in the order required by the Notification Agent, ECVAA implemented File Sequence Numbering. This requires that file headers of Volume Notifications contain a File Sequence Number and on receipt of each Volume Notification from a Notification Agent, ECVAA checks the File Sequence Number to determine whether the Volume Notification is the next expected file (i.e. the File Sequence Number of the last received file incremented by 1) from that Notification Agent.</p> <p>If a file is received not in sequence the processing of that file and subsequent Volume Notifications is suspended pending receipt of the expected 'next in sequence' Volume Notification, until either 't' minutes have elapsed or 'n' further Volume Notifications have been received. Where the expected Volume Notification has not arrived in this period, all the Volume Notifications received after, and including the out of sequence Volume Notification, are rejected by ECVAA.</p> <p>However, there is no basis under the Balancing and Settlement Code for rejection of Volume Notifications as a result of non consecutive File Sequence Numbers (and Trading Parties may thus be able to raise Trading Disputes where such rejections occur).</p> <p>As these Volume Notification rejections are not supported by the Balancing and Settlement Code, it is proposed that amendments to the ECVAA functionality be undertaken to stop such rejections. These amendments will include a change to the way in which out of sequence files are handled, and a change to the values of 't' and 'n', where relevant.</p> <p>This Change Proposal replaces NETA Change Request NCR390.</p>	
<p><b>Proposed Solution(s)</b> <i>(mandatory by originator)</i></p> <p>ECVAA system functionality be amended to remove rejections as a result of out of sequence file handling.</p> <p>There are two different options for addressing the issue of out of sequence file handling, based around changes to the values of 't' and 'n', and / or ECVAA file handling processes. These options are defined below.</p> <p>For information, currently 't' – the maximum time waited for the arrival of the file with the correct sequence number before rejecting those that have arrived out of sequence, is set to 4 minutes  'n' – the maximum Volume of files accepted before they are rejected as being out of sequence, is set to 99.</p>	

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It should also be noted that there is an associated Change Proposal (CP for NCR389) which seeks to add the File Sequence Number of any rejected Volume Notification into the ECVN Feedback Report (ECVAA-I009) and the MVRN Feedback report (ECVAA-I010), and although that Change Proposal is required for reasons unrelated to this issue, the identification of the File Sequence Number in any rejection will aid with this process.

**Option 1**

For Option 1 'n' and 't' remain as currently defined, in order to provide a window for the 'missing' Volume Notification to be received in the short term, but to enable processing of Volume Notifications for that Notification Agent to continue without significant delay.

Where ECVAA receives a Volume Notification with an unexpected (non contiguous) File Sequence Number, ECVAA will continue to wait for the lesser of 't' minutes or receipt of 'n' Volume Notifications, before processing the out of sequence (and any subsequent) Volume Notification(s).

An unexpected File Sequence Number is one where the increment from the last received and processed File Sequence Number is not 1.

Where the 'expected (missing) file' does not arrive within the period of 't' or 'n', then ECVAA will continue to process the (now) 'out of sequence' Volume Notifications. ECVAA will recommence processing with the earliest received (unprocessed) Volume Notification (which should contain the next highest increment of the File Sequence Number), effectively restarting the File Sequence Number count.

For example, where ECVAA has received (in the order detailed) only 1, 2, 3, 101, 102, 103 etc., ECVAA will process 1, 2 and 3, but will wait for 't' or 'n' for a Volume Notification containing a File Sequence Number of '4'. Where such Volume Notification does not arrive within this period, ECVAA will recommence processing (and therefore the File Sequence Number count) with 101 and continue with 102, 103 etc. according to the order in which the files were received.

Where ECVAA has to recommence processing, i.e. the out of sequence file handling, then ECVAA generates warning messages to the Notification Agent to inform them of this. The warning message will contain, as a minimum:

The File Sequence Number of the file being processed and the File Sequence Number of the File last processed. This enables the Notification Agent to determine which files are missing.

So for the example given above, the File Sequence Number of the file being processed will be reported as '101', with the File Sequence Number of the file last processed reported as '3'.

Where the 'expected' file(s) arrives within the period of 't' or 'n', then ECVAA will process the Volume Notifications in File Sequence Number order.

If the 'expected' file(s) arrives at ECVAA after processing has recommenced (i.e. the period of 't' or 'n' has expired), it / they will be processed out of sequence and there will be explicit message(s) to inform the Notification Agent that this has occurred. This should take the format of the warning message and contain, as a minimum:

The File Sequence Number of the file being processed (out of sequence) and the File Sequence Number of the File last processed. This enables the Notification Agent to determine which files, if any, are affected by the 'out of sequence' processing.

**Option 2**

Remove 'n' and 't' as a factor in the processing of Volume Notifications and process all Volume Notifications as they are received, in the order they are received in. The Notification Agent will be able to determine the order in which files were processed by looking at the system acknowledgements and the 'warning' messages as detailed.

Where ECVAA receives a Volume Notification with an unexpected (non contiguous) File Sequence Number, ECVAA will continue to process the out of sequence (and any subsequent) Volume Notification(s). ECVAA will generate warning messages to the Notification Agent to inform them of this. The warning message will contain, as a minimum:

The File Sequence Number of the file being processed and the File Sequence Number of the File last processed. This enables the Notification Agent to determine which files are missing.

An unexpected File Sequence Number is one where the increment from the last received and processed File Sequence Number is not 1.

ECVAA will continue processing with the earliest received (unprocessed) Volume Notification (which should contain the next highest increment of the File Sequence Number), effectively restarting the File Sequence Number count.

For example, where ECVAA has received (in the order detailed) only 1, 2, 3, 101, 102, 103 etc., ECVAA will process 1, 2 and 3, and will then process (and therefore restart the File Sequence Number count) with 101 and continue with 102, 103 etc. according to the order in which the files were received.

So for the example given above, the File Sequence Number of the file being processed will be reported as '101', with the File Sequence Number of the file last processed reported as '3'.

If the 'expected' file(s) arrives at ECVAA after processing has recommenced (i.e. the period of 't' or 'n' has expired), it / they will be processed out of sequence and there will be explicit message(s) to inform the Notification Agent that this has occurred. This should take the format of the warning message and contain, as a minimum:

The File Sequence Number of the file being processed (out of sequence) and the File Sequence Number of the File last processed. This enables the Notification Agent to determine which files, if any, are affected by the 'out of sequence' processing.

As there is more than one option, an assessment of each of these proposals is required from Parties impacted by this change.

**Justification for Change (mandatory by originator)**

Rejection of Volume Notifications resulting from non contiguous File Sequence Numbers is not in accordance with the Balancing and Settlement Code, and as a result Trading Parties may be able to raise Trading Disputes where such rejections occur. Therefore there is a requirement to stop

Volume Notification rejections under the circumstances detailed.	
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<p>Also to be considered is the operational impact on Trading Parties / Notification Agents where Volume Notifications are rejected, and the impact on resource and cost on central services and Elexon from heavily manually intensive rectification of Trading Disputes rising from such rejections.</p> <p>In order to minimise impact on Notification Agents and on ECVAA, the functionality of processing received files in File Sequence Number order has been retained, but with the amendments detailed.</p> <p>It should be noted that an alternative option with regards to amendments to 't' and 'n' values was considered when looking at this issue, and this is summarised below:</p> <p>Increase 't' and 'n' to as high a value as possible. This requires a change to the logical format of the data items, and effectively means that processing of Volume Notifications for that Notification Agent would be suspended until the missing / expected file is received. Where ECVAA suspends processing in this way, then ECVAA would be required to generate warning messages to the Notification Agent to inform them of this.</p> <p>However, this alternative requires amendment to the Balancing and Settlement Code to enable Volume Notifications to be processed in File Sequence Number order, rather than as currently defined in the BSC, which is processing in order of receipt (aided by File Sequence Number). Amendment to the Balancing and Settlement Code would also be required to support the associated delay to the processing of such Volume Notifications, for example, the delay for the inclusion of such Volume Notifications into Indebtedness Calculations, Reporting, Settlement etc.</p> <p>Therefore, this option has been discounted as a viable alternative, both with regards to the required changes to the Balancing and Settlement Code, which cannot be taken forward under a Change Proposal, but also with a view to what would be a detrimental impact on the processing of files within ECVAA and the subsequent, also detrimental, impact on Trading Parties and Notification Agents.</p>	
<b>Other Configurable Items Potentially Affected by Proposed Solution(s) (optional by BSCCo)</b>	
ECVAA System functionality, ECVAA Specification Documentation, NETA Data File Catalogue, Reporting Catalogue and ECVAA Service Description.	
<b>Impact on Core Industry Documents (optional by originator)</b>	
None	
<b>Related Changes and/or Projects (mandatory by BSCCo)</b>	
CP for NCR389 (relating to 'Non Unique ECVN / MVRN Feedback Reports'), which provides the File Sequence Number of the rejected Volume Notification, as part of the rejection Feedback Report.	

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<p><b>Originator's Details:</b></p> <p><b>BCA Name</b>.....</p> <p><b>Organisation</b>.....</p> <p><b>Email Address</b>.....</p> <p><b>Date</b>.....</p> <p><b>[BSC Panel Representative]</b>.....</p> <p><b>Organisation</b>.....</p>	
<p>Attachments: N* (If Yes, No. of Pages attached:.....) (delete as appropriate)</p>	