XRN5007 - Correction in the reconciliation process when volume is zero

High Level System Solution
Impact Assessment

Change Overview

XRN5007 – Enhancement to reconciliation process where prevailing volume is zero

The change is raised to address the issue being experienced currently where a period has been reconciled to a zero position and then a valid read related to that period is received and re-reconciliation takes place. At this point a divide by zero error is encountered as the prevailing metered volume is zero, and the MN09 exception is generated. The scenarios that have been identified as causing this are:

- Re-reconciliation of a zero reconciled period triggered by a site visit or replacement reading
- A Breaking Rec (where a previously reconciled period is split as a result of an inserted read) on a non consuming period

There has been a large increase in the number of MN09 exceptions so the functional process needs to be reviewed and corrected to minimise the risk of MN09 exceptions occurring. An MN09 exception prevents any further billing on an impacted MPRN therefore this is impacting the customer invoices. There will also be adverse impacts to AQ and UiG as the volumes are not being accounted for. For clarity, the AQ impact is only on Class 3 MPRNs as Class 4 use energy for tolerance values.

Solution Options

1	**Review and amend formulas, supporting the reconciliation process, where the prevailing volume is used. Ensure the results of the calculations are in line with code intention where prevailing volume is zero**
2	**Change reconciliation methodology to calculate reconciliation values using the deemed position**

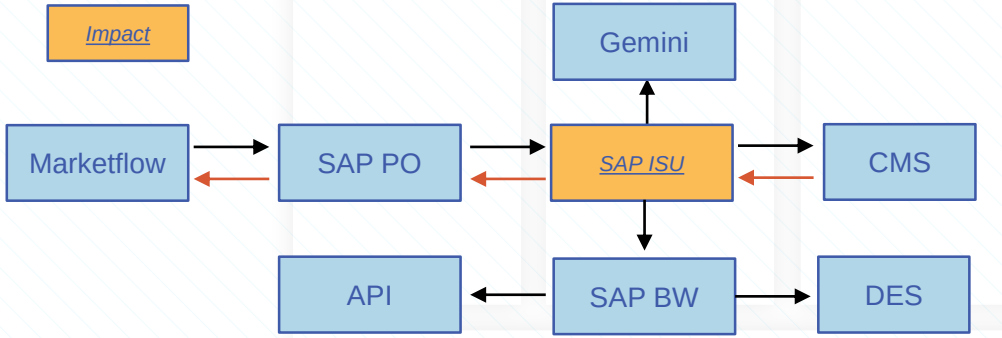
Option 1 - High Level Impact Assessment

1 - Review and amend formulas, supporting the reconciliation process, where the prevailing volume is used.

SAP ISU : To avoid the generation of any further MN09 due to Zero Prevailing Volume in Rec Factor Calculation, the changes are to be done in the formula of the below ISU programs where:

- Prevailing volume to be considered as default value only if found as zero
- Actual Variance volume will be equal to Rec factor value as part of defaulting the Prevailing volume in the Rec Factor calculation. Code changes:
  - i. Class 3 Reconciliation
  - ii. Class 4 Reconciliation
  - iii. Class 3 Check to Check Reconciliation
  - iv. Class 4 Check to Check Reconciliation
- New program (one time activity) to clear the outstanding MN09 backlog. This will reverse the rec, re-rec the site with new formula and close the exception.

Impacted Systems



Overall Impact	Release Type	High Level Cost Estimate
Large	Major	120K to 200K GBP

Assumptions

- New Formula to be agreed with and approved as part of detailed design.
- New formula will satisfy all the impacted scenarios for MN09 in case of Normal Rec and Check to Check Rec.
- Based on final formula regression impact on Rec processes, Billing and Charge Calculation, Supporting Information can be identified.
- Extensive testing will be required with different read types and site types given the complexity of the change
- Any outstanding MN09 exceptions that have billed from or post Check to Check period, will be cleared on a case by case basis.
- Efforts are based on very high level analysis, based on the discussion for requirement and solution, the stated efforts may change

Option 1 - System Impact Assessment

	Reports	Interface	Conversion	Enhancements	Workflow	Data Migration
System Component:	n/a	n/a	n/a	SAP ISU	n/a	n/a
Impacted Process Areas:	n/a	n/a	n/a	Metering - Reconciliation	n/a	n/a
Complexity Level (per RICEFW item):	n/a	n/a	n/a	High	n/a	n/a
Change Description:	n/a	n/a	n/a	• Class 3 Rec • Class 4 Rec • Class 3 C2C rec • Class 4 C2C rec • Auto resolution for outstanding MN09	n/a	n/a

	ISU	BW	PO	AMT	DES	API
Test Data Prep Complexity:	High	n/a	n/a	Low	n/a	n/a
Unit and System Test Complexity:	High	n/a	n/a	Low	n/a	n/a
Pen Test Impact:	n/a	n/a	n/a	n/a	n/a	n/a
Regression Testing Coverage:	High	n/a	n/a	Low	n/a	n/a
Performance Test Impact:	Yes	n/a	n/a	n/a	n/a	n/a
Market Trials:	n/a	n/a	n/a	n/a	n/a	n/a
UAT Complexity:	High	n/a	n/a	Low	n/a	n/a

Option 1 - Process Impact Assessment

Process Area	Complexity	File Formats	Exceptions	External Screens	Batch Jobs	Performance Test?	CSS Code Conflicts?
SPA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Metering (Reads)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Reconciliation	**High**	**No**	**No**	**No**	**Y**	**Y**	**No**
Invoicing – Capacity	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Commodity	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Amendment	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rolling AQ	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Formula Year AQ	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RGMA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DSC Service	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Central Switching Service (CSS)	n/a	n/a	n/a	n/a	n/a	n/a	**No**

Option 2 - High Level Impact Assessment

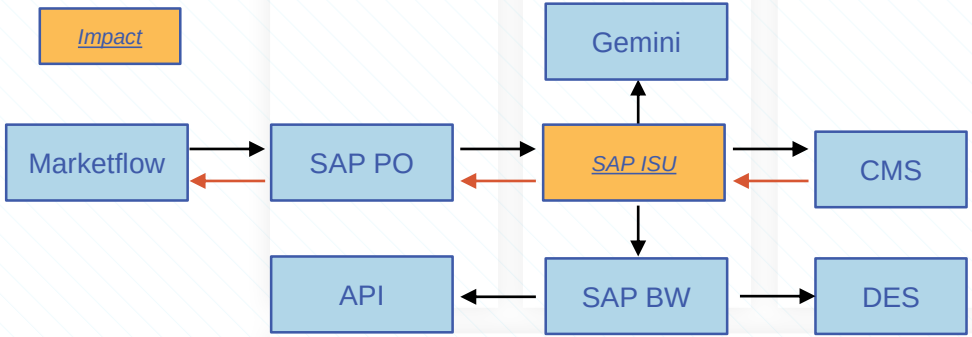
2 - Change reconciliation methodology to calculate reconciliation values using the deemed position

SAP ISU : This change would investigate the use the Deemed Volume instead of the Prevailing Volume for normal reconciliation. For Check to Check Reconciliation, the change would use the deemed volume to validate the period. Wherever deemed volume is taken to calculate the rec factor in case of re-reconciliation, Supporting Information should also display deemed energy and volume instead of actual / true prevailing volume and energy.
Code changes to :

i. Class 3 Reconciliation
ii. Class 4 Reconciliation
iii. Class 3 Check to Check Reconciliation
iv. Class 4 Check to Check Reconciliation

- New program (one time activity) to clear the outstanding MN09 backlog. This will reverse the rec, re-rec the site using the deemed position and close the exception.

Impacted Systems



Overall Impact	Release Type	High Level Cost Estimate
Medium	Major	70K to 150K GBP

Assumptions

- Rec Header & Rec Details table is to be aligned with the new volume & Energy values, which will be picked up automatically while supporting information generation.
- Extensive testing will be required with different read types and site types given the complexity of the change
- Any outstanding MN09 exceptions that have billed from or post Check to Check period, will be cleared on a case by case basis.
- Testing to ensure that the data provided to Shippers in the ASP/AML and any correction files will make sure the volume/energy associated with the individual REC variance will work back to the amount.
- If the deemed volume is also zero a valid MN09 should be raised
- Efforts are based on very high level analysis, based on the discussion for requirement and solution, the stated efforts may change

Option 2 - System Impact Assessment

	Reports	Interface	Conversion	Enhancements	Workflow	Data Migration
System Component:	n/a	n/a	n/a	SAP ISU	n/a	n/a
Impacted Process Areas:	n/a	n/a	n/a	Metering - Reconciliation	n/a	n/a
Complexity Level (per RICEFW item):	n/a	n/a	n/a	High	n/a	n/a
Change Description:	n/a	n/a	n/a	• Class 3 Rec • Class 4 Rec • Class 3 C2C rec • Class 4 C2C rec • Auto resolution for outstanding MN09	n/a	n/a

	ISU	BW	PO	AMT	DES	API
Test Data Prep Complexity:	Medium	n/a	n/a	Low	n/a	n/a
Unit and Sys Test Complexity:	Medium	n/a	n/a	Low	n/a	n/a
Pen Test Impact:	n/a	n/a	n/a	n/a	n/a	n/a
Regression Testing Coverage:	High	n/a	n/a	Low	n/a	n/a
Performance Test Impact:	Yes	n/a	n/a	n/a	n/a	n/a
Market Trials:	n/a	n/a	n/a	n/a	n/a	n/a
UAT Complexity:	High	n/a	n/a	Low	n/a	n/a

Option 2 - Process Impact Assessment

Process Area	Complexity	File Formats	Exceptions	External Screens	Batch Jobs	Performance Test?	CSS Code Conflicts?
SPA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Metering (Reads)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Reconciliation	**High**	**No**	**No**	**No**	**Y**	**Y**	**No**
Invoicing – Capacity	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Commodity	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Amendment	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Invoicing – Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rolling AQ	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Formula Year AQ	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RGMA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DSC Service	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Central Switching Service (CSS)	n/a	n/a	n/a	n/a	n/a	n/a	**No**