Pool Circular

To Pool Members and Parties

No. CEO00557

From Richard Cullen

Date 11 December 2000

Erroneous EAC/AA Data Cleansing Guidance
For the attention of NHHDCs and Suppliers

1. INTRODUCTION

1.1 The method of cleansing erroneous EAC/AAs is driven by Agreed Procedure 504 and the contingency measures that have been agreed by TS2 and DSC and communicated to participants in Pool Circular 483.

1.2 The approach to corrective action depends on a number of factors. These factors include whether the excessive EAC/AA was caused by an invalid CoS reading and whether any part of the excessive EAC/AA has been crystalised in settlements.

1.3 The rules that need to be followed in deciding what data cleansing approach to take are complicated. In addition, one of the data cleansing approaches termed, Gross Volume Correction (GVC), is particularly complex.

1.4 The purpose of this Pool Circular is to clarify the rules that should currently be followed when deciding what data cleansing approach to take and to provide guidance on GVC. It is aimed primarily at NHHDCs but is also of relevance to Suppliers. The status of this guidance outside the context of the large EAC/AA issue is currently being assessed by ELEXON.

1.5 An appropriate audit trail must be maintained irrespective of the data cleansing approach taken.

1.6 The term “last reconciliation” of a Settlement Date is used throughout this document to mean the Dispute Final Reconciliation when there is one or will be one for the Settlement Date and the Final Reconciliation otherwise.

2. DATA CLEANSING FACTORS

2.1 The factors that dictate the correct data cleansing approach are:

- whether the erroneous EAC/AAs are caused by an invalid reading or incorrect processing of a valid reading[1];
- if caused by incorrect processing of a valid reading:
  - whether the erroneous EAC/AAs have been used in the last reconciliation of a Settlement Date;
- if caused by an invalid reading:
  - whether the invalid reading is a CoS reading or not;
  - whether any EAC/AAs derived from the invalid reading have been used in the last reconciliation of a Settlement Date.

2.2 The approach that should be taken to data cleansing needs to take into consideration all of these factors.

[1] in this context, invalid and valid refer to the true status of the reading rather than its status in the NHHDC system.

3. DATA CLEANSING APPROACH

Valid Readings Incorrectly Processed

3.1 If the reading is valid but it has been incorrectly processed to give erroneous EAC/AAs (for example in an incorrectly identified meter rollover scenario) and these erroneous EAC/AAs have not been used in the last reconciliation of a Settlement Date, the reading should be (correctly) re-processed.

3.2 If the erroneous EAC/AAs have been used in the last reconciliation of a Settlement Date, the reading should be dealt with in accordance with the principle of Gross Volume Correction described in section 5.

Invalid Non CoS Readings

3.3 If the EAC/AAs derived from the invalid reading have not been used in the last reconciliation of any Settlement Date, the invalid reading should be withdrawn.

3.4 If the EAC/AAs derived from the invalid reading have been used in the last reconciliation of a Settlement Date, the invalid reading should be dealt with in accordance with the principle of Gross Volume Correction described in section 5.

Invalid CoS Readings

3.5 If an EAC/AA derived from the invalid reading has been used in the last reconciliation of a Settlement Date, the error should be dealt with in accordance with the principle of Gross Volume Correction described in section 5.

3.6 If no EAC/AAs derived from the invalid reading have been used in the last reconciliation of a Settlement Date, Suppliers have the opportunity of agreeing a revised reading. If a revised reading that is reasonable is agreed, this should be processed. If a reasonable revised reading is not agreed by the Suppliers in the required timescales, the contingency process for dealing with invalid CoS readings described in section 4 should be used.

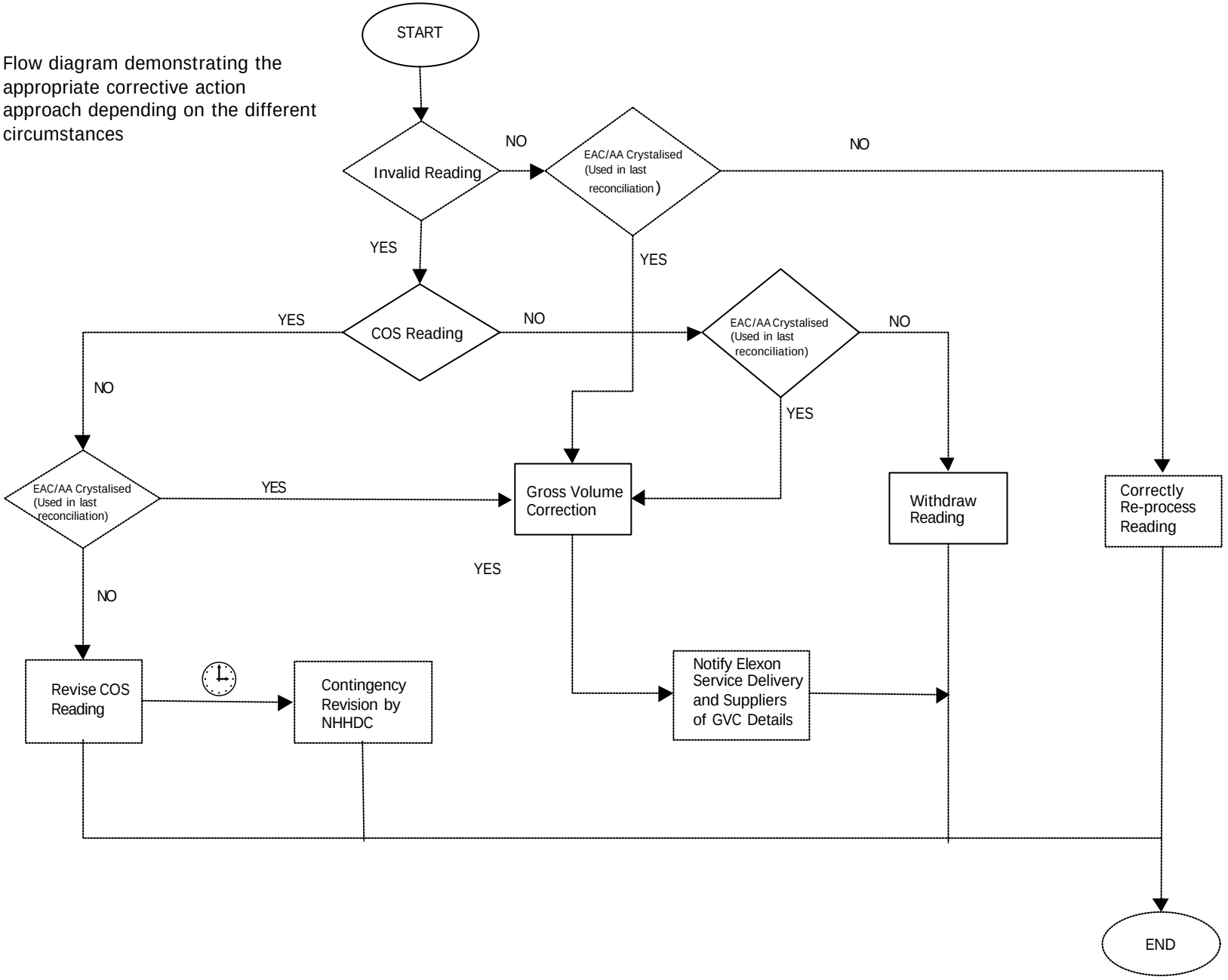
Subsequent Readings

3.7 Once the invalid reading is dealt with, subsequent readings should be re-processed.

Summary

3.8 The following diagram summarises the data cleansing approach that should be taken.

Flow diagram demonstrating the appropriate corrective action approach depending on the different circumstances



4. CONTINGENCY PROCESS FOR INVALID COS READINGS

4.1 Suppliers and their NHHDC agents should make every effort to ensure that an invalid EAC/AA caused by a change of Supplier reading is resolved before the EAC/AA is used in the last reconciliation of a Settlement Date. A contingency process has been put in place to deal with the situation where Suppliers fail to achieve this in the required timescales.

4.2 The process is as follows:

- 20 working days before any Settlement Date within the meter advance periods of the AAs either side of the CoS reading undergoes its Final Reconciliation aggregation run (for Settlement Dates that will not be subject to Dispute Final Runs) or its Disputes Final aggregation run (for Settlement Dates that will be subject to Disputes Final Runs), the NHHDC calculates a revised CoS reading and sends it to both Suppliers;
- if a response is received by 10 working days prior to the relevant aggregation run, indicating agreement to an alternative reading by both Suppliers, and the NHHDC considers this alternative read is reasonable, this reading should be used in settlement;
- otherwise the NHHDC should process the revised CoS reading that was sent for agreement.

4.3 Both Suppliers should be notified when this contingency process is used. In addition, an appropriate audit trail must be maintained whenever the process is used.

4.4 The customer billing implications of withdrawing erroneous readings (e.g. deciding whether to re-bill and consideration of other Suppliers' intentions with respect to re-billing) is entirely a matter for the Suppliers concerned.

5. GROSS VOLUME CORRECTION

Introduction

5.1 Gross Volume Correction (GVC) implements corrective action principles that were agreed by TS2 in paper TS2/23/0648. The objective is to ensure that Suppliers pay for the correct volume of energy.

5.2 Once a Settlement Date has been subject to its last reconciliation, changing its consumption will not have any effect in settlement. If an error in consumption exists on the Settlement Date, the best that can be achieved is to compensate for the error in Settlement Dates that have yet to be subject to their last reconciliation. GVC implements this principle.

5.3 The process is complicated, particularly when Dispute Final Reconciliations are being run and an end date for these disputes has been set. This cannot be avoided.

5.4 However, to put this complexity in context, GVC is very much the last resort in addressing the erroneous EACs/AAs. Controls and processes should now have been put in place to prevent new erroneous values being created and to withdraw those that still exist prior to their use in the last reconciliation of any Settlement Date. It is only erroneous EACs/AAs that are not trapped by these controls and processes that need to be addressed using GVC.

5.5 This section describes the objectives of GVC, the method and techniques used to implement it and a structured approach to dealing with scenarios that require it. Examples are provided but the set is by no means exhaustive.

5.6 The objective is to communicate GVC in sufficient detail for NHHDC staff, who understand the basis of EACs/AAs and deeming readings, to be competent at implementing it (where appropriate) whatever the scenario.

5.7 An appropriate audit trail must be maintained whenever GVC is used. In addition Elexon Service Delivery and Suppliers should be notified of the MPAN, SSC, TPR, Start Date, End Date and EAC/AA Value of both the erroneous AA/EAC(s) and the compensatory AA(s). This is so that Elexon Service Delivery can exclude them from the materiality calculations associated with monitoring of the issue and so that Suppliers are aware that seemingly incorrect values are part of wider corrective action.

Objectives

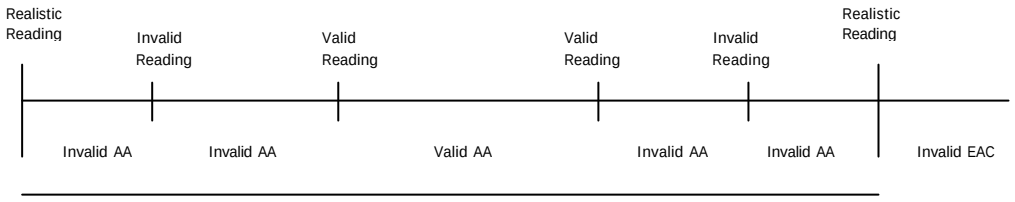
5.8 The objectives of GVC are to:

1. limit the invalid EAC/AA to Settlement Dates that have already been subject to their last reconciliation;
2. ensure that the gross energy volume is realistic;
3. ensure that values used in the last reconciliation of any Settlement Date remain unchanged;
4. ensure the last reading and forward looking EAC are realistic.

Method

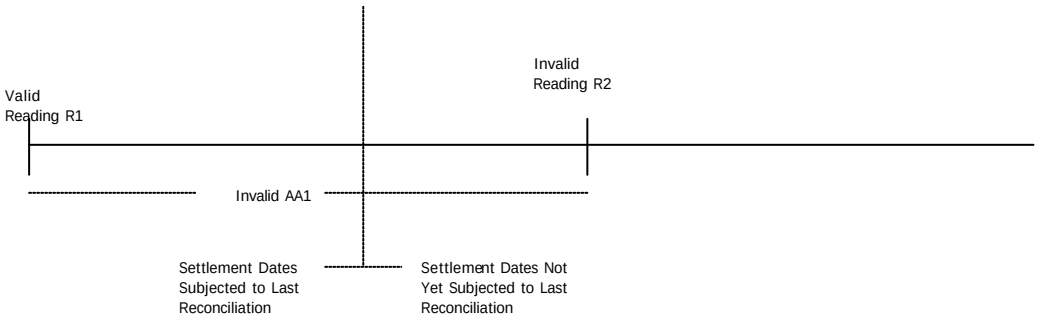
5.9 GVC utilises two fundamental techniques, which for the purpose of this explanation are termed "Realistic Reading Creation" and "Error Freezing". The basis of these techniques is explained below.

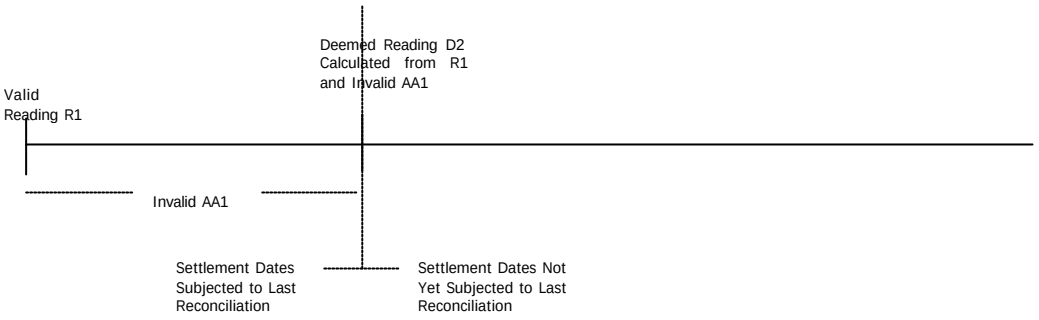
5.10 **Realistic Reading Creation**. The gross volume between two correctly processed realistic readings will always be realistic. The diagram below illustrates this. In addition, deeming a reading using a realistic reading and a realistic EAC/AA will result in a realistic reading. GVC achieves objectives 2 and 4 (ensuring that the gross energy volume over the entire period is realistic and that the last reading is realistic) by deeming realistic readings in this way. Ensuring the gross energy volume over the entire period is correct naturally creates a compensatory AA.



Realistic Gross Volume

5.11 **Error Freezing.** An AA calculated using a deemed reading will always have the same value as the EAC/AA used to calculate the deemed reading. This means that an AA with a long duration can be used to generate an AA that has the same value but a shorter duration. The diagrams below illustrate this. GVC achieves objectives 1 and 3 (limiting invalid EAC/AAs to Settlement Dates that have already been subject to their last reconciliation without changing the value used in the last reconciliation) by deeming readings using the invalid EAC/AA in this way.



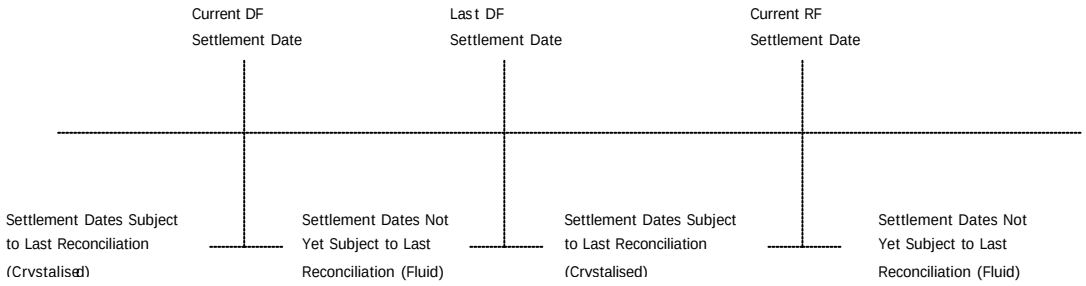


Scenario

5.12 GVC has to deal with situations where all or part of an invalid EAC/AA is crystalised by Disputes Final Reconciliation and/or Final Reconciliation. For the purposes of explaining GVC, Settlement Dates that have been subject to their last reconciliation are referred to as *crystalised* Settlement Dates and Settlement Dates that have yet to be subject to their last reconciliation are referred to as *fluid* Settlement Dates.

5.13 The generic scenario, once the end date for disputes has been set for GSP Group, is considered. This scenario is illustrated below. There are:

- a set of (crystalised) Settlement Dates that have been subject to a Disputes Final Reconciliation;
- a set of (fluid) Settlement Dates that have not yet been (but will be) subject to a Disputes Reconciliation Run;
- a set of (crystalised) Settlement Dates that have been subject to a Final Reconciliation run (but will not be subject to a Disputes Final Reconciliation Run); and finally
- a set of (fluid) Settlement Dates that have yet to be subject to Final Reconciliation.



5.14 Until an end date for disputes is set, it should be assumed (for the purposes of corrective action decisions) that Dispute Final Reconciliation Runs will continue indefinitely (i.e. only Dispute Final Reconciliations crystalise Settlement Dates. This is a simpler subset of the generic scenario.

5.15 In addition, the enduring situation when there are no Dispute Final Reconciliations (i.e. only Final Reconciliations crystalise Settlement Dates) is also a simpler subset of the generic scenario.

5.16 The same principles apply in both these cases.

5.17 The *Current DF* and *Current RF* timelines in the above diagram move forward each working day. This gives rise to operational considerations that are described in section 5.27.

When to Use Gross Volume Correction

5.18 GVC should be used when all or part of an invalid EAC/AA has been used in the last reconciliation of a Settlement Date. The exception to this is when there is already a compensatory AA and all the Settlement Dates in the invalid EAC/AA and/or this compensatory AA have been subject to their last reconciliation. This is because, in such situations, the error and/or the compensation cannot be changed. Consequently there is not any scope for reducing the error. An example of this is included in section 5.43.

Process

5.19 The pre-requisites are a realistic reading prior to the one that caused the invalid AA/EAC and known realistic annual consumption.

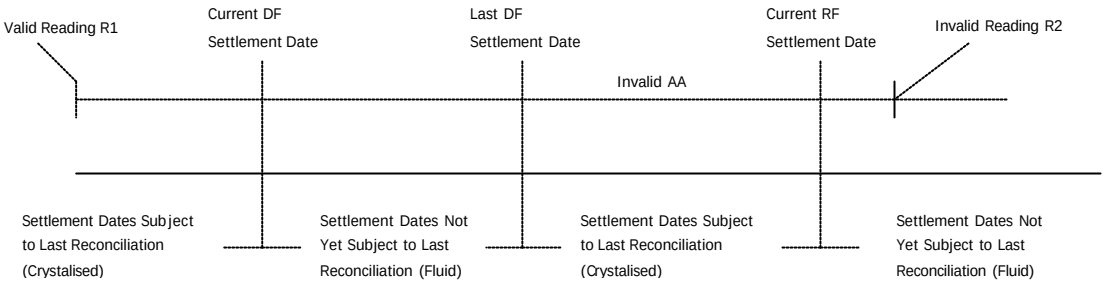
5.20 **Step 1** – decide the most appropriate Settlement Dates for the compensatory AA(s). Compensatory AA(s) must only cover fluid Settlement Dates. There is a maximum of three options. With reference to the diagram in section 5.13, these are as follows:

- all the compensation in the last set of fluid Settlement Dates;
- all the compensation in the first set of fluid Settlement Dates;
- compensation split across the last set and the first set of fluid Settlement Dates.

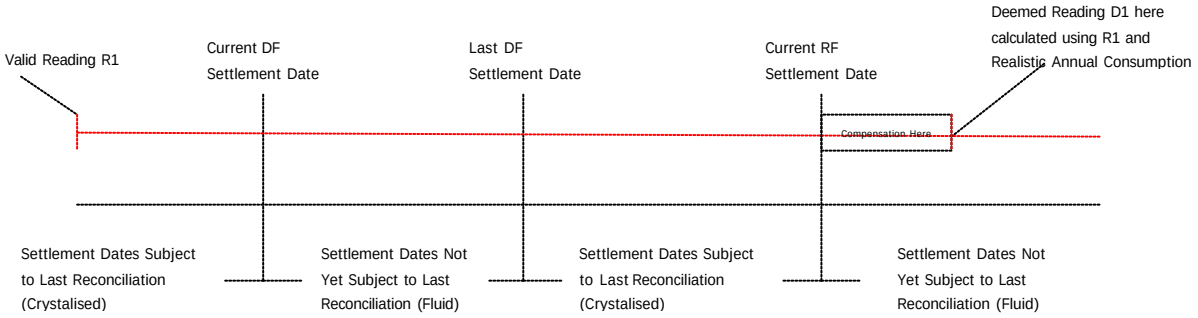
5.21 When making this decision the objective is to spread the compensation across a sensible number of Settlement Dates. This will depend on the size and duration of the error. As a guideline, compensation across less than 60 Settlement Dates should be avoided where possible. Data Collectors should adopt a consistent approach for all Suppliers such that the process is equitable.

5.22 **Step 2** – generate realistic readings that will result in compensatory AA(s) being in the chosen set of fluid Settlement Dates. When doing this it should be noted that all the error between a realistic reading and the realistic reading previous to it will be compensated for in the fluid Settlement Dates between the two realistic readings. If all the compensation is to be in the last set of fluid Settlement Dates, a realistic reading a sensible number of Settlement Dates after the last set of crystalised Settlement Dates is required. If all the compensation is to be in the first set of fluid Settlement Dates, a realistic reading immediately after the last set of crystalised Settlement Dates is required. If the compensation is to be split across last and first set of fluid Settlement Dates, a realistic reading that intersects last set of crystalised Settlement Dates and the invalid EAC/AA is required. Invalid readings should also be withdrawn at this point. Valid readings should be used (as the realistic readings) where possible so long as it doesn't force all of the compensation into a small number of Settlement Dates.

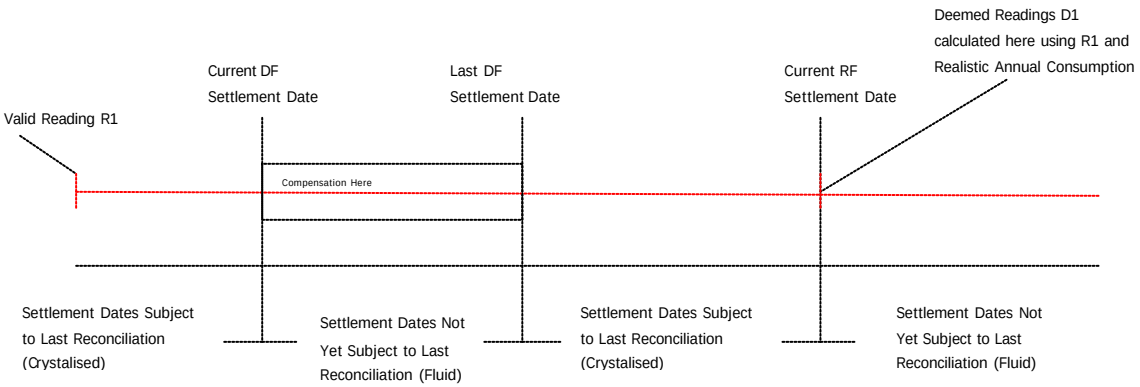
Example Situation before GVC



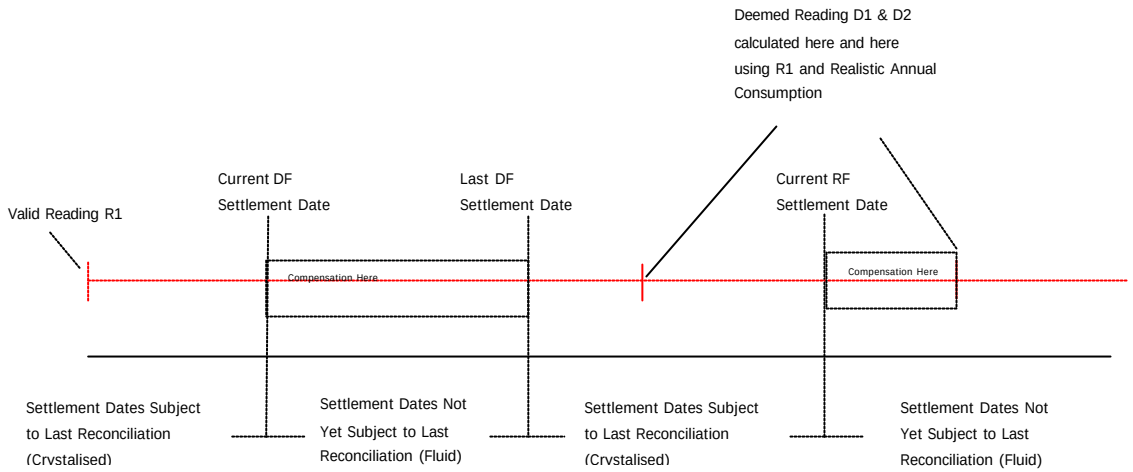
Example 1a - where all the compensation is in the last set of fluid Settlement Dates



Example 2a - where all the compensation is in the first set of fluid Settlement Dates

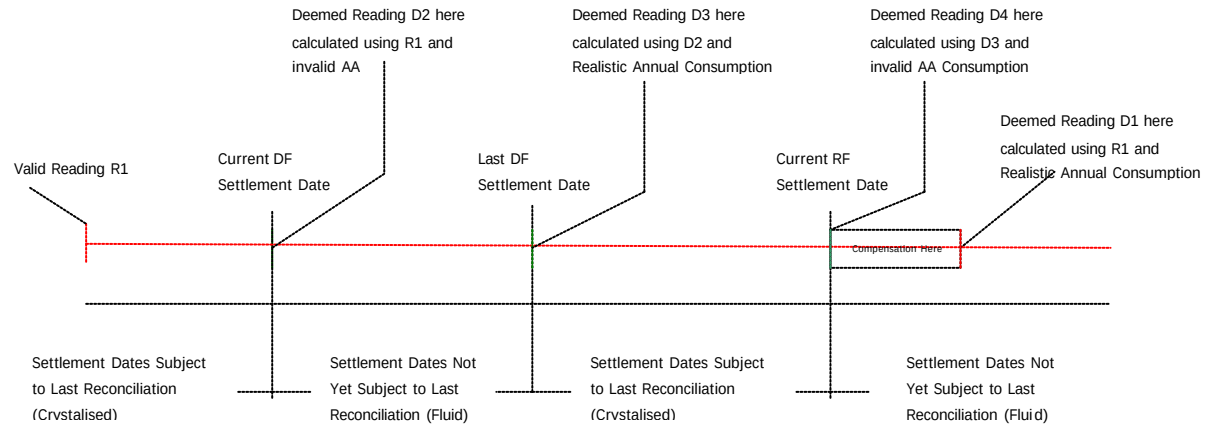


Example 3a - where compensation split is across the last and first set of Settlement Dates

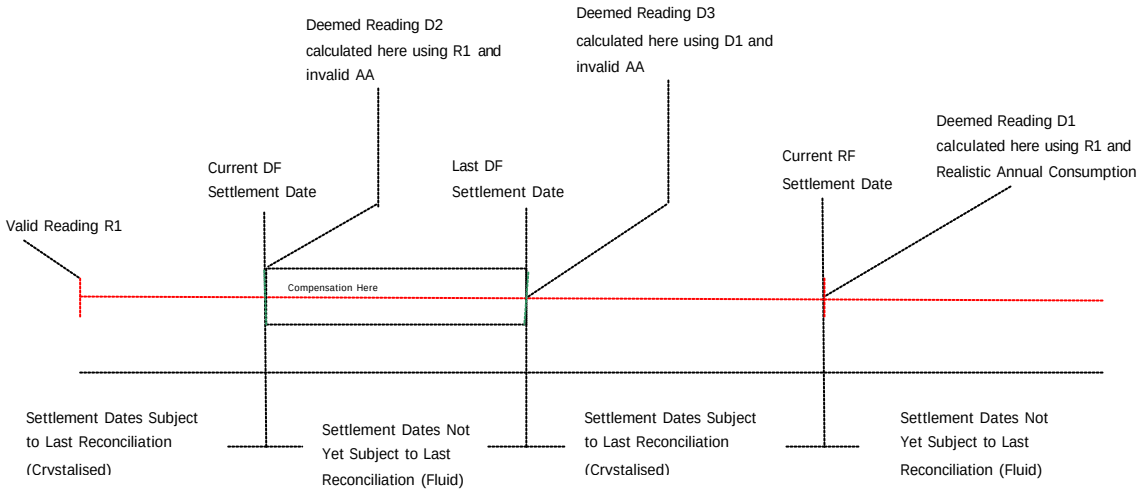


5.23 **Step 3** – generate deemed readings so that EAC/AA values for crystalised Settlement Dates remain unchanged. This will naturally create a compensatory AA(s) in fluid Settlement Dates. Such deemed readings are required where invalid EAC/AA values overlap with crystalised/fluid Settlement Date boundaries. When doing this it should be noted that an AA calculated using a deemed reading will always have the same value as the EAC/AA used to calculate the deemed reading. Consequently, deeming a reading that will be used to produce an invalid AA should be done using the invalid AA and deeming a reading that will be used to produce a realistic AA should be done using realistic consumption.

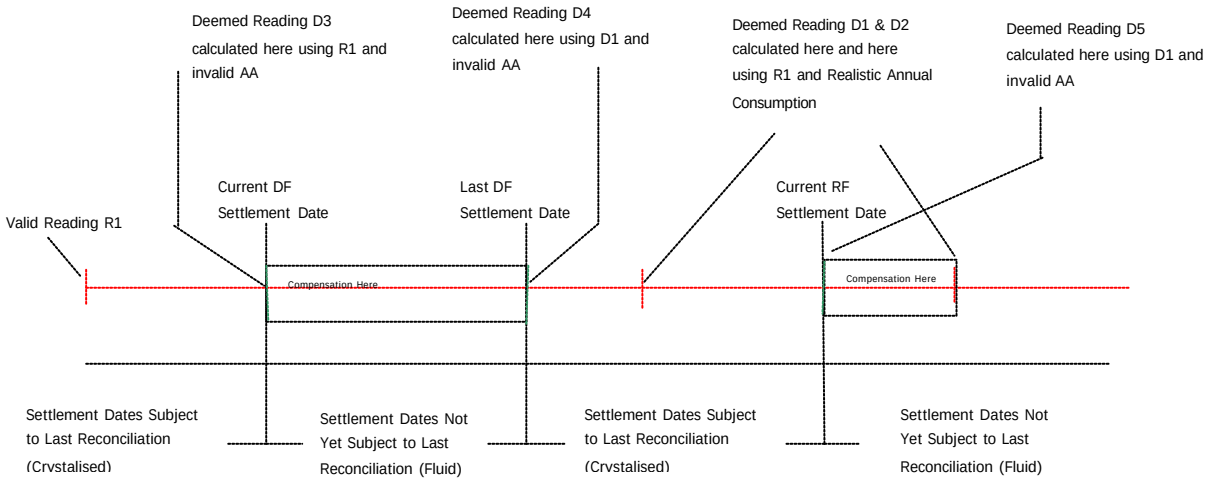
Example 1b - where all the compensation is in the last set of fluid Settlement Dates



Example 2b - where all the compensation is in the first set of fluid Settlement Dates



Example 3b - where compensation is split across the last and first set of Settlement Dates



5.24 **Step 4** – process the readings. Once the invalid EAC/AAs for an MPAN have been dealt with in accordance with the previous steps, the resultant readings should be processed to produce the required AAs.

5.25 **Step 5** – ensure the forward looking EAC is realistic. The forward looking EAC may not be realistic if the last reading or the reading before it is not realistic. When this is the case, set the forward looking EAC to realistic annual consumption.

GVC and the Treatment of Change of Supplier Readings

5.26 The only difference when the invalid reading is the CoS reading is that the reading must be replaced with a realistic reading in Step 2. This is so that any error prior to the change of Supplier is compensated for prior to the change of Supplier and, likewise, any error after the change of Supplier is compensated for after the change of Supplier. In this way, both Suppliers pay for the correct volume of energy.

Establishing the Current DF and Current RF Settlement Dates

5.27 Corrective action takes a finite time to be reflected in Settlements. It needs to be completed by the NHHDC, sent to the NHHDA, processed by the NHHDA, sent to the ISR Agent and processed by the ISR Agent. This needs to be taken into consideration when establishing what dates to use as the *Current DF* and *Current RF* Settlement Dates for use in corrective action.

5.28 In order to accommodate operational delays in between corrective action at NHHDC and Settlements taking place:

- the *Current DF* Settlement Date (for GVC purposes) should be derived from the Disputes calendar as the (earliest) Settlement Date subject to a DF NHHDA aggregation run in 5 working days time
- the *Current RF* Settlement Date (for GVC purposes) should be derived from the Settlement calendar as the (earliest) Settlement Date subject to a RF NHHDA aggregation run in 5 working days time.

Ensuring that EAC/AAs are not Created for Crystalised Settlement Dates

5.29 If the requirements in section 1.5.7.9 of Service Line SL120 are adhered to, EAC/AAs with meter advance periods that include crystalised Settlement Dates will not be created. In summary, these requirements are to deem a reading just inside the final reconciliation window using the EAC in the situation where a reading has been obtained and the previous reading is more than 14 month old.

5.30 If an erroneous AA that covers crystalised Settlement Dates is created, it would not have been used in the last reconciliation of these dates. If it were then to be dealt with using GVC, a compensatory AA would incorrectly be created in fluid Settlement Dates.

5.31 Consequently, it is important to ensure that the controls to prevent EAC/AAs being created for crystalised Settlement Dates are effective.

Worked Examples

5.32 In the examples the following conventions are used:

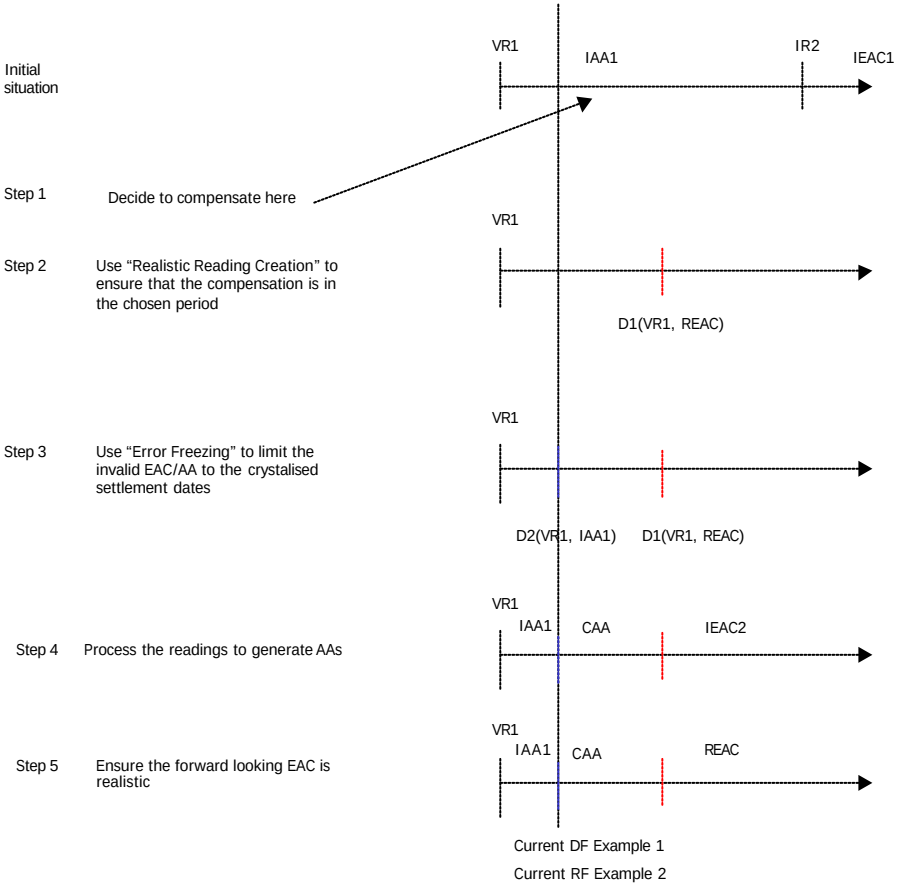
- RAA/REAC – realistic AA/EAC;
- IAA/IEAC – invalid AA/EAC;
- CAA – compensatory AA;
- VR/IR – valid/invalid reading;
- VR(IP) – valid reading incorrectly processed;

- DR – deemed reading;
- <DR>(<R>, <C>) – deemed reading DR calculated using reading R and consumption C.

Simple Examples

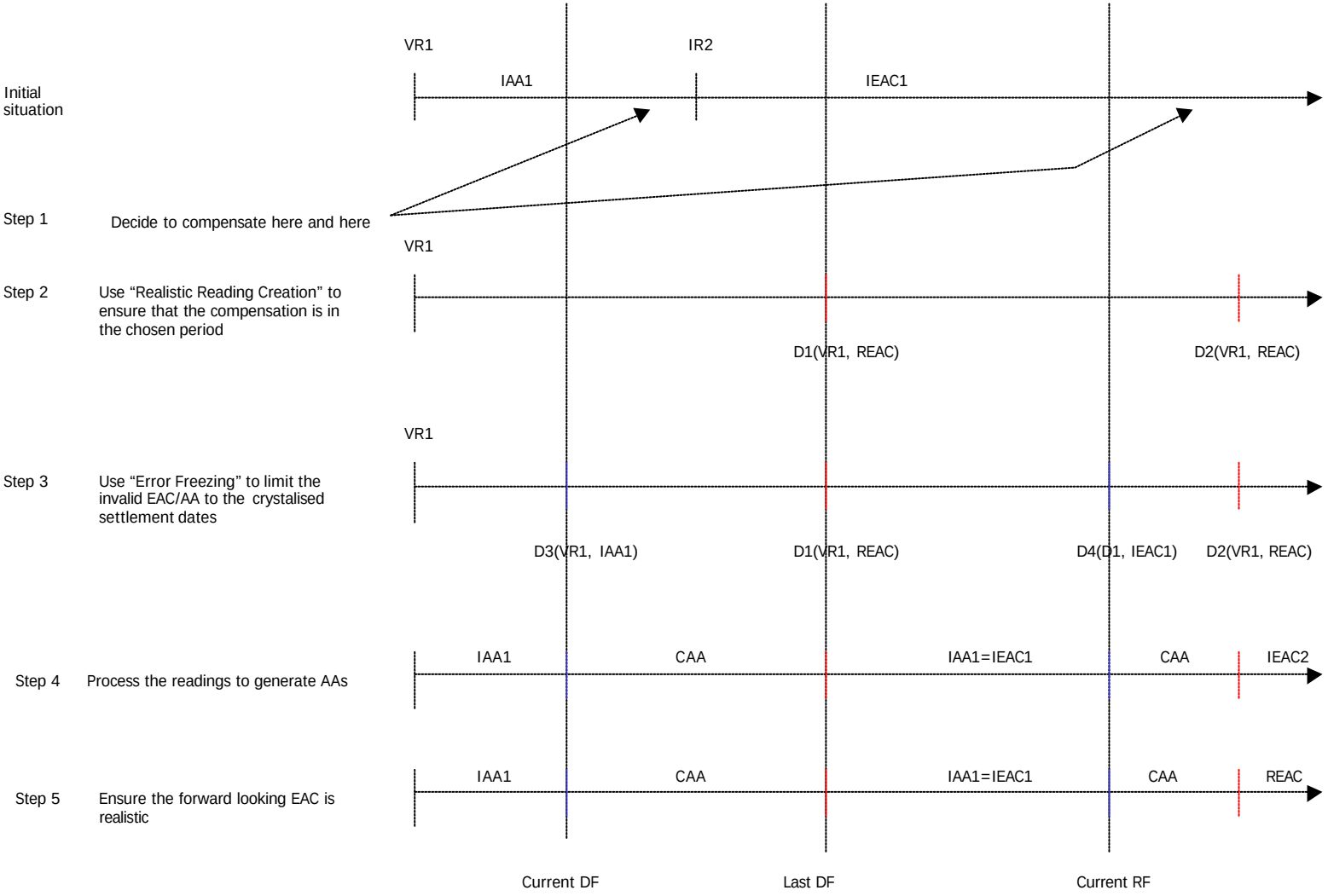
5.33 Example 1 - Invalid Reading in Fluid Settlement Date Range, Previous Valid Reading in the Settlement Date Range Crystalised by Dispute Final Runs, No Disputes End Date Set (i.e the situation until such time as the disputes end date is set).

5.34 Example 2 - Invalid Reading in Fluid Settlement Date Range, Previous Valid Reading in the Settlement Date Range Crystalised by Final Reconciliation Runs, Dispute Runs have all Finished (i.e. the enduring situation once all dispute runs have completed).

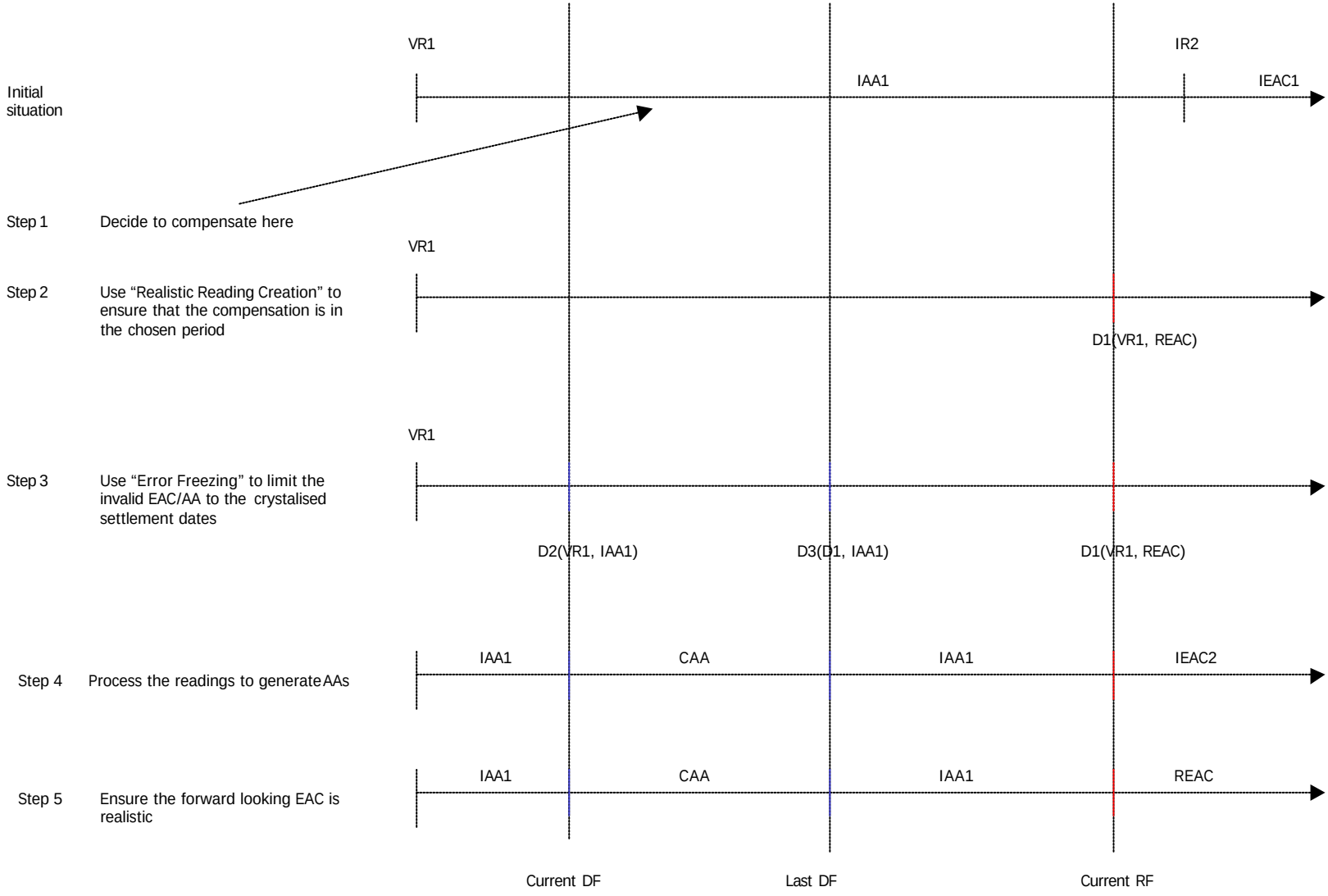


Complex Examples

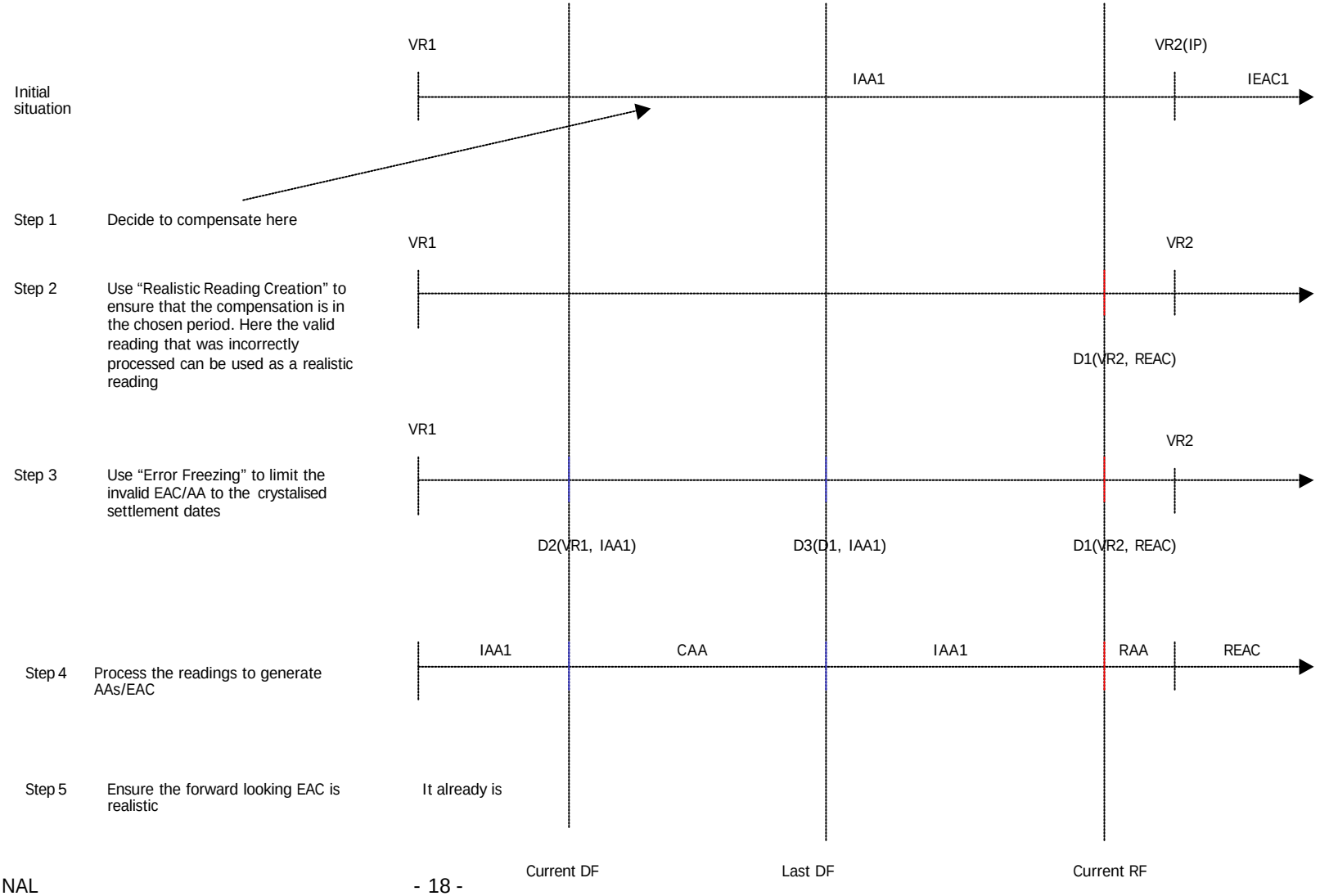
5.35 Example 3 – Invalid Reading in the first Fluid Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



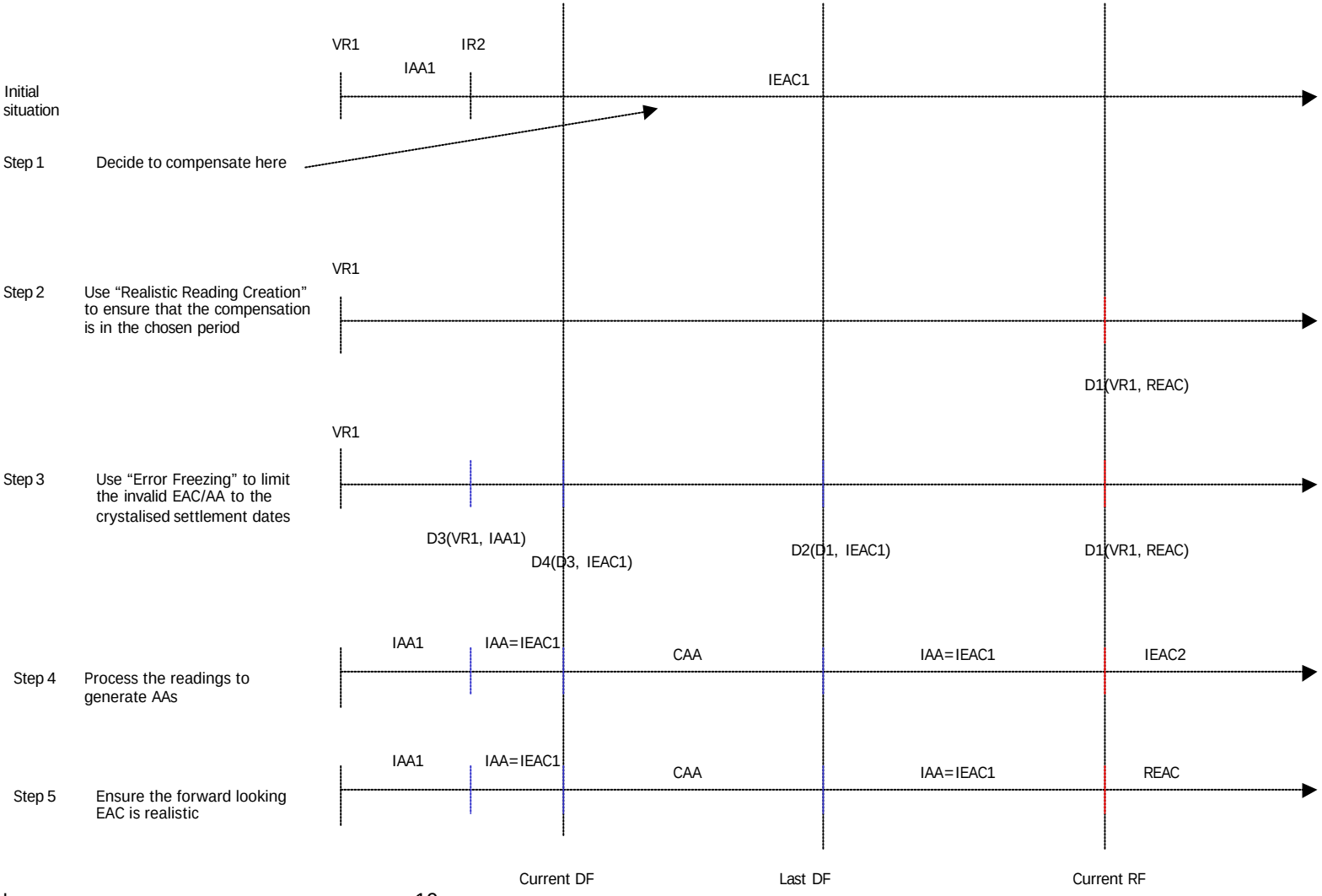
5.36 Example 4 – Invalid Reading in the second Fluid Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



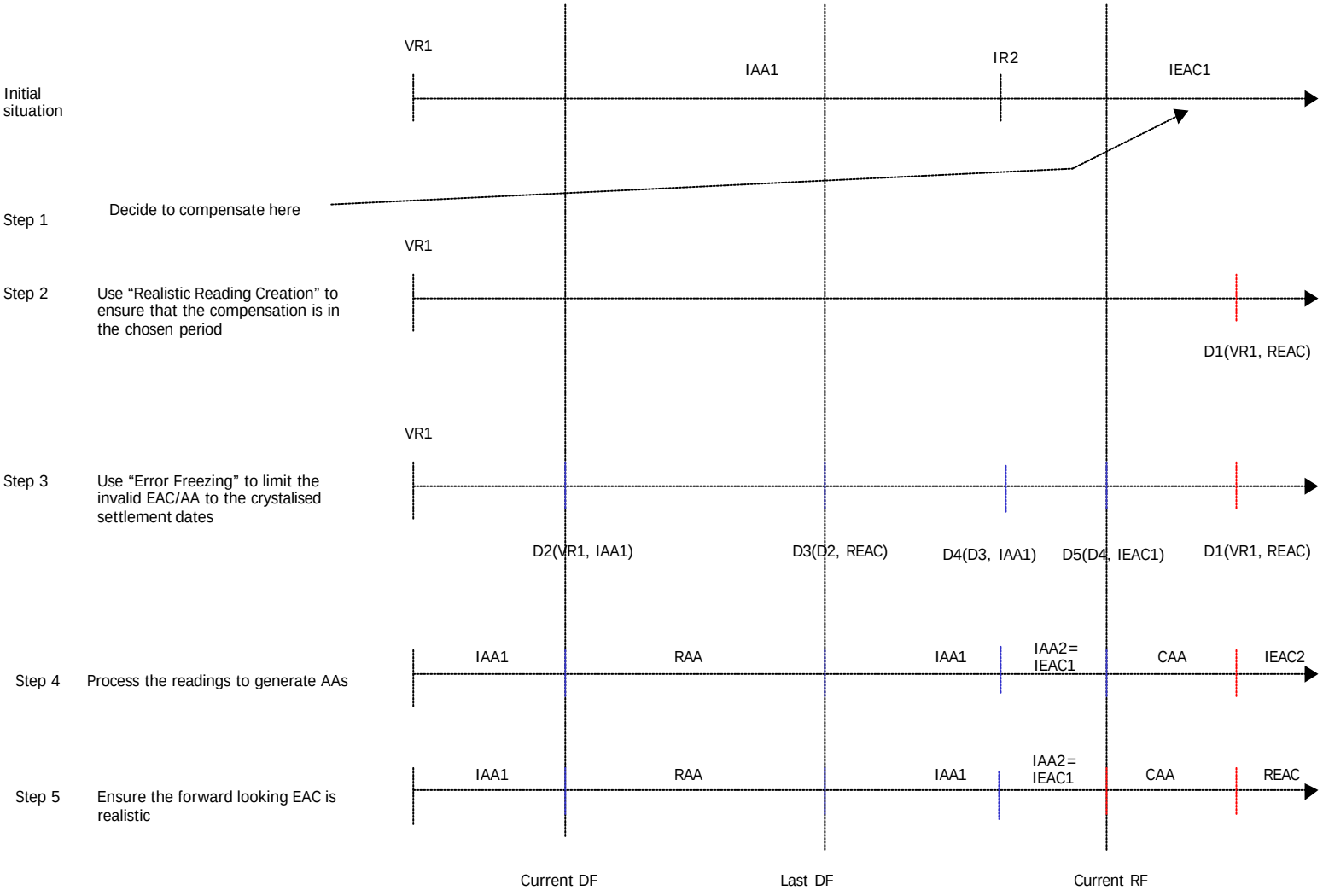
5.37 Example 5 – Invalid Processing of Correct Reading in the second Fluid Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



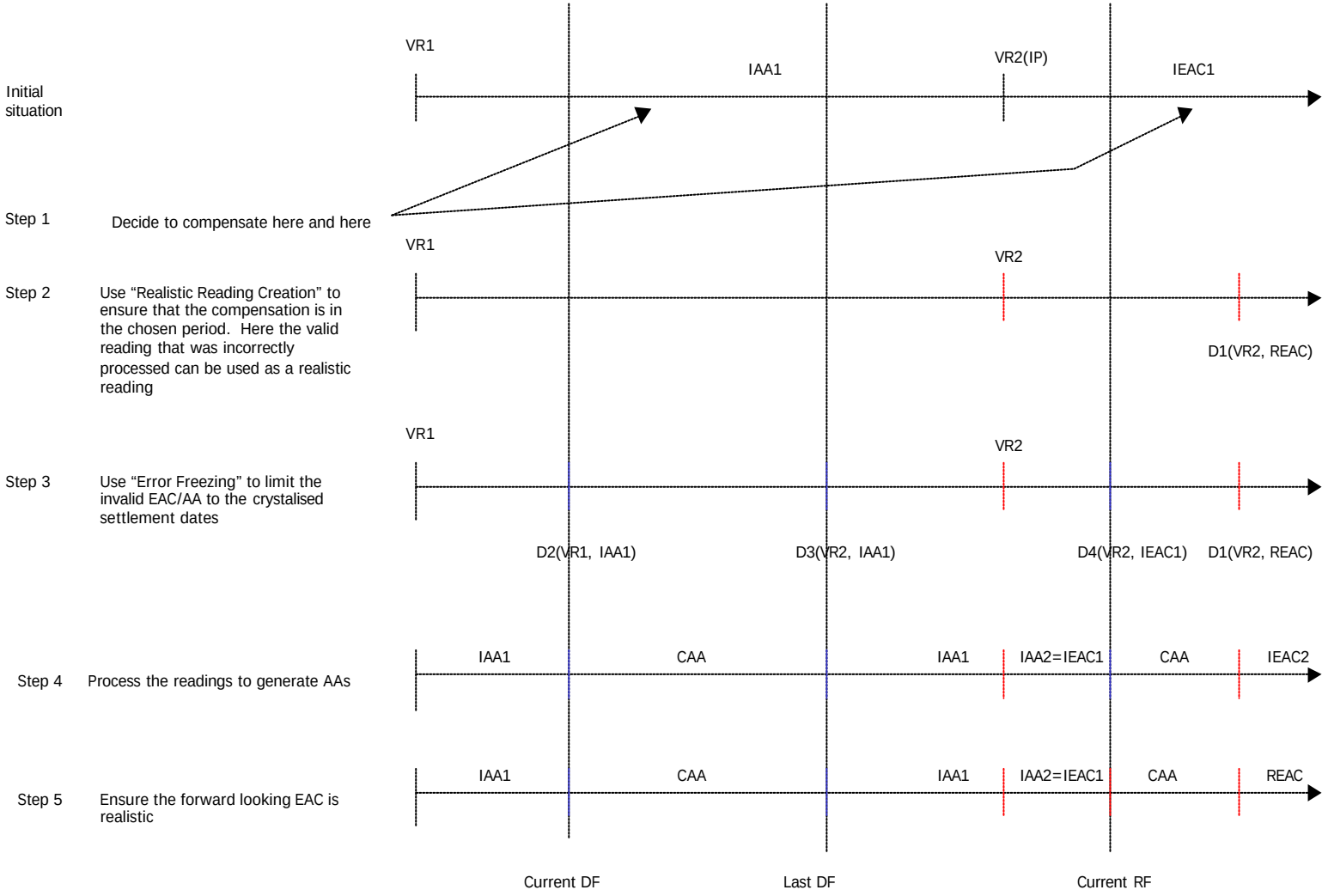
5.38 Example 6 – Invalid Reading in the first Crystalised Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



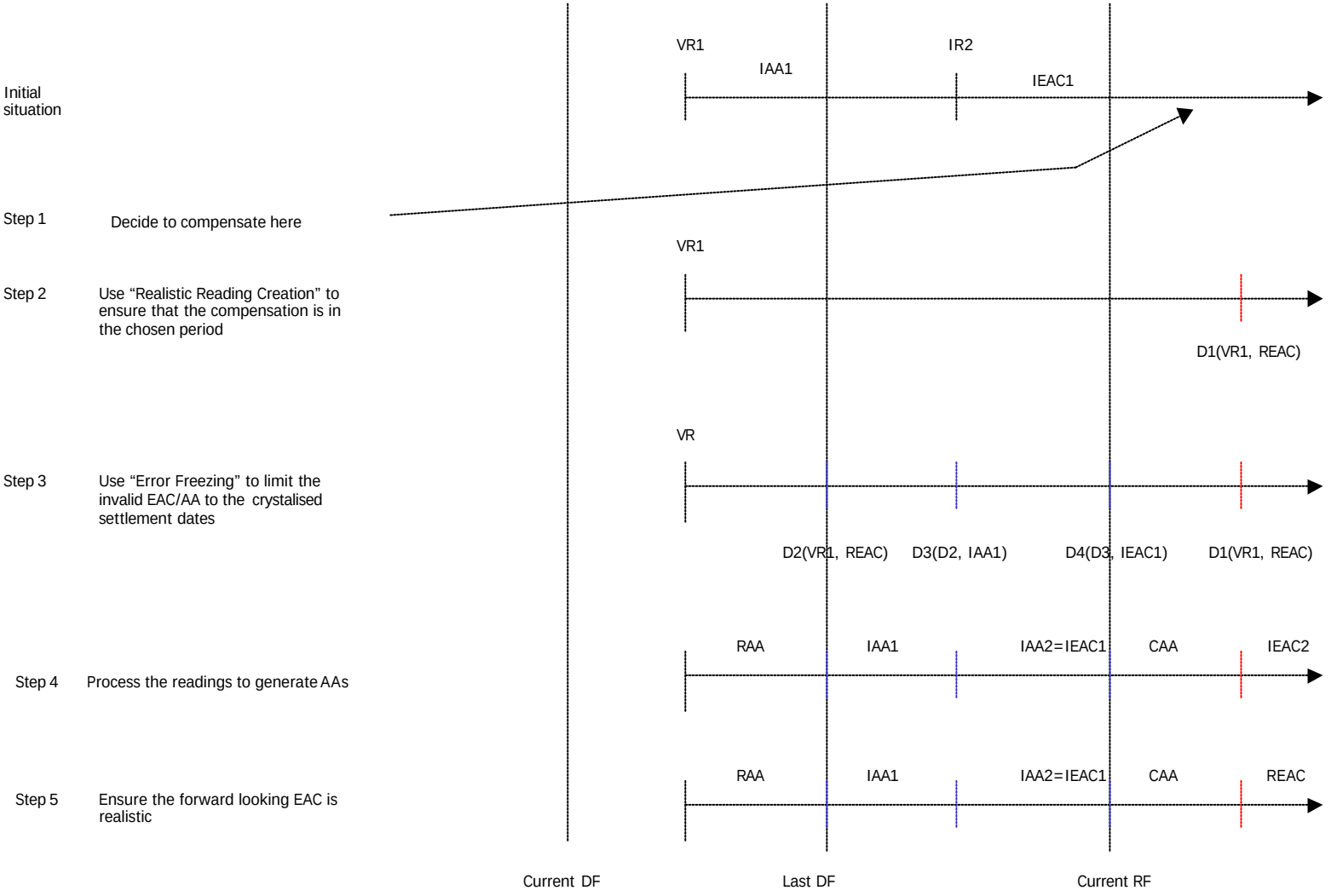
5.39 Example 7 – Invalid Reading in the second Crystalised Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



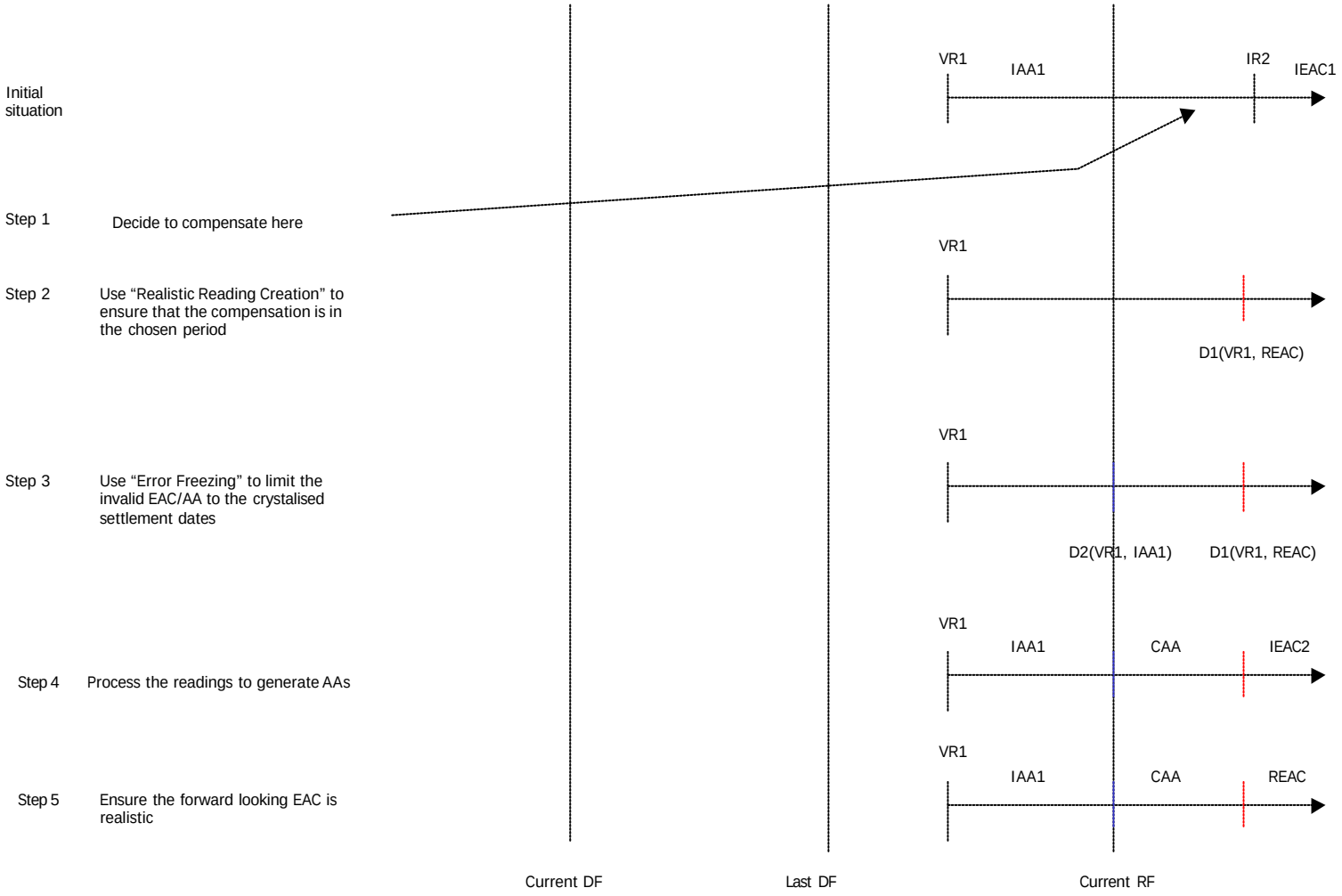
5.40 Example 8 – Invalid Processing of Correct Reading in the second Crystalised Settlement Date Range, Previous Valid Reading in the First Crystalised Settlement Date Range



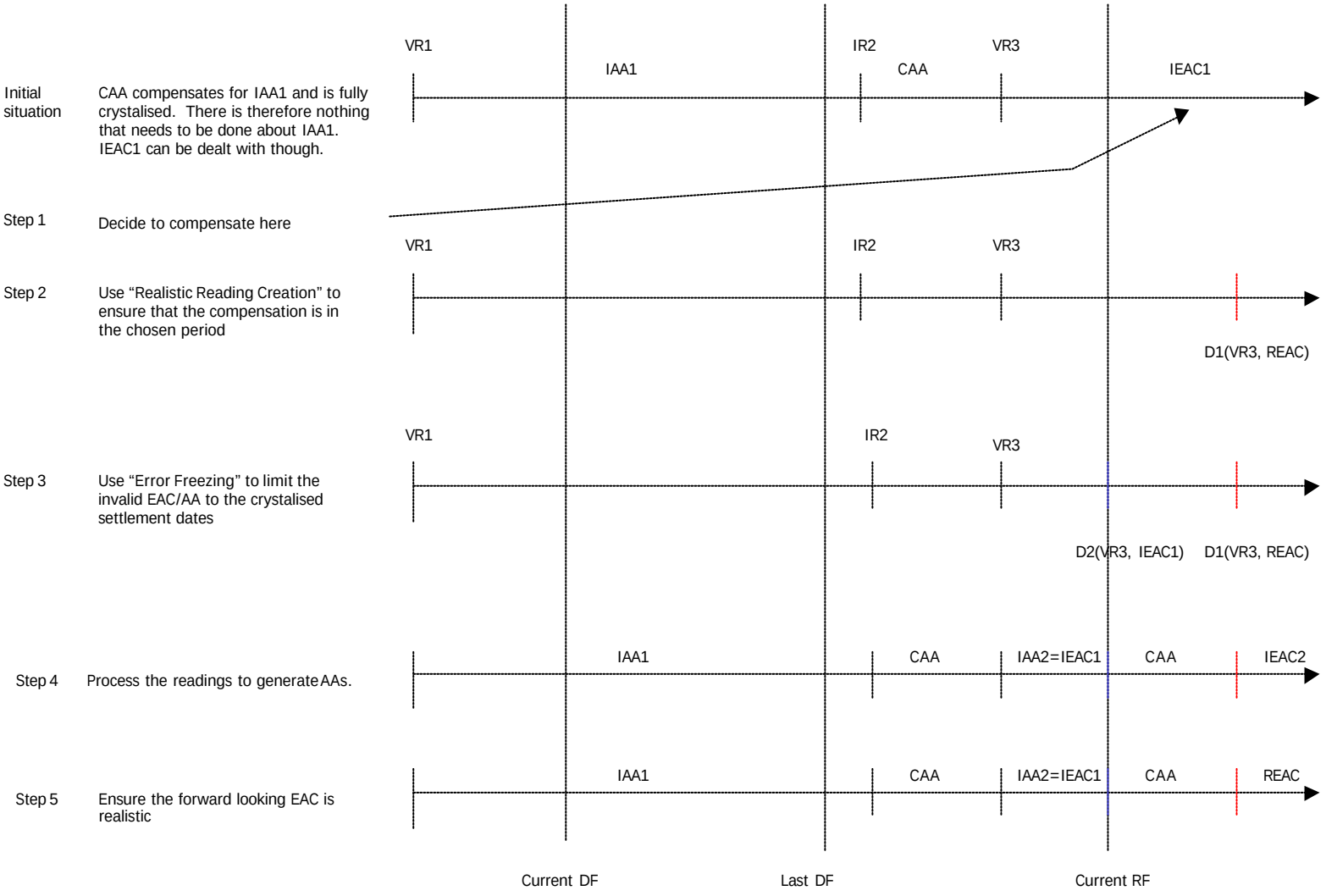
5.41 Example 9 – Invalid Reading in the second Crystalised Settlement Date Range, Previous Reading in the First Fluid Settlement Date Range



5.42 Example 10 – Invalid Reading in the second Fluid Settlement Date Range, Previous Reading in the Second Crystalised Settlement Date Range



5.43 Example 11 – Compensatory AA Fully Crystalised



5.44 Example 12 – Invalid CoS Reading