



Settlement Risk Evaluation in the Performance Assurance Framework

1. Introduction

Approved Modification P207 introduced governance arrangements which apply a risk based Performance Assurance Framework (PAF) to the Supplier Volume Allocation (SVA) aspects of the Balancing and Settlement Code (BSC) Arrangements. This document provides guidance on the principles that the Performance Assurance Board (PAB) uses when assessing the probability, impact and strength of controls in relation to Settlement Risks¹.

This guidance note should be read in conjunction with the **Risk Evaluation Methodology** (REM) which describes how the PAB identifies and evaluates Settlement Risks.

2. Settlement Risks

A Settlement Risk¹ is a risk of any failure or error in a process required under the BSC that may impact (or has impacted) Settlement. Settlement Risks are recorded on the Risk Evaluation Register (RER)² and are described in the following format:

- “The risk that **[Event]** resulting in **[Result]**”, where:
- **[Event]** represents the event that would cause the Settlement Risk to materialise; and
- **[Result]** represents the result that is triggered by the event.

An example of a Settlement Risk description from the RER is:

- “The risk that **[the NHHDC does not enter valid Meter readings by the Final Reconciliation (RF) Settlement Run]** resulting in **[old/default data entering Settlement]**”.

The significance of each risk is evaluated by considering the:

- **Settlement Risk Probability** – how likely a Settlement Risk is to occur if there are no controls in place;
- **Settlement Risk Impact** – how severe the impact of a Settlement Risk would be (should it happen) if there are no controls in place; and
- **Strength of Controls** – the effectiveness of the controls that are in place to mitigate the risk.

These three factors are further explained in the next sections.

¹ The BSC definition of Settlement Risk is contained in [BSC Section Z](#)

² The RER describes all identified Settlement Risks and is reviewed by the Panel at least once a year. The RER is published on our website: www.elexon.co.uk

3. Settlement Risk Probability

Settlement Risk probability is the likelihood of a Settlement Risk occurring. In the case of the risk-based PAF, Settlement Risk probability is defined as the chance of a Settlement Risk occurring during a single Performance Assurance Operating Period (PAOP)³. Probability is scored using a numeric scale between one and five, where one is the least likely and five the most likely. It is assessed to represent the probability of the risk occurring in the absence of any controls.

The PAB takes into account various factors when assessing Settlement Risk probability, including (but not limited to):

- The opportunity for failures to occur – the greater the volume and frequency of process events which contribute to the risk, the greater the opportunity for an error to arise;
- The complexity of the process(es) which might contribute to the risk – a more complex process might be more subject to errors than a simple process;
- The level of manual intervention in the process(es) – a significant level of manual intervention within a process increases the likelihood of errors arising within that process;
- The incentives surrounding the process(es) – where adverse incentives exist, it might be more likely that a process is not completed correctly, or at all; and
- Consideration of the performance history of the process(es) that contributes to the Settlement Risk, particularly key performance indicators (e.g. Performance Assurance Reporting and Monitoring System (PARMS) Serials) and the prevalence of associated BSC Audit issues.

4. Settlement Risk Impact

Settlement Risk impact represents how severe the impact of the Settlement Risk would be if it occurred. The impact rating is measured by the extent to which it has an impact on the SVA Objectives⁴. Settlement Risk impact is scored using a numeric scale between one and five, where one is the least severe and five the most severe. It is assessed to represent the impact of the risk occurring in the absence of any controls.

When assessing the impact of a Settlement Risk, the PAB initially considers the result identified in the risk description and determines the extent to which the result falls into one of the result types described in Table 1 below. The PAB uses the guidelines in the table when assessing the impact of a Settlement Risk.

Each Settlement Risk is moderated on a case by case basis using additional observed evidence available, particularly any associated BSC Audit issues or information from materiality calculations linked to the risk.

³ Performance Assurance Operating Period (PAOP) is a period of time identified by the BSC Panel and detailed in the Annual Performance Assurance Timetable. The PAOP is normally set as the twelve month period from April to March.

⁴ [Section Z of the BSC](#) indicates that the PAB will seek to provide assurance that: (i) energy is allocated efficiently and accurately between Suppliers; and (ii) Metering Systems data is transferred efficiently and accurately between Suppliers and Supplier Agents

Table 1: Settlement Risk Impact Matrix

Result Type (as identified in the Risk Description)	Initial Range of Impact Rating		Rationale
Old or default data will be applied and used	1 to 2	<p>The Settlement Risk is not severe enough to pose a threat to Performance Assurance Parties' businesses and could be dealt with using normal business procedures or the cost and effort required to address the Settlement Risk outweighs the benefit.</p> <p>Or</p> <p>The impact of the Settlement Risk is not severe enough to pose a threat to Performance Assurance Parties' businesses, but is significant enough for the industry to consider addressing by corrective measures.</p>	<p>Old or default data might not be the best representation of reality but might provide the best approximation for a period of time. In some cases the use of old or default data in relation to Half Hourly (HH) Metering Systems might be considered to be less satisfactory than for the Non Half Hourly (NHH) equivalent. This is because HH metered consumption patterns might be more volatile than NHH consumption and, generally, any estimations made are based on smaller sample sizes.</p>
Data is missing or unavailable for use	2 to 3	<p>The impact of the Settlement Risk is not severe enough to pose a threat to Performance Assurance Parties' businesses, but is significant enough for the industry to consider addressing via corrective measures.</p> <p>Or</p> <p>The settlement Risk could have an impact on a particular area of Settlement and/or the business plans of one or more Performance Assurance Parties.</p>	<p>The unavailability of data is likely to not only have a greater impact than use of old data but is also likely to require greater efforts to resolve. Where data is missing the impact is considered to be constrained by the magnitude/nature of the missing data.</p>
Erroneous data will be applied and used	3 to 4	<p>The Settlement Risk could have an impact on a particular area of Settlement and/or the business plans of one or more Performance Assurance Parties.</p> <p>Or</p> <p>The Settlement Risk has the potential to impact one or more Grid Supply Point (GSP) Groups and would have a significant impact on the business plans of multiple Performance Assurance Parties.</p>	<p>In some cases the use of erroneous data might be considered to have a similar impact to the unavailability of data. However, where erroneous data is used there is considered to be no constraint on the impact since the error could significantly deviate from the magnitude/nature of the correct data.</p>

Result Type (as identified in the Risk Description)	Initial Range of Impact Rating		Rationale
Extreme instances of erroneous data or extended instances of missing / old data	5	The Settlement Risk has the potential to threaten the Balancing Mechanism and industry Settlement procedures as a whole, causing severe problems for customers, industry, the System Operator or ELEXON. Extreme Settlement Risks would have significant financial or political consequences on Performance Assurance Parties.	<p>Extreme Settlement risks are unlikely to arise except in limited circumstances where identified risks are moderated upwards.</p> <p>It may be anticipated that risks arising in Central Systems which, would impact the whole of Imbalance Settlement would fall into this range of impact.</p>

5. Strength of Controls


After identifying a list of Settlement Risks and assigning each Settlement Risk with a probability and impact, the PAB assesses what controls are in place to mitigate against the Settlement Risk occurring. A control is identified in the REM as “any BSC-defined requirement or otherwise established mechanism that should be applied routinely to the processes for deriving Trading Charges from recorded energy production or consumption”. It should be noted that Performance Assurance Framework Techniques (deployed by the PAB to address Settlement Risks) are not considered controls. They are tools deployed following the Settlement Risk evaluation process to provide for any additional assurance needs.

When assessing the strength of controls, the PAB first considers each individual control and takes account various factors in relation to the control type and mechanism:

Type of Control

- Preventative controls seek to ensure that an issue does not arise in relation to a risk and so might be seen to be strong controls
- Detective controls identify where an issue has arisen and generally require further corrective controls to address the identified issue. Therefore their effectiveness is often limited by partnered corrective controls
- Corrective controls seek to ensure that an issue is addressed and so might be seen as effective controls. However, their strength might be considered lower than preventative controls as the impact of the issue might have already been felt

Control Mechanisms

- Routinely Applied Automated Processes: Well designed and thoroughly tested automated processes (e.g. meter reading validation) can provide robust and consistent control mechanisms
 - One-Off Automated Processes: Automated processes that are triggered infrequently or by exception (e.g. confirmation of the inclusion of a Metering Point in the reading schedule) provide robust and consistent control mechanisms but may not be using up-to date algorithms/data if not maintained
 - Routinely Applied Manual Processes: Manual processes (e.g. action taken to address invalid meter reads) are more prone to error than appropriately designed and tested automated solutions
 - One-Off Manual Processes: Infrequent manual processes (e.g. undertaking a Proving Test) are very prone to error and require careful management to ensure consistency
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The overall strength (high, medium or low) of the aggregated set of controls is then assessed on a case by case basis by considering how the individual controls work together and the available supporting evidence, such as the prevalence of BSC Audit issues arising in areas subject to the controls.

Need more information?

Additional guidance on the **PAF** and **Settlement Risk Evaluation** can be obtained by contacting the **BSC Service Desk** at bscservicedesk@cgi.com or call **0870 010 6950** or by contacting your [Operational Support Manager \(OSM\)](#).

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