RETAIL ENERGY CODE

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REC TECHNICAL SERVICE (RTS) DEEP DIVE

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FOR INFORMATION



We have established PAB Deep Dives for key REC Services in 2025.

This paper dives deeply into RTS Code Manager's role, focusing on 3 key areas to highlight the purpose and aim of the service:

- Developing and maintaining the REC Digitalisation Strategy to support the REC objective of continuous improvement and sustainable innovation, whilst also looking at how their role in Technical Assurance contributes to operationalising the strategy.
- Utilisation of tools such as ERIN and how the service is responding to user needs and feedback.
- Data management to minimise downstream impacts due to data errors

This deep dive has been completed in collaboration with the RTS team and we thank them for their support in this review.

Whilst we have highlighted opportunities for continuous improvement in various areas, which RTS and RECCo may want to explore, we recommend the following actions are completed in 6 months:

- Enhance Standard REC Service Provider testing scope: REC Service Providers should include volume, performance, and regression testing in their release test plans. RTS should ensure any exceptions and exclusions are documented, and REC Committee approval is sought so that Service Providers' test plans are suitably challenged.
- Robustly challenge testing: RTS should rigorously challenge Service Providers' test plans and results. RECCo should ensure this is recognised as part of RTS' role.
- Empower technical assurance: RECCo should review processes so that the Code Manager and REC Committees have sufficient oversight of Service Provider changes where these are outside the vires of the Code but impact REC systems and services, balancing scrutiny with efficiency of process.
- Conduct lessons learned reviews: After any major service issues, RTS should conduct formal lessons learned reviews and make recommendations to prevent recurrence. These should be presented to the relevant REC Committee.

1 OVERVIEW

The previous deep dive, presented in RECPAB_24_0730_06, provided an overview of the REC Technical Services, a component of the REC Code Manager. Now we are focusing on 3 main areas of this service to highlight the purpose of the service. Therefore, the deep dive looks at:

The REC Digitalisation Strategy – Clarity of Strategy and Role, and how this is supported through Technical Assurance

This area looks at how RECCo and RTS collaboratively develop the Digitalisation Strategy ensuring alignment with REC objectives, RECCo Strategy and the expected direction of travel of the market and the evolving demand on REC Services.

Utilisation of Tools – ERIN

We focus on this to highlight how tools like ERIN are received by REC stakeholders and how they are shaped to meet demand.

Data Management – EMAR and Switching Operational Data (SOD) Updates

This area has been chosen as there have been some errors identified in previous months where issues in data received from external sources led to problems within switching processes and what the Code Manager could explore to prevent reliance on data where it has low confidence.

These three areas relate directly to the delivery of the REC objectives particularly:

Objective (b) to ensure customers' interests and data is protected in the operation of the REC; and

Objective (c) to drive continuous improvements and efficiencies in the operation of the REC and the central systems and communication infrastructures it governs.

Therefore, these relate to Retail Risk II[1] and III[2] respectively.

2 DIGITALISATION STRATEGY

In collaboration with RECCo, RTS has facilitated two iterations of the RECCo Data and Digitalisation Strategy. The first iteration, released in September 2023, is publicly available to users and the industry. The 2025 iteration is currently in development and, once finalised, it will similarly be cascaded to all REC stakeholders.

The 2025 iteration will be focused largely on User Experience and AI. This is particularly significant with the rapidly increasing use of AI. As technology evolves and AI use cases become more common across the industry, improvement of current tools and increasing the benefits realised from AI-led services becomes crucial.

RTS also informed us that as part of this first iteration and to support long term Data and Digitalisation vision with a clear pathway, a 10-year roadmap was outlined by RECCo, with their support, taking into account future energy scenarios, and this was aligned to the wider RECCo Strategy. The vision and roadmap are visited on a yearly basis to ensure continued relevance.

RTS explained this roadmap is an internal working document for RECCo and RTS and explores future issues that may be considered under the remit of REC. As these are currently possible scenarios as opposed to commitments, therefore, the roadmap is not be published externally.

[1] Retail market processes are not effective or efficient, including the incomplete or inaccurate updating of REC data.
[2] Customer interests and data are not protected in the operation of the REC.

2.1 ASSESSMENT OF TESTING

RTS is also responsible for providing technical assurance under the REC. Technical assurance validates the security, reliability, and performance of the technology underpinning REC's data and digitisation strategy in order that systems and processes meet required standards, mitigating risks and enabling effective digital transformation. RTS informed us that it conducted test assurance on 5 changes as part of the REC Change Process. These are summarised below:

Change Number	Details of Change	Tests carried out	Test Assurance Findings	Issues during or after release
R0080	Improvements to 'Failed to Deliver' CSS Messages	• Review of PIT and SIT Test Exit Report • Test evidence session held on 16 June 2025, involving the Technical Design Authority and the SI Test Team • SI team presented evidence from predefined test scenarios, demonstrating that the functionality of R0080 was appropriate	• Successful completion of the Test Assurance activity led the TDA to recommend the R0080 change proceed to implementation.	• A P3 Incident was recorded shortly after the release as a defective line in the Code for R0080 resulted in generation of a very high volume of duplicate messages. • DCC's assessment did flag that the approved testing approach would not have exposed this issue as maximising the capacity of the container was not part of the test.
R0098 and R0108	Optional fuzzy searching in EES Enabling Electricity Enquiry Service searches using a Unique Property Reference Number	• The Technical Design Authority (TDA) undertook test assurance activity on 28 February 2024. • Review of test completion report and test evidence provided by C&C • Independent review of functional and performance test evidence • Cross-reference of test evidence against the Final Change Report to confirm that the new search functionalities have been correctly addressed.	• Successful completion of the test assurance activity led the TDA to recommend that the R0098 and R0108 change progress to implementation and be included as part of the November 2024 release.	• R0098 was originally scheduled for release on 28 June 2024 and R0108 was scheduled for 23 August 2024. During implementation the EES Service Provider provided the Code Manager with regular reporting, tracking the changes at a 'Green' status. Subsequently, two days before the release date for R0098, the Service Provider identified that this could not be released on time, due to a system

Change Number	Details of Change	Tests carried out	Test Assurance Findings	Issues during or after release
				performance issue identified on 24 June during performance testing. • The Service Provider recommended the release to be rescheduled for August 2024 following rework and retesting. However, further risks and concerns were raised in July 2024 by the Service Provider around the deployment of R0098. • RTS rejected the Service Provider recommendation to commence with the release in August and for them to be released of their obligations on SLAs due to test results outside of acceptable parameters. • RTS rejected this recommendation and requested the release be postponed until test results were satisfactory. • RTS confirmed that the Service Provider would remain accountable for all system performance stats. • During these discussions, it was also noted as R0108 a shared common code base with R0098, so would need to be

Change Number	Details of Change	Tests carried out	Test Assurance Findings	Issues during or after release
				deferred until R0098 was ready for release. • RTS continued to monitor testing progress and following positive test results, approved the release of the changes that were then implemented in November 2024.
R0115	Frequency and content of CSS reports on switching via the DCC portal	• The Technical Design Authority (TDA) undertook assurance activity on 5 November 2024. • Attendance of test Exit gate session with CSS provider. • Walk through of test completion report and test evidence with CSS provider. • Independent review of test evidence.	• Successful completion of the test assurance activity led the TDA to recommend that the R0115 change may progress to implementation and be included as part of the November 2024 release.	• This change was deployed as planned and we are not aware of any issues occurring during or after release.

Change Number	Details of Change	Tests carried out	Test Assurance Findings	Issues during or after release
R0120	Search GES API using Meter Serial Number	• The Technical Design Authority (TDA) undertook assurance activity on 13 February 2025 and concluded on 26 February 2025. • Attendance of a test scenario walkthrough hosted by the GES Provider. • Independent review of test evidence provided • Cross-reference of test evidence against expected results to confirm that the new search functionalities have been correctly addressed. • Review of Test Exit Report.	• Successful completion of the test assurance activity led the TDA to recommend that the R0120 change may progress to implementation and be included as part of the February 2025 release.	• The deployment of this change was deferred as an unrelated high severity incident occurred on the discovery platform and there were concerns due to elevated traffic volumes on the Enquiry Service. This was later implemented on 04 April 2025.

Whilst reviewing the test assurance outcome reports for these changes we noted that it is not common practice for all changes to have elements of volume and performance testing, and regression testing.

- We only found reference to volume and performance testing in 2 of 5 changes reviewed, with no performance testing being considered as part of R0080, R0120 and R0115.
- We only found that 2 of 5 changes had some element of regression testing with R0098, R0108 and R0115 having no regression testing.
- While RTS has informed us performance testing and regression testing was performed for other changes at part of PIT/SIT, there is not mention of these in the test assurance outcome reports prepared by RTS, other than for the changes listed above.

We recommend that as volume and performance testing, and regression testing are key elements of reducing the risk of issues during or soon after release, these are considered as part of the test plan for each release. Where RTS has applied risk-based judgement to determine whether the Service Provider has proposed sufficient testing, any element of testing that are not scoped in should be documented within the test assurance outcome report, along with the rationale for not requiring those tests. These should be submitted for scrutiny by and approval from the relevant REC Committee.

RTS has informed us that their current role is limited to “provide support and guidance to Service Providers on testing requirements” as part of the change implementation process. However, we view providing robust challenge to the test plans presented by Service Providers, as well as the testing completed, to be a key part of a Technical Assurance function. RECCo and RTS should consider how their role can be evolved to address this gap. RTS should be empowered through the REC Change Process to demand further testing evidence where it is not sufficiently satisfied all identified risks are sufficiently managed.

Whilst making this recommendation, we recognise that the role of testing in the release process is to minimise the likelihood of an issue arising and it cannot guarantee absolutely that all issues will be prevented.

2.2 OPERATIONAL CHANGES

RTS reviews technical deployment documentation for Service Affecting and Non-Service Affecting Deployments that affect the GES/EES.

RTS chairs the weekly Switching Change Advisory Board (CAB) but has limited involvement within operational changes for the CSS. The Switching CAB is responsible for assessing the impact of operational changes to the Switching Arrangements on various Switching Data Services, ensuring all impacts of changes on service availability are fully considered, assessed and approved.

In June 2025, we noted service availability of GES was impacted by operational changes in other part of the underlying system architecture, which is not subject to oversight under the REC. As RTS does not have autonomy over operational changes made due to the scope of its role, it is limited in its contribution over the testing of these changes to manage associated risk to REC services.

The Code Manager therefore recommends that RECCo review how these services are set up to empower the technical assurance function of the Code Manager as well as relevant REC Committees to have sufficient oversight and the ability to determine whether any changes made by its Service Providers may impact REC arrangements and therefore must be subject to scrutiny and approval under REC governance. Whilst doing so, it is essential to ensure the processes are efficient and do not become a barrier to innovation and improvement within the industry.

RECCo should also consider whether RTS conduct formal lessons learnt reviews and present the results to the relevant REC Committee after such issues are experienced to prevent recurrence and minimise impact in future.

2.3 RECOMMENDATIONS

The Code Manager recommends the following actions are tracked through to completion, with RTS providing PAB with an update in 6 months or sooner on their completion:



- **Enhance REC Service Provider scope of standard testing:** Include volume, performance, and regression testing in release test plans. Document any exceptions and exclusions and seek REC Committee approval so that Service Providers' test plans are suitably challenged.
- **Robustly challenge testing:** RTS should rigorously challenge Service Providers' test plans and results.
- **Empower technical assurance:** RECCo should review processes so that the Code Manager and REC Committees have sufficient oversight of service provider changes where these are outside the vires of the Code but impact REC systems and services, balancing scrutiny with efficiency of process.
- **Conduct lessons learned reviews:** RECCo should consider whether RTS should conduct formal lessons learned reviews and make recommendation to prevent recurrence. These would be presented to the relevant REC Committee.

3 UTILISATION OF TOOLS – ERIN

ERIN is an AI Chat Bot available to users through the REC Portal and is trained to provide help and support with the live documents on the Digital REC and Category 2 and Category 3 documents as well as data specifications.

RTS have reported the following on utilisation of ERINL

- ERIN received an average of 167.3 users a month, with the daily average at 5.5 users.
- On average ERIN is currently taking 1.54 seconds to respond to user queries.
- User feedback and satisfaction appears to be split with 129 positive ratings received over the past 12 months compared to 110 negative ratings received.

The positive comments largely centre around user agreement with the answer provided by ERIN, while the negative comments often revolve around ERIN providing incomplete answers. RTS believes that this data may be skewed as positive experiences are not always captured through positive reviews that have been left by users.

The negative ratings have been reviewed with RECCo and the main themes have been recognised as issues with the structure of source data as well as a lack of optimisation of the data. RTS and RECCo have since upgraded the software in early 2025, aiming to address incomplete and incorrect answers. The Code Manager has agreed to review how this has impacted user satisfaction later in the year.

Overall, although there are improvements to be made in terms of the usefulness of the ERIN tool, the introduction of the Chat Bot and the associated anticipated benefits of ERIN is a step towards deploying customer-focused AI. There is an opportunity for RTS to showcase the positive impact that ERIN has had

in reducing demand on other parts of the Code Manager, particularly the Service Desk by becoming users' preference tools to have their queries answered.

There is also the potential for RTS to review topics users are querying on ERIN to inform wider activities of the Code Manager around training and knowledge management.

4 DATA MANAGEMENT – EMAR AND SOD UPDATES

Data is maintained within CSS through SOD updates. These updates are received from a number of organisations including: RPA, RPS, Elexon, Xoserve and DCUSA. RTS carries out sense checks and validations on the data provided and seeks additional clarifications where further information may be required.

RTS sends SOD updates to the CSS via the required API's with the payload configured as per standard CSS messaging schemas. RTS host secure files in SharePoint as a living record of updates to the CSS and the CSS response for audit purposes. A SQL database containing a snapshot of the SOD data held within the CSS is also maintained by RTS with SQL code. This is used by RTS to validate incoming updates although it is not a requirement for RTS to maintain this database. All SOD updates are made within 1 working day and communicated to RPS, RPA and the Payment Method Levelisation Scheme Operations Team.

RTS is aware of the inaccuracies reported by Parties and has mitigating actions in place as a response to prevent recurrence. The inaccuracies reported are largely related to information provided to RTS as part of Elexon's ISD v2365 data cleanse.

RTS is now carrying out reconciliation checks against market participant records held on the SQL compared to information that is sent to the CSS. Although out of the scope of the role of RTS, further reconciliation checks could also be carried out once Elexon's MDD records are available to RTS with discrepancies being categorised and queries with Elexon and relevant stakeholders.

We suggest RTS and RECCo explore opportunities to reduce reliance on the data where confidence in accuracy is low. For example, rather than relying on separate updates for MDD from Elexon, if RTS could consume the same data flow as the industry, this would reduce any discrepancies. REC users may interpret these discrepancies as originating within REC arrangements rather than inherited from inaccurate data provided by the data owner.