Decision

RIIO-ED1: Losses Discretionary Reward for tranche two, 2018			
Publication date:	11 September 2018	**Contact:**	Grant McEachran
		Team:	RIIO Electricity Distribution
		Tel:	0141 331 6034
		Email:	RIIO.ED1@ofgem.gov.uk

Overview:

In July 2016, we published our decision for tranche one of the Losses Discretionary Reward (LDR). The LDR was introduced in the RIIO-ED1 price control to encourage and incentivise DNOs to undertake additional actions to better understand and manage electricity losses.

In tranche two, up to £10 million was available to the DNOs in 2018/19. We have decided not to make any award in tranche 2. This document sets out our assessment process and reasons for our decision.

Contents

Executive summary

The Losses Discretionary Reward (LDR) is worth up to £32 million across all Distribution Network Operators (DNOs), spread over three tranches during the eight years of the RIIO-ED1 price control. Tranche two looks at the specific outputs produced and actions undertaken by the DNO groups (DNOs). They are expected to provide evidence of actions they have taken to improve their operations in managing losses, including, where appropriate, demonstrating how they have built upon the processes set out in tranche one.

We received six submissions for tranche two of the LDR, one from each DNO group. We assessed the submissions against the four criteria in the LDR Guidance Document[1] covering: understanding of losses; stakeholder engagement; processes to manage losses; and innovative approaches to losses management. The Guidance document was updated following tranche one, setting out Ofgem's expectations for tranche two.

In general, we consider that the submissions from the DNO groups had the intention to show the progress made from tranche one to tranche two – highlighting outputs from projects, ongoing projects and collaboration with various stakeholders. However, we do not consider sufficient evidence was provided for each criterion to justify giving the DNOs a reward.

This document explains how we assessed the LDR submissions, the reasons for our decision and next steps in the LDR process.

[1] Losses Discretionary Reward Guidance Document

Context

Electricity losses are an inevitable consequence of transferring energy across electricity networks. They have a significant financial and environmental impact on consumers. Effective management of losses can protect consumers from unnecessary network costs.

DNOs do not pay for electricity lost on their network and, therefore, have no inherent incentive to manage losses efficiently. As part of the RIIO-ED1 price control, we implemented a losses management mechanism to ensure that DNOs focus appropriately on activities to manage losses. A core component of this is a licence requirement on DNOs to manage losses to as low as reasonably practicable on their distribution network. In doing so, DNOs must act in accordance with their published Distribution Losses Strategy[2], which they must maintain and keep under review. The final component is the LDR.

The second tranche of the LDR rewards DNOs groups for specific actions they have undertaken, and concurrent improvements in understanding of losses following on from tranche one. In addition, we expect DNOs to give evidence of how these actions are significantly shifting expectations of what they should be doing to keep losses as low as reasonably practicable. The second tranche is both forward and backward looking. The first tranche was in 2016/17 and the third tranche is in 2020/21.

Related publications

Decision document for tranche one - https://www.ofgem.gov.uk/publications-and-updates/riio-ed1-losses-discretionary-reward-decision-tranche-one-2016

Losses Discretionary Reward Guidance document - https://www.ofgem.gov.uk/system/files/docs/2017/09/ldr_tranche_2_decision_clean_copy.pdf

[2] Another component of the mechanism, these are available on each DNO's website.

1. Introduction

Our decision making process

1.1. The Losses Discretionary Reward (LDR) aims to incentivise Distribution Network Operators (DNOs) to undertake additional actions (over and above meeting their losses licence obligation[3]) to better understand and manage electricity losses. The reward is worth up to £32 million across all DNOs and is spread unevenly over three tranches over the RIIO-ED1 price control. The reward is discretionary and, therefore, we[4] may decide that it is not appropriate to award any, or all, of the available funds. The LDR Guidance Document explains the main areas of assessment for each tranche and details the process for tranche two.

1.2. The focus of tranche two is on the progress made by the DNOs since tranche one. It looks at the specific actions undertaken and concurrent improvements in understanding losses. The LDR does not reward DNOs for listing the outputs and actions which have arisen from tranche one. DNOs should provide sufficient evidence of these outputs and how these actions are significantly shifting the expectations of what they should be doing to keep losses as low as reasonably practicable.

1.3. On 28 February 2018, we received six submissions for tranche two of the LDR, one from each DNO group. These have been published on our website[5].

Our assessment process

1.4. In tranche two, we reviewed the DNOs' submissions against the same criteria as tranche one, as noted below. However, the questions set out in the sub-criteria6 were different from those in tranche one.

1. Understanding of losses
2. Effective engagement and sharing of best practice with stakeholders on losses
3. Processes to manage losses
4. Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual (BAU) activities.

1.5. The weighting for each of the four criteria are different, as set out in the LDR guidance document.

[3] Standard Licence Condition 49 of the Electricity Distribution Licence, which requires DNOs to manage losses to as low as reasonably practicable on their distribution network. In doing so, DNOs are required to act in accordance with their published Distribution Losses Strategy.
[4] The "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Office of Gas and Electricity Markets (Ofgem) supports the Gas and Electricity Markets Authority (GEMA) in its day to day work.
[5] Tranche two submissions
[6] Please also see the Losses Discretionary Reward Guidance Document for the detailed sub-criteria.

1.6. In our decision[7] for tranche one, under chapter 3 'Next Steps', we noted our expectation for tranche two submissions to provide thorough yet concise evidence for each criterion in order to achieve a reward.

1.7. Similarly, the LDR guidance document stated that we expect the DNOs to provide evidence that allows them to fully meet **all** the criteria set out in the guidance. Additionally, it was noted that should a DNO fail to provide sufficient evidence under one or more of the criteria, it will not be eligible to receive a reward under this tranche of the LDR.

1.8. Following the limited responses to our consultation on submissions received for tranche one, we did not consult on the submissions received in tranche two. This was noted when we updated the LDR Guidance document for tranche two.

1.9. Chapter 2 sets out our decision and the reasons for that decision. This is a high-level view of the submissions including examples of what we considered to be the strengths and weaknesses of the submissions generally. Appendices 1 to 6 give more detail on our views on each DNO's performance against each assessment criterion. Chapter 3 provides an overview of the next steps in the LDR process.

[7] RIIO-ED1: Losses Discretionary Reward Decision for tranche one, 2016

2. Our Decision

Section summary

Reasons for our decision on the level of the reward

Overall Observations

2.1. We consider that the submissions from the DNO groups intended to show the progress made from tranche one to tranche two – highlighting outputs from projects, ongoing projects and collaboration with various stakeholders. However, we do not consider sufficient evidence was provided for each criterion to justify a reward for each DNO.

2.2. In general terms, there were some areas we think the DNOs performed well, for example:

- Generally, DNOs provided information on their progress from tranche one to tranche two. However, some presented this better than others. NPg noted what it stated in tranche one, what it has done and what it intends to do going forward. This was aided with a well-structured submission.

- The DNOs also provided detail on the collaboration work they have had with academia and other companies to help aid their understanding and management of losses. For example, UKPN discussed its ongoing work with Toshiba on transformers. SSEN and NPG noted their work on smart meters with the University of Strathclyde and Sheffield University respectively.

2.3. Although these points are identified as areas of good performance, more evidence should have been provided for DNOs to meet all of the criteria. There were areas that we consider the majority of DNOs failed to answer at all or provided insufficient evidence, for example:

- While we note that some of the DNOs did attempt to respond to 'considerations for RIIO-ED2', there was insufficient evidence on how the progress made from tranche one to tranche two would help feed into losses in RIIO-ED2.

- It is clear that the DNOs are collaborating with each other more than in tranche one, especially through the ENA technical losses working group. However, we did not consider that any DNO provided enough detail on the outcome of this working group. Furthermore, there was no evidence on what additional work the DNOs had with each other beyond this working group.

- It was not apparent how many of the DNOs were considering the network in a holistic manner. SPEN are the notable exception.

- For some DNOs, not enough evidence was provided on whether the work on losses was part of, or in addition to, other funding mechanisms such as NIA (Network Innovation Allowance) and LCNF (Low Carbon Network Fund).

2.4. Appendices 1 to 6 provide more detail on our assessment of each DNO's submission under each criterion.

3. Next Steps

Section summary

This chapter sets out the next steps in the LDR process.

Tranche three

3.1. We look forward to seeing how the activities proposed by the DNOs in tranche one and two are incorporated into future iterations of the DNOs' Distribution Losses Strategies. We also look forward to seeing the overall outcome of the LDR to see how the management of losses has changed and progressed.

3.2. Tranche three of the LDR is in 2020-21. We intend to engage with DNOs and other interested parties in developing criteria for tranche three and will publish a formal consultation on our guidance in spring 2019. We intend to implement the tranche two guidance late in 2019.

3.3. In line with the LDR Guidance Document, our indicative view is that tranche three will be a predominantly backward looking assessment of losses management achievements, plus preparations for RIIO-ED2.

3.4. As per tranche two, we expect submissions for tranche three to fully meet all the criteria, with thorough yet concise evidence provided for each in order to achieve a reward.

4. Appendices

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Appendix 1 – Electricity North West Limited (ENWL)

1.1. ENWL did not provide sufficient evidence under criterion two and three. As they failed to meet one or more of the criteria, they are not eligible for a reward under tranche two of the LDR.

1.2. For each of the four criteria, we have highlighted areas which required more evidence to be eligible for a reward, as well as those areas that were the strengths of the submission.

Criterion 1 – Understanding of Losses

1.3. We considered this criterion to be the strongest area of ENWL's submission. ENWL noted its development of the future capacity headroom (FCH) model since tranche one, which has given it a 'unique foundation and level of understanding'. The FCH model enables ENWL to identify parts of its network that exhibit high losses, and in 2017 ENWL delivered seven capital projects which had a combined losses benefit of 133.8MWh per annum. ENWL noted that, using this with its new Network Management System (NMS) in 2019, the usability of the FCH will increase, informing further losses intervention.

1.4. We welcome the work ENWL has carried out with other stakeholders in looking at the network holistically. However, further detail on how its efforts to understand losses and actions taken affect others should have been provided. ENWL noted its ongoing discussions with National Grid, but there was not sufficient evidence to demonstrate that ENWL are taking the additional steps in this area.

1.5. ENWL highlighted its work on non-technical losses, noting that it has identified 150 cases of theft in 2016-17, which we commend. However, for this part of the submission, it would have been informative for ENWL to give details on how the outputs of work with the police and local authorities helped in ENWL's understanding of losses.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.6. ENWL did not provide sufficient evidence under this criterion to be eligible for a reward. The text used in this part of the submission appears to be a reiteration of what was stated in tranche one. It is not clear what progress has been made from tranche one with regards to collaboration and engagement with stakeholders. In tranche one, ENWL noted its intention to work with a range of stakeholders; tranche two notes that it has done this but the submission does not provide any examples or evidence to support this.

1.7. In addition to this, we would have welcomed further detail on its dedicated losses website. While we recognise this is a way to reach out to a number of stakeholders, we consider this is a 'business as usual' (BAU) activity. More evidence would have been required in order to demonstrate why this is exceptional, and therefore why it deserves to be rewarded.

Criterion 3 – Processes to manage losses

1.8. ENWL did not provide sufficient evidence under this criterion to be eligible for a reward. ENWL noted its work with the Data Communications Company (DCC) regarding smart meters. ENWL also noted its engagement with stakeholders (including the DCC) on ensuring enhanced functionality is included in the new SMETS 2 meter specification, and that any associated data privacy issues are overcome. We welcome this work with the DCC and relevant stakeholders to ensure that smart meter data will be used effectively, however we consider that this is the bare minimum DNOs should be doing in this space.

1.9. We expected DNOs to provide information on how they continue to look at best practice, both nationally and internationally, when considering processes and methods to manage losses on its network. It is unclear if ENWL has done this, as there is no evidence in the submission to suggest this. As ENWL did not respond to this part of the criterion, they are not eligible for a reward.

1.10. Similarly, as part of this criterion, we asked how the DNOs have considered RIIO-ED2 when understanding and managing losses, and whether its actions will help feed into RIIO-ED2 losses. ENWL did not provide a sufficiently detailed response to merit a reward.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.11. Real Options CBA (ROCBA) was noted in tranche one as an innovative approach. Since then, ENWL has used this to inform the purchase of Demand Side Response (DSR) at one of its primary substations. It highlighted that losses analysis was included in the decision making process for this project. The use of this model in 'optioneering' for grid and primary demand projects was transferred to BAU in September 2017. ENWL has noted the losses benefit due to transformer upgrades on its network since to the introduction of ROCBA as BAU.

Appendix 2 – Northern Powergrid (NPg)

1.1. NPg did not provide sufficient evidence across all of the criteria, and therefore are not eligible for a reward under tranche two of the LDR.

1.2. For each of the four criteria, we have highlighted areas which required more evidence in order for a reward to be given. Additionally, we have also noted areas which we considered to be strengths of the submission.

1.3. Although this would not have had an effect on our decision, NPg's submission was very well structured and was clear on the progress made from tranche one.

Criterion 1 – Understanding of Losses

1.4. . Under this criterion, NPg has shown clear progress from tranche one, including what they continue to do and when they expect it to be completed. For example, NPg noted in tranche one that it wants to develop a better understanding of errors in power flow measurement. In conjunction with Sheffield University, NPg delivered a project on Smart meter data, and provided the key findings of this work in the tranche two submission. It also set out how it intends to use these findings to form the foundations of its Enhanced Losses forecasting model and help develop future proposals for an ED2 losses incentive mechanism. We welcome this approach – as we stated in the LDR guidance document, we expect this tranche to be both forward and backward looking.

1.5. NPg mentioned its study of other DNOs' data when looking at the network holistically. However, there is insufficient evidence on how this analysis helps NPg to understand how actions on its own network affects others. Overall, NPg did not provide sufficient evidence under this criterion to be eligible for a reward.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.6. NPg did not provide sufficient evidence under this criterion to be eligible for a reward. NPg noted that since tranche one it has run a consultation on its losses plan – 'Delivering Enhanced Management of Electricity Losses'. However, it further noted that it had a limited response to the consultation, which led it to run more targeted campaigns. It has also noted that with online communities, it intends to run a more targeted consultation with interested stakeholders.

1.7. While we recognise that NPg has learned lessons with its consultation and is looking at a different approach, more detail on how NPg intends to engage and utilise stakeholder engagement effectively to inform its losses management going forward would be welcomed. NPg has not provided sufficient details on what its targeted approach would be to be eligible for a reward under this criterion.

Criterion 3 – Processes to manage losses

1.8. NPg did not provide sufficient evidence under this criterion to be eligible for a reward. NPg has provided detail on how it will continue to look at best practice both nationally and internationally. NPg has been in regular communication with colleagues in its sister companies in North America, and this interaction has given it confidence in its approaches, particularly in pursuit of the conservation voltage reduction at primary HV busbars. More detail on the understanding and benefit from this communication would be welcome here.

1.9. NPg did not set out what concerns it had initially and why now it feels confident moving forward with this work. Additionally, although we welcome the work and collaboration, which NPg has with its sister companies; we consider this to be business as usual for a company in this position. Therefore, we do not consider this work as exceptional so as to merit a reward.

1.10. Under 'Process to manage losses', we asked companies to demonstrate how they are preparing to effectively use smart meter data to develop specific actions to manage losses, and what process they have in place now. NPg has not provided sufficient evidence for this. Although NPg notes that it has completed its action from tranche one, there is no detail on what, if any, progress has been made since tranche one. Additionally, it is not clear what processes are in place other than having established a team.

1.11. As part of this criterion, we asked how the DNO groups have considered RIIO-ED2 when understanding and managing losses, and whether its actions will help feed into RIIO-ED2 losses. NPg has not provided a response to these questions under this criterion. We note that NPg has mentioned ED2 briefly in other parts of the submissions, for example under 'Understanding of losses' and that its Enhanced Losses forecasting model will help develop proposals for ED2. However, we do not consider these questions to be answered fully and that enough evidence has been provided for NPg to have met this criterion.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.12. NPg did not provide sufficient evidence under this criterion to be eligible for a reward. NPg notes its engagement with the Network Innovation Allowance (NIA) project DE-ROSA, however it does not mention any additional work above and beyond the work carried out as part of the NIA funding. While it is clear that NPg intends to analyse outputs from other projects, there is no evidence to suggest that these are innovative approaches. Additionally, the submission does not provide enough information on how this work helps in its processes to manage losses.

Appendix 3 - Scottish Power Energy Networks (SPEN)

1.1. While we consider SPEN's submission to be a strong submission for tranche two, we do not consider SPEN to be eligible for a reward as they did not provide sufficient evidence to meet criterion three and four. However, SPEN did have good initiatives and has clearly made progress from tranche one.

1.2. For each of the four criteria, we have highlighted areas which required more evidence in order for a reward to be given. Additionally, we have also noted areas which we considered to be strengths of the submission.

Criterion 1 – Understanding of Losses

1.3. SPEN is considering the network in a holistic manner, looking at the distribution/transmission interface, which was noted in its tranche one submission. SPEN has continued to work on this model and improved its understanding of a range of possible operating conditions, constraints on its network and the impact on network losses. The next step is to discuss further with NGET to explore operating boundary conditions. We encourage this holistic view, as this ensures consideration of all customers and not just the customers on the DNO's own network.

1.4. SPEN has provided areas, which it and other DNOs/TOs have focused on to assess the impact of low carbon transition on technical losses, and SPEN has listed findings from these studies. While SPEN has shown how the work being carried out continues to improve its understanding, more detail on the points would have been welcomed. For example, how this work helps develop SPEN's view and understanding of its own network, as well as the wider system.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.5. As part of tranche one, SPEN noted one of its initiatives – Improved Detection of Theft through Revenue Protection – that it intends to allocate one full time member of staff to Merseyside Police. As part of the tranche two submission, SPEN has shown that the team now has one a member of staff permanently embedded within the Merseyside Police force, which has resulted in a significant increase in detection of energy theft. As a result, SPEN is pursuing a similar initiative with Police Scotland. We welcome this engagement, as it has allowed SPEN to identity areas of non-technical losses and how to better manage these losses. Although we consider this a good initiative, we would have welcomed further detail on the progress of this initiative since tranche one. Similarly, the engagement with the Theft Risk Assessment Service Expert Group has been noted as good engagement, but more detail on this work would have been useful.

1.6. Through its dissemination of the LDR initiatives at a CIRED conference, SPEN is working with Tokyo Electric Power Company and is investigating opportunities which could save on losses.

1.7. The ENA Technical Losses Task Group, chaired by SPEN, has been put into place since tranche one. We recognise this group as being a good space for collaboration and sharing of best practice across the industry, but now view this to be business as usual. More detail on specific projects/collaboration with other DNOs would have been welcomed here.

Criterion 3 – Processes to manage losses

1.8. SPEN did not provide sufficient evidence under this criterion to be eligible for a reward. SPEN has noted national and international best practice within its submission, including sharing within the ENA Technical losses task group. However, it is unclear if there are any processes that SPEN has considered from this working group when managing losses on its network. Internationally, SPEN noted Iberdrola's work with the CIRED working group on losses reduction, but there is not enough information provided here to suggest that the work is being carried out by SPEN.

1.9. SPEN has noted work that it is starting to put in place for smart meter data, however the information provided is insufficient. There is no evidence of how this work will enable the management of losses. It appears that SPEN is considering approaches to managing losses but it is unclear whether these will be put in place.

1.10. Although SPEN do mention RIIO-ED2 in this criterion, it does not provide much detail. The points noted for RIIO-ED2 highlight projects/methodology that could be used or could influence an incentive. While we welcome the consideration of work to help drive RIIO-ED2 on losses, we would have liked more tangible points to be noted here. We do not consider enough information has been provided to meet this criterion.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.11. As previously noted, we welcome the work with Merseyside Police. SPEN has a full time member of staff within the Merseyside police to support their Cannabis Dismantling Team, and this is now BAU; we consider this a good initiative. SPEN also noted its intention to implement a similar approach with Police Scotland. We would have welcomed more of SPENs initiatives to be moved into BAU following the progress which they have set out in tranche two.

1.12. With regards to innovative approaches, SPEN provided a fairly informative answer which included uses of smart meter data to identify losses and LV optimisation. However, there is a lack of detail on how these schemes will deliver clear benefits in terms of management of losses. SPEN have stated that this will be the case without clearly articulating how. Overall, SPEN did not provide sufficient evidence under this criterion to be eligible for a reward.

Appendix 4 - Scottish and Southern Energy Networks (SSEN)

1.1. SSEN has clearly set out and responded to each question under the criteria. However, we do not consider sufficient evidence to have been provided under criterion one and three to be eligible for a reward.

1.2. For each of the four criteria, we have highlighted areas which required more evidence in order for a reward to be given. Additionally, we have also noted areas which we considered to be strengths of the submission.

Criterion 1 – Understanding of Losses

1.3. SSEN noted that it has identified, when developing the strategy on how best to manage the anticipated rise in EV numbers, the correlation between the types of network which will be impacted by EVs and those likely to incur high losses. Therefore, SSEN has focused on trying to better understand losses in these areas. SSEN has provided information on various factors which would feed into this – Substation monitoring, smart meter data and analytics, and new data sets.

1.4. SSEN has provided a response to how it is looking at losses holistically, however the submission did not provide any detail of how it considers any of its actions on losses affects others – for example transmission and/or other distribution networks. We would expect DNOs to be considering this approach and therefore do not consider SSEN to have met this criterion to be eligible for a reward.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.5. SSEN has noted its engagement with the water industry, looking at how this industry identifies networks which may experience leakage, and have listed learnings from this engagement. We recognise this work as a good initiative, as SSEN is considering how other industries are affected by losses that are applicable to them. SSEN noted that this work identified similar in-field tools employed in the water industry to be trialled in its own network to identify faults and non-technical losses. We also welcome the joint projects that SSEN has (and will continue to) carry out with other DNOs regarding network boundaries.

1.6. The Losses Competition set up by SSEN has made progress from tranche one, and due to its success it will expand to run 'hackathon' in the future. Additionally, SSEN has set up a campaign (#notworththerisk) and engaged with Stay Energy Safe for non-technical losses. We recognise these as notable initiatives; however, more detail around how to get stakeholders engaged initially in the 'hackathon' would be informative.

1.7. Although SSEN has provided instances of engagement with a number of stakeholders on various projects, it is not evidenced what processes are in place for sharing of best practice. The points noted such as the Future Networks Quarterly Newsletter will be included going forward, and the Losses Teams Webinar are useful ways of dissemination. However, we do not consider these points exceptional and are part of BAU, particularly the inclusion of Losses in the newsletter.

Criterion 3 – Processes to manage losses

1.8. SSEN did not provide sufficient evidence under this criterion to be eligible for a reward. SSEN has noted its work nationally and internationally in its submission when considering processes and methods to manage losses on its network. We recognise the work and extra steps SSEN has taken to discuss losses with water and gas companies nationally; however more detail on the learnings from tranche one would have been useful here. Additionally, the submission notes that further investigation could enhance understanding of best practice and further engagement could support the development of a cost benefits analysis model. While we note that SSEN intends to carry on this engagement, it is not evidenced why this could lead to a possible outcome for losses management.

1.9. SSEN has set out detail of its work with regards to Smart meters, looking internationally and at the outputs of from its work with the University of Strathclyde. SSEN is considering options from this analysis of how the network can/should be monitored, however there is no evidence of the processes which SSEN has in place following tranche one, therefore we do not consider this criterion to be fully met.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.10. As previously mentioned under criterion two, SSEN intends to run a 'hackathon' in the future, where stakeholders will work together to 'hack' data. SSEN intends to share this data from its network (subject to data privacy) for stakeholders to 'hack' which they hope will identify new ideas on the management of losses. We recognise this as an innovative approach for trying to better understand and manage losses on the network.

1.11. SSEN set out various aspects of its investment strategy which can be used to help manage losses. Although we welcome the work being carried out as BAU to help manage and reduce losses, these points would have been considered BAU as part of tranche one. It is not clearly set out what innovative approaches identified in tranche one are now part of BAU.

Appendix 5 - UK Power Networks (UKPN)

1.1. UKPN has provided evidence of how it has progressed from tranche one to tranche two, however it failed to provide sufficient evidence across all criteria, and therefore is not eligible for a reward under tranche two of the LDR.

1.2. For each of the four criteria, we have highlighted below, areas which required more evidence in order for a reward to be given. Additionally, we have also noted areas which we considered to be strengths of the submission.

Criterion 1 – Understanding of Losses

1.3. UKPN did not provide sufficient evidence under this criterion to be eligible for a reward. UKPN set out in tranche one its intended work with Imperial College London (ICL). UKPN has shown the progress made, and the tranche two submission provides detail on the key messages and outputs of this collaboration, suggesting a better understanding of losses on the network. While UKPN has identified various outputs which could be used, UKPN has not identified if it intends to put any of these to use.

1.4. For criterion one, UKPN has not provided sufficient evidence when considering the network holistically. There is no mention of how the actions UKPN is taking to manage losses on its network would affect others such as transmission and/or other distribution networks. Additionally, although UKPN has presented its findings from the work with ICL, UKPN does not set out if it is continuing its understanding of losses. For example, whether it is carrying out any further studies and looking in more detail at some of the points presented in the submission. We do not consider this criterion to be sufficiently addressed in order to be eligible for a reward.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.5. UKPN notes its Losses webpage as being the first of its kind. Although this might not be the case as other DNOs do have dedicated losses websites, we consider the UKPN's Losses webpage to be very engaging. The background information on losses are well presented, giving all stakeholders a clear understanding of what losses are. We see this as a good initiative.

1.6. In tranche one, UKPN set out its intention to work with manufacturers to look at an alternative for low-loss transformer technologies. The tranche two submission has details on the collaboration with Toshiba on pole-mounted transformers. UKPN has looked into developing the transformers used on its network and will continue to work with Toshiba over the coming years, which will help reduce and manage losses. We consider this engagement beneficial for the management of losses. UKPN has also noted its intention to promote this technology with other DNOs.

1.7. UKPN has not provided sufficient evidence on collaboration with other DNOs. While we note that there is the intention for all DNO groups to optimise stakeholder engagement, more detail on specific projects/collaboration with other DNOs would have been welcomed here. On balance overall, UKPN did not provide sufficient evidence under this criterion to be eligible for a reward.

Criterion 3 – Processes to manage losses

1.8. As part of this criterion, we asked how the DNO groups have considered RIIO-ED2 when understanding and managing losses, and whether its actions from tranche one to tranche two will help feed into RIIO-ED2 on losses. UKPN has not provided a response to these questions under this criterion. UKPN has briefly mentioned RIIO-ED2 in its Executive summary of the submission for tranche two – noting that it believes its successful delivery of the tranche 2 proposals will help underpin the creation of a losses incentive mechanism for RIIO-ED2. However, it is has not identified what aspects in the tranche two submission UKPN considers will help ensure progress is made with managing losses in ED2 under this criterion.

1.9. UKPN has identified nations which outperform peers and the reasons why when looking at smart meter data. It has noted how countries are using smart meter data to detect and reduce non-technical losses. UKPN has an understanding of the way others manage losses but has not provided information on the processes it has in place to effectively use smart meter data. We do not consider UKPN to have sufficiently met this criterion in order to be eligible for a reward.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.10. UKPN notes its Contact Voltage Losses (CVL) project – which is focussed on the identification of a new category of losses. While we recognise the work being carried out in this area, more detail on how it is innovative would have been welcomed. We look forward to how the identification of this category will help UKPN and other DNOs to manage losses in the future.

1.11. UKPN refers to its LCNF project 'KASM', as part of its submission under this criterion. It is unclear what progress has been made in this project since tranche one. Overall, UKPN did not provide sufficient evidence under this criterion to be eligible for a reward.

Appendix 6 - Western Power Distribution (WPD)

1.1. Although we consider some of the approaches WPD are taking to manage losses to be innovative and in the right direction, it failed to provide sufficient evidence across all criteria, and therefore is not eligible for a reward under tranche two of the LDR.

1.2. For each of the four criteria, we have highlighted areas which required more evidence in order for a reward to be given. Additionally, we have also noted areas which we considered to be strengths of the submission.

Criterion 1 – Understanding of Losses

1.3. WPD did not provide sufficient evidence under this criterion to be eligible for a reward. WPD mentions its additional work following its Innovation Funding Incentive (IFI) project and its Losses Investigation project to improve its understanding of losses. While we note that WPD is looking at losses through other mechanisms to help with understanding, such as projects which are part of NIA or IFI, it is not clear what the additional work is outside of this funding and therefore eligible for a reward under the LDR. Losses Investigation is a NIA project and would not be rewarded under LDR.

1.4. WPD note that it is considering losses when looking at the uptake of electric vehicles (EVs). For example, it plans to investigate the way electricity is provided to new housing estates and develop methods to easily and efficiently retro-fit existing housing stocks. In addition, it is considering a method where it will move vehicle charging to the high voltage network. While we welcome this work on EVs when considering losses, more information on this would be useful for this criterion showing how this work will help understanding.

1.5. WPD mentions research completed by WSP consultants on behalf of the ENA Technical Losses Task Group stating some of the outcomes from this work[8]. We commend this collaborative work with DNOs and the progress made from tranche one; however, we do not consider that WPD has provided sufficient evidence on how its understanding of losses has developed, and what additional work it has undertaken outside of the ENA working group, to be eligible for a reward.

Criterion 2 – Effective Engagement and sharing of best practice with stakeholders on losses

1.6. WPD did not provide sufficient evidence under this criterion to be eligible for a reward. It is not clear the additional work WPD has carried out since tranche one on its stakeholder engagement other than its work in November 2017. The information provided in the submission is not sufficient to meet this criterion. Additionally, the stakeholder engagement events noted are a reiteration of those set out in tranche one. There is not enough evidence on the progress that has been made from tranche one.

1.7. WPD notes that it is keen to learn from others and use their research to develop its plans, noting that its strategy includes topics from other DNOs strategies. While we note

[8] It shows the effect that low carbon technologies will have on losses and also shows that there will be an economic level of losses for the network.

that WPD is looking to other DNOs for learning, it is not clearly set out what processes it has in place for sharing of its own best practice.

Criterion 3 – Processes to manage losses

1.8. WPD has not provided a sufficient response to how it is looking at best practice nationally and internationally, when considering processes and methods to manage losses on its network. While WPD notes that it had enhanced its strategy by adopting elements from other submissions, it is not clear how this has been done other than working through recommendations from the SOHN Associates report[9]. There is also no evidence of WPD looking at best practice internationally.

1.9. While WPD has noted ways in which smart meters will help it to identify losses, it has not outlined any steps it will take to effectively use this information, or the specific actions that it will take to manage losses. On balance, WPD did not provide sufficient evidence under this criterion to be eligible for a reward.

Criterion 4 – Innovative approaches to losses management and actions taken to incorporate these approaches into business as usual activities

1.10. WPD has provided details of innovative projects which will help with its management of losses – Low Voltage Design Optimisation and Low Loss Cables. We welcome the work WPD has done on these innovative approaches.

1.11. WPD has identified LCNF projects which were not focussed on losses but have provided it with information and savings as an indirect benefit which was not specifically funded. We consider this to be useful learning, however it would have been useful for WPD to provide additional information on the work that it is taking forward or intends to take forward with these learnings. Similarly, WPD has set out projects which it has developed for 2018 and beyond as part of its submission. We welcome these approaches but would have liked further detail on how these projects will help to manage losses. Overall, WPD did not provide sufficient evidence under this criterion to be eligible for a reward.

[9] https://www.westernpower.co.uk/docs/Innovation-and-Low-Carbon/Losses-strategy/SOHN-Losses-Report.aspx