



# Customer-Led Network Revolution

## CLNR Learning Credits System

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# 1 Introduction

In order to ensure maximum learning from the network trials of the CLNR we have developed a “Learning Credits” system that quantifies the learning achieved from trials. This ensures maximises the learning from the trials during the trial programme. A few of the key rules of the system are summarised below:

- The learning credits system acknowledges the importance of the first trial of a piece of a network intervention to achieve a specific control objective e.g. voltage or powerflow control on a network. Further trials of the same intervention on other areas of network have a lower learning credit value.
- Combinations of two or more network interventions trialled to achieve a specific control objective are worth more (a control objective might be voltage control or powerflow management). However, if the network interventions are not previously individually trialled on their own a penalty on the value of the learning credits for the trial, reflecting the uncertainty potentially introduced.
- Where a combination of control objectives are being trialled these trials will be worth more than the learning credits of single network management objective trials, reflecting the value of understanding how to simultaneously achieve multiple control objectives.

## 2 Rules

1. Progress will be measured on the number of learning credits achieved.
2. In general, the first trial of a piece of a network intervention to control voltage on one of the networks is worth 2 learning credits.
3. Further trials on other areas of network of the same intervention will be worth  $2/4$  learning credits.
4. If a new combination of 2 X network interventions is trialled to control voltage this will be worth  $2^2$  credits. However, if the network interventions are not previously individually trialled on their own a penalty of  $2^2/2$  credits will be imposed.
5. Further trials on other areas of network of the same combination of interventions to control voltage will be worth  $2^2/4$  learning credit.
6. If a new combination of 3 X network interventions is trialled to control voltage this will be worth  $2^3$  credits. However, if the relevant 2X or single network intervention to control voltage trials are not previously trialled a penalty of  $2^3/2$  credits will be imposed.
7. Further trials on other areas of network of the same 3 X combination of intervention to control voltage will be worth  $2^3/4$  learning credit.
8. This same relationship exists for 4 X and 5 X and 6 X combinations of interventions.
9. An open loop trial is worth  $1/4$  of the closed loop trial trials learning credit.
10. The same methodology is proposed for powerflow management trials as for voltage control trials in steps 1 – 7.
11. Where the combination of objectives (voltage control and powerflow management) is being trialled these trials will be worth the multiple of worth of the learning credits of the combination objective trials.
12. A trial of a network intervention plus GUS is equal to twice the trial without GUS. GUS is considered another level of complexity therefore it has the same value as a combination of network interventions.
13. Distributed/coordinated trials are
14. A full year of data of an RTTR trial is worth double the learning credits of the original trial.
15. The indicative learning credits in the *FieldTrialsforNPG* matrix assumed that this is a repeated trial.



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