*Innovation Competitions - Full Submission*

*Supplementary Answer Form*

Tick if this answer has been provided verbally:

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| Project code | ENWT206 | Question Number | Q22 |
| Question date | 31 July 2014 | Answer date | 4 August 2014 |
| Submission section question relates to | Appendix D Risks | | |
| Topic | Risks | | |
| Question | Regarding the risk that FLARE technologies do not perform as anticipated, please break this down to the biggest conerns (per technology type) and how these will be mitigated. | | |
| Notes on question |  | | |
| Answer | There is a risk that the IS-limiter does not operate as intended. The probability of failure for an IS-limiter is **0.000049** (ie the Is-lmiter will not operate once in every 20 408 operations). This figure is supported by the Safety Case found in Appendix G and the full document attached with the answer to Question 20 which has used multiple data sources to calculate the probablilty of failure factor. Not withstanding the very small risk of an IS-limiter not operating, we will mitigate the highly improbable event of non operation by only installing this technology on Trial networks which do not require its successful operation to remain safe. The technology will be evaluated within an R, D & D project environment to show that it is fit for purpose as a solution for GB distribution network protection.  There is a risk that the Adaptive Protection technology retrofitted into substations does not perform as anticipated. FLARE will make use of the additional functionality in commercially available protection relays which are widely deployed in current DNO substations. To ensure each protection scheme operates as designed we will peer review all protection setting calculations and use business as usual procedures to ensure the correct settings are applied to the correct protection relay. We do not consider this risk any more onerous than business as usual.  There is a risk that the Adaptive Protection for electrical machines technology does not perform as anticipated. As with the substation Adaptive Protection FLARE will try to use commercially available protection relays but in this case it is a little more uncertain as to which devices will be used. This will depend on the customer’s existing protection schemes. To ensure protection scheme operates as designed we will peer review all setting calculations and use business as usual procedures to ensure the correct settings are applied to the correct relay. We will work closely with our partners CHPA, ENER-G and United Utilities to understand the customers’ existing installations and how we can apply the necessary protection.  There is a risk that the Fault Level Assessment Tool does not perform as anticipated. We will check the accuracy of the software using the Outram fault level monitors and the software will be subjected to rigorous testing prior to “go live”. If the software is found to be inaccurate we may either alter the thresholds to enable the techniques or in the worst case stop the Trial.  We will update the risk register accordingly in the next version. | | |
| Attachments |  | | |