*Innovation Competitions - Full Submission*

*Supplementary Answer Form*

Tick if this answer has been provided verbally:

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| Project code | ENWT206 | Question Number | Q36 |
| Question date | 14 August 2014 | Answer date | 18 August 2014 |
| Submission section question relates to | Section 3 | | |
| Topic | Project description | | |
| Question | What happens if the intervention selected by FLAT doesn't work (and so the CB would overloaded)? Will another intervention be selected? | | |
| Notes on question |  | | |
| Answer | In the FLARE Project there will only be one technique deployed per substation, therefore there is no opportunity to select an alternative if the installed fault level mitigation technique does not operate as expected.  But in the FLARE Project we will intentionally select sites which have an expected future fault level issue ie they do not currently have a fault level issue to demonstrate the operation of each fault level mitigation technique without overstressing the installed distribution network equipment.  To show the fault level mitigation techniques operate as expected we will calculate and apply the protection settings for each of the techniques assuming that the network equipment (ie switchgear, circuit breakers and cables etc) rating is much lower than it actually is. This will result in the techniques operating well within the rating of the network equipment and if the technique fails the circuit breaker can clear the fault without risk of damage. This methodology allows Electricity North West to assess the effectiveness of the different techniques whilst managing the risk to its network equipment.  It is of note that all substations are equipped with backup protection on upstream circuit breakers. This is a standard design feature that ensures that if a given circuit breaker or protection system fails to operate then the upstream circuit breakers safely clears the fault, albeit it at the cost of increased customer interruptions. This backup feature will be unaffected and provide the same safeguard for failure of any of the FLARE techniques. | | |
| Attachments |  | | |