*Innovation Competitions - Full Submission*

*Supplementary Answer Form*

Tick if this answer has been provided verbally:

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| Project code | ENWT206 | Question Number | Q35 |
| Question date | 14 August 2014 | Answer date | 18 August 2014 |
| Submission section question relates to | Section 2 | | |
| Topic | Project description | | |
| Question | Adaptive Protection involves changing the activation sequence of CBs from their 'normal' setting. How will these new settings be calculated? Does this have to be done manually for each scenario? Or does FLAT calculate these automatically? | | |
| Notes on question |  | | |
| Answer | A second set of protection settings for the Adaptive Protection technique will be calculated in the Technology Workstream, prior to the retrofit of a new protection relay or the uploading of the second set of protection settings in a modern numerical protection relay, using our standard calculation methods.  Parsons Brinckerhoff will review the existing protection settings of the substation and calculate the second set of protection settings for the Adaptive Protection technique. In essence, they will calculate the change in the “time” element of the protection settings for the worst case fault scenario and release two sets of protection settings: one for the “normal” operation and the second for the “fault level exceeds rating” operation. Prior to issue for installation both sets of protection settings will be reviewed by a third party. This process was detailed in the answer to Q22 in the sentence “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”.  There is no automatic calculation of the protection settings by the Fault Level Assessment tool nor is this required to achieve the benefits.  The Fault Level Assessment Tool will send an enable command to the protection relay to switch between the two settings which are pre-programmed into the relay during commissioning. | | |
| Attachments |  | | |