

## Network Innovation Competition 2020 Supplementary Answer form

<b>Project Name</b>	<b>Retrofit Insulated Cross Arms (RICA)</b>		
<b>Question number</b>	<b>2</b>	<b>Pro forma section</b>	<b>3</b>
<b>Question date</b>	<b>18/08/2020</b>	<b>Answer date</b>	<b>20/08/2020</b>
<b>Question summary</b>	<b>Has any work been done to determine the feasibility of rolling out RICA on a real circuit and the outage requirements? In particular, is it know if the work can be carried out under single circuit outage conditions.</b>		

### **Answer (please retain document formatting and do not exceed 2 pages unless otherwise agreed with Ofgem)**

The specifics of how to efficiently complete the rollout of RICAs on a real circuit and associated outage requirements are among the key objectives of the RICA project. We recognize that outage availability is one of the important factors that is preventing the adoption of RICAs at present and is currently unanswered. This has been identified as Risk #21 of our risk register. Outage requirements will depend on installation techniques designed for RICAs.

Although a targeted feasibility study has not been performed on full circuit rollout and outage requirements for RICAs\*, the RICA project team is not completely in the dark regarding this topic. The last segment of the series of NIA projects on RICAs ([https://www.smarternetworks.org/project/nia\\_shet\\_0007](https://www.smarternetworks.org/project/nia_shet_0007)), included installing and trialling

RICAs on two consecutive suspension towers on an operational 132kV circuit on SHE's network. This has been illustrated in Appendix VII.5 of the FSP document.

These small trials at 132 kV showed that outage requirements were manageable for this suspension tower RICA application. These trials have built enough confidence for the case of suspension towers and with more innovation, we're confident of achieving similar results for angle and terminal tower configurations; given the skills NG has in delivering similar schemes (such as reconductoring programmes). However, significant work is required to develop a solution with the right balance between quick installation and cost for an entire route.

Owing to available learnings and experience from reconductoring programs, the RICA project team anticipate that full circuit roll out of RICAs can be done under single circuit outages. This assumption will be tested and innovated upon during the NIC project. The project will develop and improve installation techniques to optimise outage needs. This is one of the key technology gaps for RICAs that the NIC project will strive to resolve.