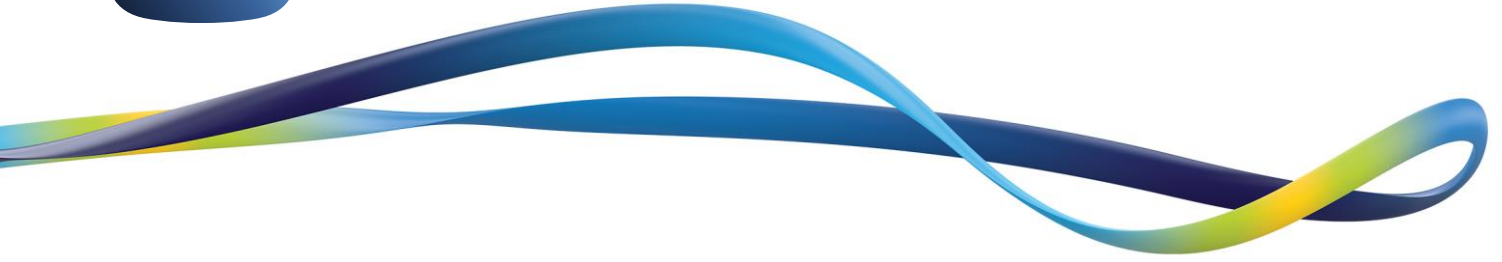




NETWORKS



MV Customer Connection Standard Module – Electric Vehicle Charging Hubs in Urban Environment

DOC-010720-FUU

Introduction

In order to support the Irish Government's National Climate Action Plan, ESB Networks needs to develop standard options to facilitate faster and optimised connection options for renewable and customer connections to our network.

As part of the Irish Government's Climate Action Plan 2019, there are several targets within the transport sector that must be met by 2030. One such target is to *“Build the EV charging network to support the growth of EVs at the rate required and develop our fast-charging infrastructure to stay ahead of demand”*. Over the next 10 years EV charging providers are going to require connections to the distribution network as their electrical load requirements increase with the rapid development in fast charging technology.

The aim of this project is to support the EV industry in meeting that target for specific connection scenarios. ESB Networks will be undertaking a trial of a modular MV connection solution that will allow for a faster connection at the EV charging provider's location, reducing the MV connection building footprint significantly and also minimising the amount of on-site work that is required. This trial will be an opportunity for potential future customers to consult with ESB Networks on our proposed solution and view the standard module at a trial site.

Background

Currently if a large EV charging provider (typically > 500 kVA) requires a connection, the standard solution is to build a free standing MV building as shown below.



FIGURE 1 - EXISTING SOLUTION

These buildings have a large footprint, which is problematic in urban areas where space is limited and require significant on-site construction.

Proposed Solution

ESB Networks proposed solution will consist of a module that can be factory built and deployed to the EV charging customers location. The benefits of this solution are minimising work on-site and reducing the overall footprint in comparison to a traditional MV block-built substation. This module will be compatible with any potential EV charging customers module.

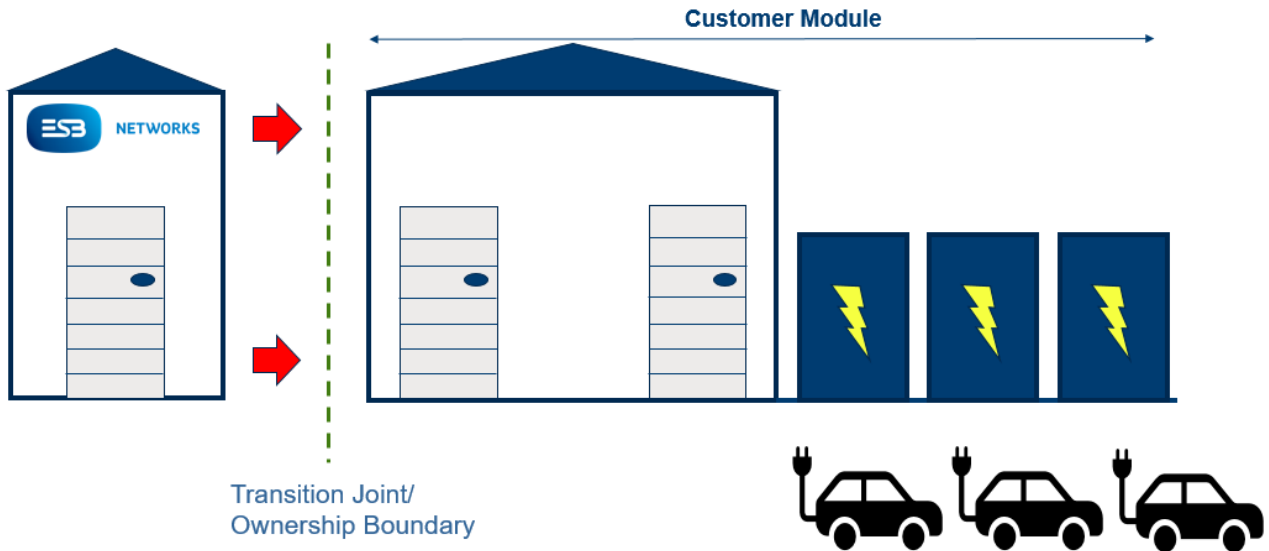


FIGURE 2 – PROPOSED SOLUTION (ELEVATION)

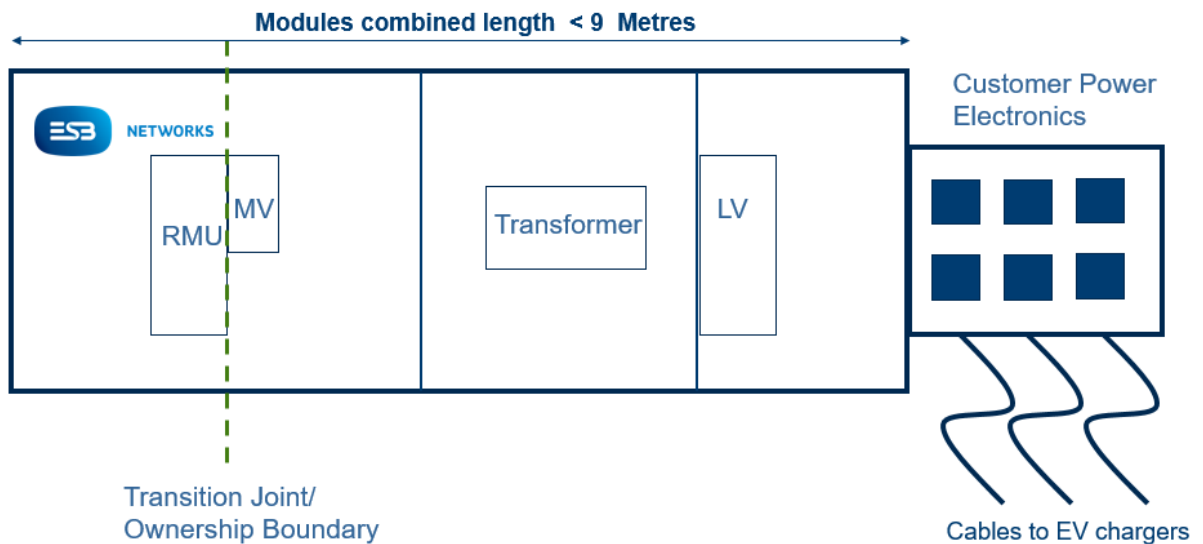


FIGURE 3 - PROPOSED SOLUTION (PLAN)

Trial and Consultation

ESB Networks will be conducting a trial of the proposed modular solution either at the ESB Networks training centre in Portlaoise or at a customer's site. This trial will be an opportunity for EV charging customers to see ESB Networks proposed solution in person. During the trial, customers will have the opportunity to comment and give feedback to ESB Networks. The aim of this trial is to demonstrate the benefits of the proposed module and to ensure that the final modular solution will cater for all EV customers. Benefits are:

- Reduction in overall footprint
- Reduction in on-site construction
- Fast turnaround time

ESB Networks welcomes any comments interested stakeholders may have on this proposal. Consultation will close on the 30th September 2020.