# *Interactive comment on* "Subsea cable management: Failure trending for offshore wind" *by* Charlotte Strang-Moran

**Charlotte Strang-Moran**

charlotte.strang-moran@ore.catapult.org.uk

Received and published: 20 May 2020

Thank you Anonymous Referee #1 for your feedback on Wind Energy Science discussion forum.

There is a lot of interest around failure of offshore wind subsea cables, both export and inter-array, and there are many more pieces of literature that discusses failure modes across HV and submarine cables. What is currently an interest area and this paper is highlighting, is the lack of data available from offshore wind farms. To truly understand the progression and development in offshore wind cable technologies, as well as understanding safer offshore fault-finding procedures the recording of causes of cable failure and lessons learned should be attained. Currently there is limited existing

data on cable failures and there has been no effective concept to benchmark them. The database currently contains data from both public sources, available on open sources online, and sources from our own engagement within the industry. It is important to highlight that this data is from a wide range of sources which is not the most effective way to collect information. However, as the cable sector has such limited data on failures – this is the only way it can be done. Stakeholder engagement clarified that there were reservations over whether a live, regularly-updated platform would provide ongoing value and longevity, but the industry is changing and data trend analysis is recognised as an effective method to bridge certain technical challenges in the industry. More opportunities are materialising for accurate data-sharing. We have been working towards better and more accurate ways to obtain our data so that we can investigate into more detail certain aspects in the cable sector.

Cigre's data is very useful and helpful in investigating cable failure across HV cable underground, inter-connectors and some offshore wind cabling. However, it does not provide data entirely investigating inter-array or export cables for offshore wind. As our data currently sits, we have provided export and inter-array cable finding in accumulated results due to the limited data. As we continue to advance our data sets we will be looking to improve they way in which the data can be presented.

The objective of the report is to open up discussions for data sharing and how the information can be displayed and trended while ensuring those involved that anonymity is kept. We are now looking at the development of the database to improve data sources and therefore the accuracy, expediency and effectiveness of the results. This will allow further investigation into such things as estimation of the mean time between failures and failure rates for each type of cable MV and HV, from the collection grid and transmission. As we begin to grow and develop our failure recording abilities we are indeed looking to do this.