



Contribution ID: 318

Type: **Poster Presentation**

Impact of Wind on Pollution Accumulation Rate on Outdoor Insulators Near Shoreline

Thursday, 7 July 2016 14:40 (20 minutes)

The present work is an experimental work to investigate the impact of wind speed on pollution accumulation rate on outdoor insulators near coastal area. The outdoor insulators near shoreline are suffered from rapid saline accumulation due to heavy wind coming from the seashore, which is more dangerous in foggy weather conditions. A method was developed in laboratory to find the impact of wind velocity and wind direction on the pollution accumulation rate on outdoor insulators and subsequently to determine a suitable mitigate method to overcome these problems. To replicate the seashore conditions on outdoor insulators an experimental setup was developed and installed inside an environmental chamber and was functioned with a wind generation and shoreline specification slats (NaCl, CaSO₄) and kaolin powder injection system. The equivalent salt deposit density (ESDD) and nonsoluble deposit density (NSDD) were measured on the top and bottom of insulator surfaces at different wind speed. Useful observations were stated, with the wind speed and salt deposit density on energized and unenergized insulators. It was found that the pollution accumulation rate increased with the increase of wind speed up to 8 m/s but it decreased when the wind speed more than 8 m/s. Moreover, the pollution accumulation rate was different in energized and unenergized states.

Primary author: HUSSAIN, Muhammad Majid (Glasgow Caledonian University)

Co-authors: Mr FARZANEH, Masoud (INGIVRE, University of Quebec at Chicoutimi); Mr MCMEEKIN, Scott (Glasgow Caledonian University); Mr FAROKHI, Shahab (Glasgow Caledonian University)

Presenter: HUSSAIN, Muhammad Majid (Glasgow Caledonian University)

Session Classification: Poster 2-A

Track Classification: Dielectrics, Insulation, and Breakdown