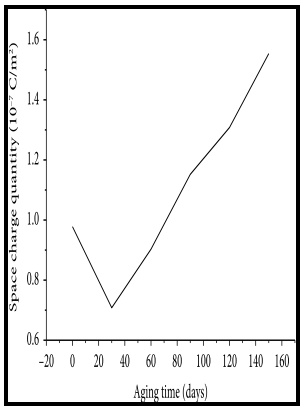
Changes in rubber insulation due to voltage stress and aging.

- - Hyperspectral imaging of high voltage insulating materials subjected to partial discharges



Description: -
-Changes in rubber insulation due to voltage stress and aging.
-Changes in rubber insulation due to voltage stress and aging.
Notes: Abstract of a thesis, Ph.D., University of Illinois, 1936.
This edition was published in 1936

Filesize: 39.89 MB

Tags: #ShieldSquare

Hyperspectral imaging of high voltage insulating materials subjected to partial discharges

To ascertain the relative influence of temperature and voltage stress on aging EPR program Data are provided from laboratory evaluations performed on ten 15kV and five 35kV ethylene-propylene copolymer rubber EPR feeder cables, made by one manufacturer and ranging in service age from 2 to 22 years. In this report pink Okoguard® EPR insulation material has been thermally aged at elevated temperatures.

Hyperspectral imaging of high voltage insulating materials subjected to partial discharges

They are characterized by physical and chemical effects that occur in the microstructure of insulating materials which lead to their deterioration or breakdown. To perform accelerated aging tests of EPR insulated cables under various controlled conditions of temperature and voltage stress in a wet environment EPR program? The products include the most ubiquitous cross-linked polyethylene XLPE and ethylene-propylene rubber EPR classes of insulation polymer.

ShieldSquare

The leakage current is regularly monitored and recorded. The goal of this paper is to highlight the hyperspectral analysis as a novel assessment techniques of dielectric surface aging, especially of materials used for high voltage insulation.

Accelerated aging effect on high temperature vulcanized silicone rubber composites under DC voltage with controlled environmental conditions

PNNL , Richland, WA United States Sponsoring Org. For aging assessment, the SiR composites were characterized by visual inspection, and through measurements of hydrophobicity classification, leakage current, scanning electron microscopy, fourier transform infrared spectroscopy and mechanical testing. The experimental campaign at the Pacific Northwest National Laboratory PNNL described in this report seeks to address these knowledge gaps through investigation of the degradation of relevant cable insulation materials at select conditions using controlled temperatures, dose rates and total doses.

Progress in Characterizing Thermal Degradation of Ethylene

This can be particularly complicated in the presence of thermal stress as a material spends more time at elevated temperature to receive the same total dose at a lower dose rate. A large fraction of EPR-insulated cables in use in the nuclear industry were manufactured by The Okonite Company. Silicone rubber SiR insulators are considered as promising alternatives to conventional ceramic insulators for high voltage transmission networks.

Accelerated aging effect on high temperature vulcanized silicone rubber composites under DC voltage with controlled environmental conditions

Okoguard® is the name of the medium voltage thermoset EPR manufactured by The Okonite Company. In order to test the performance of the method, various classes of dielectric materials were investigated.

Accelerated aging effect on high temperature vulcanized silicone rubber composites under DC voltage with controlled environmental conditions

This was motivated by the different combinations of EPR insulation and CSPE individual jacket thicknesses that were found in harvested cables and previous measurements. After the experimentation, samples of the aged specimen are subjected for post analysis and psycho-chemical analysis like Scanning Electron Microscope SEM to monitor morphological changes, Energy Dispersive X-Ray analysis EDAX to observe elemental presence over the surface, Fourier Transform Infra-Red FTIR spectroscopy to examine chemical changes in the material, Thermo-gravimetric analysis TGA to understand the role of filler in aged insulator specimen and loss of Loss of hydrophobicity was measured. It also measured the lowest leakage current 3.

Related Books

- Covers of the Saturday evening post - seventy years of outstanding illustration from Americas favori
- Istoriko-ėtimologicheskiĭ slovarʹ sovremennogo russkogo i͡azyka - 13,560 slov
- Energy implications in building design - A thermal simulation design model.
- Spiritual warfare - the politics of the Christian Right
- Amelia.