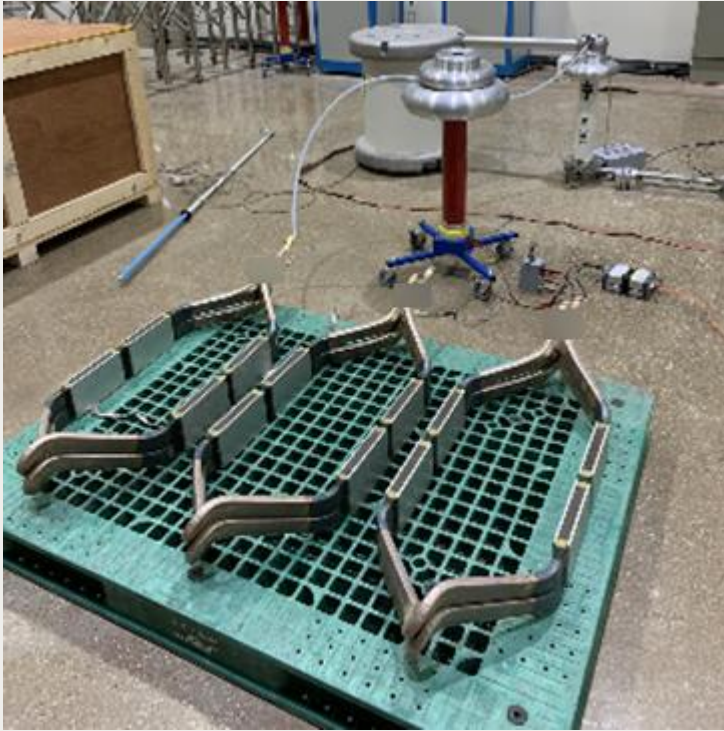


## Review on Trend of Diagnostic factor as a Function of Thermal and Multi Ageing Time of 6.6 kV Rotating Machine Insulation System

A1 - Rotating Electrical Machines  
PS2, Question 2.4 - DDF Measurement  
Seong-Cheol HWANG, Republic of Korea



## Dielectric Dissipation Factor (DDF) Measurement



(a) Partial discharge (PD)



(b) Insulation resistance (IR)



(c) DDF

Fig. 2. Check the condition of stator winding insulation system

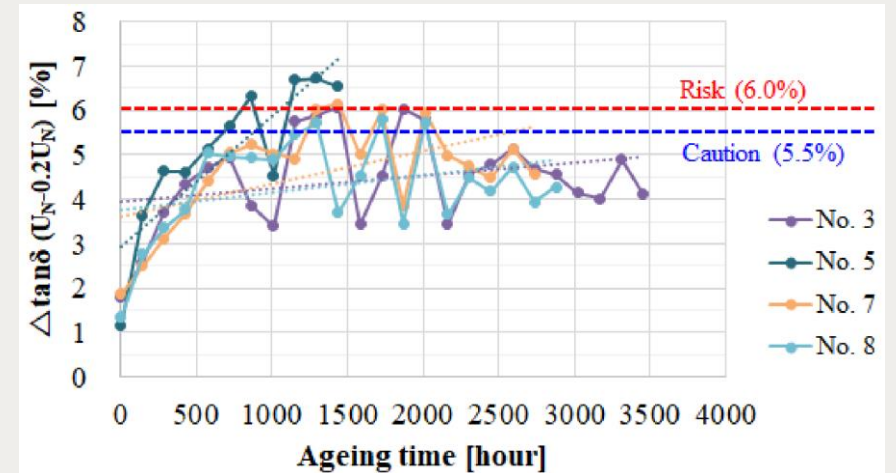
Group Discussion Meeting

## Dielectric Dissipation Factor (DDF) Measurement

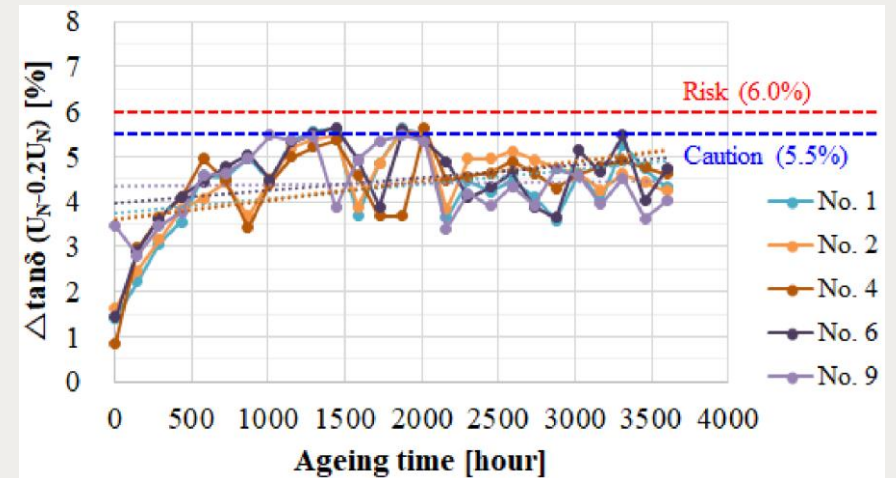
- DDF was selected as trend of diagnostic factor.
  - Risk → 6.0%
  - Caution → 5.5%

Table 1. Maximum value of loss tangent through thermal evaluation test at level 2 (210°C)

Division	Specimen	Maximum value [%]	Ageing time [hour]
Electrical breakdown	No. 3	6.07	1440
	No. 5	6.72	1296
	No. 7	6.14	1440
	No. 8	5.80	1728
Without electrical breakdown	No. 1	5.62	1872
	No. 2	5.58	1872
	No. 4	5.62	2016
	No. 6	5.65	1440
	No. 9	5.48	1008



(a) Electrical breakdown specimens



(b) Live specimens without electrical breakdown

Fig. 1. Trend of loss tangent value through thermal evaluation test at level 2 (210°C)