IEM
The Institution of Engineers, Malaysia

ORGANISED BY ELECTRICAL ENGINEERING TECHNICAL DIVISION

WEBINAR TALK ON INVESTIGATING THE IMPACT OF TRANSFORMER SPECIFICATION ON THE LIFE CYCLE CARBON EMISSIONS

BEM APPROVED CPD/PDP: 2 **REF. NO.:IEM22/HQ/243/T(W)**

3 AUGUST 2022, WEDNESDAY

10.00AM - 12.00PM

SPEAKER : DR BHABA P. DAS

Registration Fees
IEM Members : RM 15.00
IEM Non Members : RM 70.00
Register online I www.myiem.org.my

SYNOPSIS

Transformer technical specification is the first step in establishing long term reliability of transformers. From a user perspective, a technical specification formally communicates what the manufacturer must deliver. From a manufacturer perspective, a technical specification offers the ability to provide an appropriate and optimized solution, meeting both technical and commercial aspects. Technical specification allows the manufacturer's design engineers to understand the characteristics of the user's system and how transformers are operated in service.

However, many end users or contractors procure based either on the lowest initial cost transformer or lowest total cost of ownership transformer without investigating the environmental impact (tCO2e) of such selection over the entire transformer life cycle,

In this presentation, results from an investigation conducted for a 50/62.5 MVA transformer on the environmental impact (tCO2e) of the different designs that derive from different technical specification requirements, will be shared:

- Design # 1: A design optimized with no transformer loss limitations, no loss costs ($/kW), no Peak Efficiency Index requirement.
- Design # 2: A design optimized for: No load loss < 30kW, Load Loss < 250kW and IEC 60076-20 Peak Efficiency Index 1.
- Design # 3: A design optimized for: No load loss < 30kW, Load Loss < 250kW and IEC 60076-20 Peak Efficiency Index 2.
- Design # 4: A design optimized for: No load loss < 30kW, Load Loss < 250kW, IEC 60076-20 Peak Efficiency Index 2 and where the total cost of ownership (TCO) is included with No Load Capitalization factor, A = 7500$/kW and Load Capitalization factor, B = 2500$/kW.

SPEAKER'S PROFILE

- Dr. Bhaba P. Das is the Lead Digital Business Developer for Transformers Business Line, HUB (Asia-Pacific, Middle East and Africa), Hitachi-ABB Power Grids, based in Singapore.
- Dr. Das is part of the HUB APMEA Application Engineering Team and spearheads the digital transformation efforts of transformers in the Asia Pacific Middle East and Africa regions.
- He is a Senior Member of IEEE, Young Professional of IEC and CIGRE NZ A2 panel member. He has published several peer reviewed journal papers, conference papers and magazine articles till date.