
PREFACE

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Functional Insulation Diagnostic Technology is an Essential Pre-requisite for the Enriched Electric Power Systems in Asia

Asia, as regional entity, now has the economical and technological potential to play a dominant role in the global economy of 2000s. The gross domestic products (GDP) in 1990 and the annual growth rate of GDP over 1980s across ASEAN countries were 314.26×10^9 US\$ and 5.83 %, respectively. These levels of average economic growth in ASEAN countries stand in distinct contrast to the average OECD annual growth rate for the same period around 2.7%. Across all the ASEAN countries, manufacturing contributed well over one-third of GDP and over 40% of exports.

Economic growth represents transformation in the structure and the quality of electric powersystem, and also increase in installed capacity of power equipments. In such situation, reliable evaluation of power equipments with minimal outages and allocated labor resources is a matter of great importance to utilities in many countries in Asia. Thus, research and development in technology for the condition based insulation diagnosis for power apparatus was coming to be very active in 1980s in P. R. China, and Japan and the China-Japan Conference on Electrical Insulation Diagnosis started in 1990. The first conference was held at Xi'an Jiaotong University in April, 1990. It was organized and chaired by Professor Z. Yan of Xi'an Jiaotong University. Since then, the conferences were held every two years; 1992 in Shanghai, 1994 in Osaka and 1996 again in Xi'an. I hope the conference will expand its activity into all over the Asia in future.

In my experience, joint research on electrical insulation diagnosis for power apparatus among utility, manufacturer and university will produce fruitful results which work out in practice. This is because maintenance experiences in utility site engineers, thorough understanding of insulation design and manufacturing process of power equipments, and great skill of detecting small signals of deterioration using computer aided signal processing technique are necessary for us to hatch out functional insulation diagnostic technology.

Another point at which our eyes must be directed is the deregulation in regular inspection of power equipments. It allows utilities to make the interval of overhaul longer. Motivations behind the deregulation are the competitive price of electric energy and the progress in technology for the predictive maintenance. In this connection, it is an urgent necessity for us Asian insulation engineers to develop a hardheaded technology for the life expectancy-oriented in-service insulation diagnosis. This will be an avenue to the enriched electric power systems in Asia.



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