The committee was set in January 1996 with 30 members in order to survey technical information concerning high temperature insulations and their applications.

(l) Purpose of establishment

Many power equipments and cables have been compacted and applied to severer environmental use and therefore the design stress for the insulating materials increased not only in electrical stress but also in thermal stress. High temperature insulating (HTI) materials could be one of the solutions for the requirements for insulation in severer use. This committee aims to survey the modern high temperature insulating materials and their applications.

(2) Investigation Items

The committee member determined the investigation items as follows:

1) Classes and kinds of high temperature insulating materials
2) Electrical properties of HTI
3) Physical and chemical properties of HTI
4) Applications of HTI
5) Test methods of HTI performance
6) Future trends of HTI

(3) Activity

Since the establishment of the committee, three regular meetings and a secretary meeting have been held. About 200 papers were presented and discussed in the committee. In Jan. 1997, a research meeting on high temperature insulation was held in Toyohashi University of Technology sponsored by the committee. The activity are in the first stage where selected papers will be reviewed and discussed. Three years activity of this committee will be published in Technical Report of IEEJ.

Deterioration of Insulating Materials and Standardization of Diagnosis for power Apparatus

T. Hayami (Musashi Institute of Technology)
T. Ito (Musashi Institute of Technology)
K. Umemoto (Toshiba Corp.)
K. Uchida (Chubu Electric Co. Inc.)

The committee started its three-year term activity in January 1996.

The following activity have been achieved by the committee:

(1) Investigation on relationship between the fundamental degradation phenomena such as partial discharge, electrical and water tree, and various electrica1 signals due to the degradation.
(2) Investigation on present criteria for determination of the existence of degradation for power apparatus. The 3-33kV distribution power equipment is subject to investigation of the committee including rotating machine, cable, transformer, capacitor and switch gear.

Root Principles of Electro-Optic Conversion Functions and their New Application Fields

K. Hidaka (Tokyo University)
T. Maeno (Communications Research Laboratory)
N. Inoue (Mitsubishi Cable Industry)

This committee started in April, 1996 after two year discussion among DEI technical committee members and will be continued until March, 1999. The purpose of it is to review the fundamental functions and the physical properties of electro-optic conversion, to understand the essentials of the electro-optic conversion functions, and to propose new engineering applications. Optical measurement techniques using the electro-optic conversion such as electro-optic effect have been developed since 1970's, and some optical devices have been incorporated into electric power systems and also have been