

## **Basic Research Equipment of Gas-insulated Bus Model using High Pressure SF<sub>6</sub> Substitute**

**Purpose:** To elucidate discharge phenomena and practical insulation performance of environmentally friendly gases (compressed N<sub>2</sub> or CO<sub>2</sub>), and estimate the possibility of using environmentally friendly gases as an alternative insulation gas for practical gas-insulated apparatuses. Moreover, we will investigate the possibility of a next generation gas-insulated apparatus (gas-insulated bus or gas-insulated transmission line) using a hybrid gas insulation system that has the combined features of a solid insulator and a dielectric gas by discussing the basic insulation characteristics of hybrid gas insulation system.

### **Main Specifications:**

1. Voltage rating: 300kV
2. Lightning impulse withstand voltage (LIWV): 1300kV
3. Normal frequency withstand voltage: 460kV (at 1 minute)
4. Rated frequency: 50Hz
5. Maximum testing tank gas pressure: 1.0MPaG (with observation window)
6. With signal terminal for partial discharge measurement

### **Location and Date of Installation**

Electric Power Engineering Research Laboratory, March 2004

