



Contribution of ultra high voltage research laboratory, Hyderabad to optimize 1200 KV AC line design

The study of corona performance of octagonal Bersimis conductor bundle for 1200 kV AC line was brought-out. In continuation to the CPRI's contribution in optimizing the 1200 kV line design and evaluating the 1200 kV equipment, UHVRL at Hyderabad studied octagonal Bersimis conductor bundle for air insulation. This work is first of its kind in the country and useful in optimizing the conductor - tower air clearance which has a direct impact on the cost of transmission towers.

Air Insulation Studies for 1200 kV UHVAC Transmission Line

The study is to optimize conductor tower air insulation clearances for adoption in 1200 kV AC transmission lines. Eight Bersimis conductor bundle was used for the study. In the case of air insulation, for each gap length there is an impulse time to peak for which the breakdown voltage is minimum. Series of tests were carried out on simulated UHV tower windows to obtain the Critical time to crest (Tcr) for which Critical Flashover voltage (CFO) is obtained.

This critical wave shape was used for determining the optimum clearance required for withstand voltage of 1800 kVp corresponding to 1200 kV transmission lines. The withstand voltage was determined from the flashover voltages as per IEC 60060-1 and verified the same by applying 15 impulses and evaluating as per the withstand voltage procedure. With the optimized window clearances and with the insulator string in place, wet test simulating rain condition was also carried out to ascertain the withstand ability of the optimized tower window clearances.

Tower simulation at top and sides was done with steel and aluminum channels. Air gap clearances from

7 m to 10 m were studied to arrive at the optimum clearances required for 1200 kVAC transmission lines. This study was sponsored by PGCIL.

Technology Transfer of GMAT Software

A Programme of Technology Transfer and Training in GMAT software developed by CPRI was held at CPRI, Bangalore during 21-23 July 2008 for Bhutan Power Corporation (BPC). Five engineers from BPC participated in the programme which included hand-on training in the use of the software as also and overview of the algorithms used in the software package.

The GMAT software of CPRI is being used extensively in India by the Institute and also the State Power Utilities for the design of grounding system in HV Substations and Power Stations. This is for the first time that this software has been acquired by a foreign Power Utility.

The programme was inaugurated by Shri P K Kognolkar, Director General I/C, CPRI on 21 July 2008.

Institute bags the prestigious Indira Gandhi Rajbhasha award for the year 2006-07

The Institute was awarded the prestigious Indira Gandhi Rajbhasha award, the highest National award in this field, consecutively for the second year for the outstanding work done in the field of Official Language implementation during 2006-07. This is the fourth time that this prestigious award has been won by CPRI.

The award was given by the Hon'ble President of India, Smt Pratibha Devisingh Patil on Sunday, the 14th September 2008 at a function organized at the Plenary Hall, Vigyan Bhavan, New Delhi by the Department of Official Language.



President Smt. Pratibha Patil giving Indira Gandhi Rajbhasha award to the institute

Shri Shivaraj V Patil, Hon'ble Home Minister chaired the celebrations. The Institute was represented by Shri P K Kognolkar, Director General (I/c), Dr P V Reddy, Unit Head - RTL Muradnagar and Dr Vijaya Mallik, Sr. Hindi Officer.

CPRI participation in CIGRE 2008 session

CPRI deputed three officers viz., Dr Mrs Sujatha Subhash, Additional Director, Smt S Vijaya Kumari, Joint Director, and Mr S Ramaprasath, Joint Director to participate in the deliberations of the CIGRE 2008 organized at Palais des Congres, Paris during 24th - 29th August 2008 to present the following three papers.

1. B1-202 "Experience of CPRI in very low frequency tan delta testing and condition monitoring of medium voltage polymeric cables".
2. B4-106 "RTDS simulation studies on the upcoming multi-infeed HVDC systems in India".
3. D1-208 "Remaining life assessment of power transformers.

The CIGRE Session is an open meeting, held once in two years in Paris and the 42nd Session was held during 24-29 August 2008. The technical session addressed issues which are relevant for the Electricity Industry.

The subjects range from electric equipment (like rotating electric machines, transformers, high voltage equipment, insulated cables), substations, HVDC and power electronics, Protection, System operation and control, Markets and Deregulation, Materials and Emerging technologies.

In addition to the paper presentation (oral and poster), Shri S Ramaprasath actively participated in the CIGRE Study committee meeting B1 Insulated Cables during CIGRE Session.

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