

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

An Autonomous Institution

Approved by AICTE, New Delhi & Affiliated to JNTUA, Anantapur

Accredited by NBA, Recognized under section 2(f) & 12(B) of the UGC act 1956

World Bank funded Institute, An ISO 9001-2008 Certified Institution

First Recognized Research Centre under JNTUA, Recognized as SIRO by DSIR

Report on A Five-Day Workshop on “POWER SYSTEM STUDIES USING ETAP”

Organized by Dept. of EEE, 31st October to 4th November 2014



Submitted by: **Mr. S. Khadarvali**, Assistant Professor, E.E.E Department.

ABOUT WORKSHOP:

ETAP (Electrical Transient Analyzer Program) allows to work directly with graphical one-line diagrams, underground cable raceway systems, three-dimensional cable systems, advanced time-current coordination and selectivity plots, geographic information system schematics (GIS) as well as three-dimensional ground grid systems. It gives the opportunity to explore the many features and capabilities of ETAP including Load Flow, Short-Circuit, and Underground Raceway Systems analysis. It also includes other analysis modules such as Motor Acceleration, Harmonics, Transient Stability, Device Coordination, Optimal Power Flow, Reliability Assessment, DC Load Flow, DC Short-Circuit, Battery Sizing and Discharge.

RESOURCE PERSONS:

Mr. A Rajkumar, Sr. Engineer, M/s. L&T Construction, Chennai

Mr. R. Ranjith, Senior Electrical Engineer, M/s. Siemens Energy Sector, Coimbatore

Mr. S Selvakumar, Technical Expert, M/s. ABB Global Industries Ltd, Chennai

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DAY 1 (31/10/2014)

The programme started with an inaugural session, the HoD of EEE Department gave opening remarks about the event. Prof. M. Raja Reddy, Dean (Academic) stressed the importance of the topic and advised the students to make use of this of the program. Mr. S. Khadar vali, Assistant Professor, Dept. of EEE introduced the Resource Persons Mr. A Rajkumar, Sr. Engineer, M/s. L&T Construction, Chennai, the Resource person briefed about importance of workshop. M/s. J. Sivanvitha, Assistant Professor, Dept EEE Proposed vote of thanks for the inaugural session.

The day 1 was on the various aspects regarding to the Power flow studies, design aspects in electrical stream and the importance of ETAP software in the industrial point of view by Mr.A.Rajkumar.

DAY 2 (1/11/2014)

The students got a great a source of knowledge on the topics of power system studies, load flow studies and also an example mode of programming were designed and simulated. With this the participants enhanced the subject knowledge and implementation of load flow studies in the ETAP software as in real time operation.

The day 1 concluded with the load flow studies and its analysis with hands on experience to students.

DAY 3 (2/11/2014)

The Day 3 started by resource person Mr. S Selvakumar, Technical Expert, M/s. ABB Global Industries Ltd, Chennai regarding the short circuit analysis and motor accelerating analysis and the topics related to the adaption of short circuit analysis in ETAP software.

The topics covered in day 3:

- Detailed study on load flow studies
- Introduction to motor starting
- Harmonic analyses and the starting torque analyses

DAY 4(3/11/2014) & DAY 5(4/11/2014)

The Day 4 & Day 5 hands on experience using ETAP software is given by resource person Mr. S Selvakumar, Technical Expert, M/s. ABB Global Industries Ltd, Chennai.

The participants had hands on experience using ETAP software for the following aspects

- Ferranti effect
- Surge impedance loading
- Insulation failure due to short circuit or fault condition.
- The problems with the short-circuit analysis and harmonic analysis was done with the hands on experience.
- Relay coordination and tripping analysis
- OLTC (On Load Tap Changer) and its working

The day five workshop ended with a valedictory function with a host of dignitaries - Dr. M. Raja Reddy, Dean- Academics, Dr. K.V.R.B Prasad, Professor & Head of the department and Mr. R. Ranjith, Senior Electrical Engineer, Siemens Energy Sector, Coimbatore. Mr. S Selvakumar, Technical Expert, M/s. ABB Global Industries Ltd, Chennai on the dais. It was followed by the vote of thanks by Dr. K. Ramesh, Associate professor Department of E.E.E.