

#### Course 603

# **Transient Security Assessment Using TSAT**

Course objectives	To provide the necessary background and technical skills for applications of TSAT
Material covered	<ul> <li>The basic concepts of power system stability and security</li> <li>Modeling, computational techniques, and analysis methods</li> <li>Operation of TSAT</li> <li>Result analysis</li> </ul>
Who should attend	Engineers involved in power system stability studies using TSAT
Background required	Basic knowledge of power system modelling, dynamics, and stability analysis     Recommended prerequisite: Course 601 – powerflow analysis using PSAT
Duration	2 days (extendable upon request)

## Part 1: Transient Security Assessment (TSA) Basics

- 1. Introduction to transient security assessment (TSA)
- 2. Transient stability
  - Modeling requirements
  - Solution methods
- 3. Scope of TSA and TSAT solutions
  - Core technologies used
  - Main analysis features
- 4. TSAT application examples

### Part 2: Using TSAT

- 1. Introduction to TSAT
- 2. Data requirements
- 3. Modeling features
- 4. Input/output data formats
- 5. Program customization and operation
- 6. Result examination
- 7. Other features
- 8. Help sources



#### Part 3: Hands-on Exercises

- 1. Test case descriptions
- 2. Hands-on exercises including the following topics:
  - Perform a no-fault simulation
  - Create a practical TSAT case
  - Work with the output analysis module DSAOA
  - Use security analysis options
  - Work with multiple scenarios
  - Analyze transfer limits
  - Use data handling features of TSAT
  - Perform other analyses
  - · Create user-defined models with UDM Editor

Note: the actual contents of the course may be customized based on user requests; please refer to the course announcement for details.