Why To Use
Power System Analysis Software

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- The planning, design, and operation of industrial and commercial power systems require engineering studies to evaluate existing and proposed system performance, reliability, safety and economics.
- Studies, properly conceived and conducted, are a cost-effective way to prevent surprises and to optimize equipment selection
- During design stage, the studies identify and avoid potential deficiencies in the system before it goes into operation
- In existing system, the studies help locate the cause of equipment failure and maloperation and determine corrective measures for improving system performance.

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- Hand calculations are suitable for estimating the operating characteristics of a few individual circuits
- Complex power system analysis work requires the use of computers and specialized programs.
- Accurate calculation of voltages, power flows, or short-circuit currents throughout an industrial or commercial power system would be impractical without the use of computer programs
- The complexity of modern industrial power systems makes studies difficult, tedious, and time-consuming to perform manually
- The computational tasks associated with power systems studies have been greatly simplified using digital computer programs
- Increases productivity
- Eliminates or minimizes errors compared to the manual calculations

PSA Software - Capabilities

- Softwares often produced erroneous results that engineers could identify
- Now, softwares have gone through many validations and much more reliable
- Become more user-friendly and capable
- Set up system SLD with complete switchgear details, cables, transformers and other electrical components with their actual electrical parameters
- Software provides results like load flows, alerts for overloaded equipments, voltage violations at plant bus etc.
- Software also calculates short circuit ratings at all points of electrical system and perform various studies such as selective protection coordination, arc flash, motor starting, transient stability

PSA Software - Capabilities

- Power system software has advanced to link together with a suite of multiple discipline suite of other software
- Electrical engineers are increasingly interested in being able to mesh link electrical work with that of mechanical, civil, piping, and other disciplines.
- These inter linked packages have enabled engineers to do standard things like tracking cable runs, calculating voltage drops, and maintaining equipment load lists
- One of the main benefits will be to keep everyone involved in a project in the same database rather than in individually generated spreadsheets

PSA Software - Capabilities

- Everything that engineers do will be captured in a database and used to produce drawings, templates, reports, specifications or whatever is needed.
- It will take care of all the calculations, track revisions, and alert our users to changes in other designs that could affect our work, such as motor sizes.
- Softwares Popularly Used
  - **ETAP**
  - **CYME**
  - **EDSA**
  - **SKM POWER**
  - **PSS/E**
  - **DigSilent**