Apros® Nuclear simulation and analysis software has shown its excellence as a key contributor in assuring nuclear power projects achieve the highest plant safety and operational performance levels. It has been successfully used in a series of major nuclear power plant projects, including power upgrade, modernization, safety improvement, and new plant projects.

**Features**

- Comprehensive plant model covering reactor island, turbine island, balance of plant, electrical and automation systems
- Light water reactor types covered: BWR, PWR, VVER
- 1D and 3D neutronics solvers, incl. two-group nodal kinetic model
- Thermal hydraulic solvers including three- and six-equation flow models
- Complete process component libraries including containment, cooling towers, passive systems, and severe accident management systems
- Complete automation model incl. PID controls, interlockings, sequence controls
- Plant electrical systems and grid model
- Fully graphical user interface for model configuration and simulation
- Connectivity to third party software

**Applications:**

- Feasibility studies and verification of plant modifications
- Safety transient and accident analysis e.g. for licensing
- Process, automation and HMI design and testing
- Operating procedures development and testing
- Operator training
- Testing I&C (both emulated and real cabinets)

**Benefits**

- Vendor independent code owned by NPP owner-operator and research organization committed to further improvement and support
- The same tool for entire plant model and several purposes: development, maintenance, and resource savings
- More realistic transient behavior due to less boundary conditions assumptions; real physical feedback e.g. between turbine and reactor plant models
- Quick and easy-to-use fully graphical model configuration, simulation and maintenance
- Successful references worldwide in approx. 30 countries
- Extensively verified code and validated models against real measurement data

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