Advanced Simulation-Based Tool for Severe Accident Analysis and Training
**DESIGNEP** Advanced Simulation-Based Modeling & Analytical Tool

A powerful PC-based technology platform for severe accident simulation, analysis, training, and drills from the company with 20+ years experience integrating numerous versions of EPRI’s MAAP code into full-scope simulators. Simulate the operation and performance of major systems related to the reactor core and containment for both PWRs and BWRs. View the interaction and cause and effect, not only between multiple systems within a plant, but also between multiple units at a single site.

**Expand Your Severe Accident Capabilities**

DesignEP is fully integrated with EPRI’s industry recognized engineering analysis code, Modular Accident Analysis Program (MAAP)*, to run simulations related to SAMG and FLEX. This tool will allow you to exercise and verify scenarios, develop procedures and processes, and provide training related to various post-Fukushima requirements.

DesignEP can be used to meet new regulatory requirements and recommendations in the areas of SAMG, FLEX, EP, and NRC recommendations.

For emergency preparedness, DesignEP provides an intellectual platform to visualize drill scenarios.

**Advantages**

- Provides risk visualization of probabilistic risk assessment (PRA) calculations and determinations.
- Provides an interactive, real-time, realistic representation of the plant, allowing for on-the-fly interaction with the MAAP code.
- Models single or multiple units, and offsite effects.
- Assists in site defense-in-depth strategy, protection, mitigation and emergency preparedness.
- Can support or provide frequent, realistic and hands-on training, education, and drill/exercise.
- Integrates codes with tools and advanced 2D and 3D graphics holistically.
- Is a scalable and flexible platform allowing additional modules to be added.
- Can assist in human factor, staffing, and command and control evaluation.

![DesignEP PWR Containment](image1)

![SPDS-Like Screens for Key Parameters](image2)
Is DesignEP a replacement for my full-scope simulator?

It complements it. DesignEP can operate independently of the full-scope simulator. However, GSE does offer PSA-HD, a Severe Accident Model based on the same MAAP model as DesignEP and it can be fully integrated into your existing full-scope simulator.

Is DesignEP available now?

It’s available now. It is an incremental extension of what you have already and smartly leverages your existing investment in MAAP. As a result, you can deploy it and put it into use quickly. Our first step is to configure it specifically for your plant or site. From start to finish we can typically have it up and running in 12-16 weeks.

Can I use DesignEP to train staff at remote locations?

The flexibility and portability of this technology mean that training can take place at any location. Offsite staff and responders do not need to travel to the plant for training.

I already do a lot of this now with my existing simulator and on paper. Why do I need DesignEP?

With rare exception, current simulators used for operator training are not designed for and do not support beyond design basis accidents. Simulators also tend to be heavily used in the normal course of training. DesignEP helps avoid overburdening the full-scope simulator, and provides a versatile tool for engineering, emergency planning and demonstration. Your staff will have access to a simulation platform for analysis, procedure validation and training.

DesignEP provides an interactive environment, making the exercise more realistic, flexible and allowing you to objectively see the consequences of your decisions.

How does DesignEP help me hold the line on costs?

It can save you hours in setting up and running PSA scenarios particularly for multi-unit sites. It also saves time in developing, testing, validating and writing procedures, establishing processes and providing training. One technology can be used in multiple departments as well as multiple locations across your fleet.

Visit www.GSES.com/severe-accident-simulation
About GSE Systems

GSE Systems, Inc. is a world leader in real-time high-fidelity simulation, providing a wide range of simulation, training and engineering solutions to the power and process industries. Its comprehensive and modular solutions help customers achieve performance excellence in design, training and operations. GSE’s products and services are tailored to meet specific client requirements such as scope, budget and timeline. The Company has over four decades of experience, more than 1,100 installations, and hundreds of customers in over 50 countries spanning the globe.

Information about GSE Systems is available at www.gses.com.

Worldwide Locations