



## FACTS AT A GLANCE

**Company:** Shanghai Nuclear Engineering Research and Design Institute

**Website:** [www.snerdi.com.cn](http://www.snerdi.com.cn)

**Description:** Established in 1970, SNERDI is a high-tech enterprise subsidiary of the State Nuclear Power Technology Corporation. It is a key research and design institute with expertise in nuclear electric power technology, and leads the industry in China. The business scope of SNERDI is plant design, EPC contracting, project consulting, equipment research and design, project management, equipment procurement, technology development, and engineering services.

**Employees:** Over 1,200

**Industry:** Nuclear

**Country:** China

## PRODUCTS USED

- SmartPlant® Instrumentation
- SmartPlant Electrical
- SmartPlant P&ID
- PDS®

## KEY BENEFITS

- Global, concurrent engineering to support multiple nuclear power plant projects
- Integrated engineering environment across all disciplines for complete nuclear power design
- Improved quality and efficiency of engineering design and project management

## SNERDI INTEGRATES ENGINEERING DISCIPLINES WITH 3D DESIGN FOR NUCLEAR POWER PROJECTS

Chinese nuclear research and design institute implements SmartPlant® Enterprise solutions in global workshare environment

### IDENTIFYING GOALS

Shanghai Nuclear Engineering Research and Design Institute (SNERDI) is the leading technology research and design institute for nuclear electric power in China. SNERDI is responsible for the engineering and design of several nuclear power plant projects in China and overseas. This includes Westinghouse AP1000® nuclear projects, such as the Sanmen and Haiyang nuclear power plants in China and Chasma Unit 2 in Pakistan.

SNERDI has a long association with Westinghouse, having produced 3D plant models to support Westinghouse's AP1000 plant design, which is recognized as among the safest and most advanced nuclear power plants on the market today. It is based on standard Westinghouse pressurized water reactor (PWR) technology that has achieved more than 2,500 reactor years of highly successful operation. Modular in design, the AP1000 promotes ready standardization and high construction quality. It is also designed to be economical to construct and maintain, while promoting simplicity and ease of operation.

To continue driving its expertise in nuclear power plant design and support an increasing number of global projects, SNERDI decided that it needed to move away from traditional design methods and leverage intelligent, advanced technology to support an integrated design platform.

### OVERCOMING CHALLENGES

- Establish integrated engineering design platform with 2D engineering and schematics and 3D design
- Support multiple nuclear power projects concurrently in a global workshare environment
- Improve quality of engineering design and overall project productivity

### REALIZING RESULTS

SNERDI has been an Intergraph® customer since 1997 and it selected SmartPlant® Enterprise engineering solutions to improve its design processes for its global nuclear power projects. SmartPlant Enterprise offers true engineering integration, enabling

SNERDI to establish and develop an integrated design platform to enhance global collaboration and meet project requirements.

SmartPlant Enterprise offers a powerful portfolio of industry-leading, best-in-class design and data management solutions, enabling SNERDI to capture integrated engineering knowledge at the enterprise level for the competitive advantage needed in today's and tomorrow's market. SmartPlant Enterprise's integrated suite of solutions enables proven productivity gains, improving engineering efficiency by up to 30 percent. This is why the majority of plants built worldwide are designed using Intergraph solutions.

By integrating SmartPlant Engineering & Schematics applications (such as SmartPlant Instrumentation, SmartPlant Electrical, and SmartPlant P&ID) with 3D design, SNERDI is able to complete engineering design for its nuclear power plants across all disciplines. The integrated engineering environment enables SNERDI's engineers to perform global, concurrent engineering for multiple projects, improving the quality and efficiency of the design work involved.

For example, the integration of SmartPlant P&ID with the 3D design platform enables SNERDI's engineers to quickly view the relevant P&ID data and generate the associated reports, without having to refer to a large number of documents separately. The integration also improves the consistency and accuracy of the data, which can be reused with other engineering applications to minimize errors.

Gu Guoxing, vice president at SNERDI, said, "The strong growth of our business requires reliable design and engineering solutions that improve our productivity significantly so that we can achieve a competitive advantage on the international market. Intergraph's SmartPlant Enterprise suite satisfies this demand

because it provides leading technology coupled with strong local and international support to achieve optimized benefits from our investment."

## MOVING FORWARD

SNERDI has been a longtime Intergraph customer and will continue expanding its use of SmartPlant Enterprise solutions for further productivity and interoperability benefits. The Chinese research and design institute remains committed to using Intergraph technology and will leverage SmartPlant Enterprise's full range of integrated design and engineering solutions to meet the needs of nuclear power plant projects in China and around the world.



## ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data to make processes and infrastructure better, safer, and smarter. The company's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, operation, and data management of plants, ships, and

offshore facilities. Intergraph SG&I provides geospatially powered solutions, including ERDAS technologies, to the public safety and security, defense and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is a wholly owned subsidiary of Intergraph Corporation for the SG&I U.S. federal business.

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