

Nuclear Power – An Unsurpassed Record of Public Safety

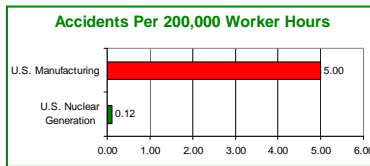
The safety record of the U.S. nuclear generation industry, including Southern California Edison’s San Onofre Nuclear Generating Station, is unsurpassed by other forms of power generation. No heavy industrial process is safer, as measured by accidents affecting employees and the public. U.S. nuclear power plants have amassed a combined 3,100 reactor-years of safe operation. Since the introduction of commercial nuclear generation into the U.S. in the 1950s, there has never been a public or employee injury caused by radioactivity. Even the nation’s most serious nuclear plant incident, which occurred three decades ago at Three Mile Island near Middletown, Pa., resulted in no injuries. Additionally, little radioactivity was released with no public effect. This form of power generation is one of our safest.

This unsurpassed safety record is not an accident. It is the result of a rigorous commitment to lessons learned and continuous improvement.

Irregular events at U.S. nuclear plants are systematically scrutinized for their root causes.

Steps are then taken to prevent a reoccurrence.

And findings are widely communicated so the entire industry can benefit. Here are a few examples of the industry’s milestones in lessons learned and safety enhancement:



Sources: World Ass. Of Nuclear Operators and the U.S. Bureau of Labor Statistics

1950s

- Development of fast-acting shutdown systems separate from routine reactor controls.
- Development of thorough, written procedures for all operational activities.
- Introduction of “human factors” engineering programs.
- Development of separate in-core instrumentation.

1960s

- Discontinuation of an experimental reactor design.
- Mandatory requirements about the minimum training level of personnel on duty 24/7.
- Addition of instrumentation to monitor core parameters.

1970s

- Enhanced fire protection standards.
- Separating safety-related control equipment from routine reactor controls.
- Modifications to shut down plants from back-up locations.

- Creation of the Institute of Nuclear Power Operations to promote safety and reliability excellence.

-Mandatory testing of extensive on- and off-site emergency response plans.

1980s

- Enhanced procedures governing how plant equipment is controlled during maintenance outages.

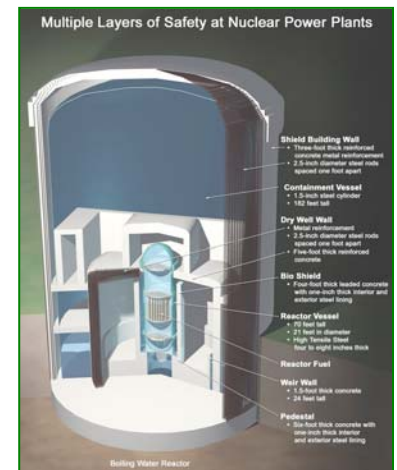
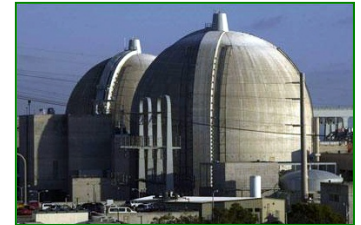
The Nation’s Most Hardened Facilities

Nuclear power plants are the best protected facilities in the nation’s industrial infrastructure. Since the events of Sept. 11, 2001, the industry has spent more than \$1.5 billion to further strengthen commercial nuclear plant security. These measures include:

- Increasing security guards by 60 percent;
- Increasing the size and numbers of defensive weapons systems;
- Increasing the intensity of training; and
- Force-on-force security drills.

Third Generation Design Advances

No major new industrial facility that has been engineered in the past century has proven safer than first and second generation U.S. nuclear power plants. Building on this experience, nuclear engineers are developing a third generation of plant technology that will be even safer. Systems will be simpler and more standardized, and will include the most advanced digital control systems. For example, the next generation of nuclear plant safety systems will be capable of operating without either off-site or standby power.



U.S. nuclear plants have multiple layers of safety systems to prevent radioactivity from escaping into the atmosphere.

Safe Used Fuel Storage

While the federal government develops a national repository, plants such as San Onofre are storing used fuel on-site without incident by means of technologies capable of safe, secure storage for 100 years or longer.