



# BACKGROUND

Office of Public Affairs

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## Improved Plant Safety Performance

Accidents such as Three Mile Island Unit 2, Chernobyl and Fukushima are reminders for the NRC and those who operate plants to continue improving performance at operating U.S. commercial nuclear reactors, ensuring they remain safe.

Over the NRC's more than 45-year history, substantial regulatory changes and other improvements have contributed to nuclear plants operating safer and better. Some of the major changes include:

- at least two NRC resident inspectors working at each plant site;
- immediate NRC notification by plants of serious events;
- expanded emergency preparedness, including the NRC staffing its Operations Center 24/7;
- increased identification, analysis and publication of plant performance information;
- increased use of risk insights to focus resources in the areas of greatest need; and
- recognizing human performance's critical role in plant safety.

## Key Indicators

Key indicators of plant safety performance have improved dramatically, as indicated in the charts. They show:

- The average number of significant U.S. reactor events per year has remained at almost zero for more than 25 years.
- Reactor events today occur much less frequently, and when they do, the vast majority present only a very low risk of reactor core damage.
- On average, reactors activate their safety systems for non-testing reasons less than once per year.
- Plants have steadily decreased their workers' radiation exposure levels well below NRC limits, to a small fraction of the norm in 1985.

## Trends in Nuclear Plant Performance

U.S. nuclear power plants have increasingly improved their safe operation over the past few decades. The NRC's Reactor Oversight Process tracks several performance categories to help monitor operational safety. In general, safety has increased and problems have decreased. The agency website's [Operating Reactor Analytics](#) and [Accident Sequence Precursor](#) pages provide information on how the agency's enhanced regulatory tools and requirements have helped ensure safe plant operation.

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