BACKGROUNDER
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Oversight of Nuclear Power Plants

Background

The NRC and the nuclear industry both have roles ensuring the safety of U.S. nuclear power plants and their ability to protect workers and the public from radiation. The NRC's regulations and guidance cover both the construction and operation of nuclear reactors. Utilities are responsible for meeting those regulations to design, build, and operate their facilities safely. The NRC also approves plant-specific changes that must be properly implemented by the plant operators. All of this work helps ensure safe plant operation, as well as safe plant shutdowns in the event of an accident. The NRC's licensing and oversight programs confirm that U.S. nuclear power plants are meeting their responsibilities.

The NRC's objective, timely, and risk-informed oversight assesses plant performance. More information on this Reactor Oversight Process is available on the NRC's website.

Inspection Program

The Atomic Energy Act of 1954 provides the NRC's inspection authority to inspect nuclear power plants to protect public health and safety. NRC inspections assess whether licensees are properly conducting operations and maintaining equipment to ensure safe operations. Inspectors monitor the licensee's activities and provide findings to the licensee's management. If necessary, NRC experts conduct follow-up inspections to ensure that the licensee has addressed its findings.

Most NRC reactor inspections are conducted by our resident and regional inspectors. Since 1977, resident inspectors have been stationed at each nuclear power plant to provide first-hand, independent assessment of plant conditions and performance. Resident inspectors live near the nuclear power plant they oversee. They maintain offices at the plant during regular business hours, and monitor plant activity during overnights, weekends and holidays, as needed. Resident inspectors provide quick NRC response to incidents at the plant.

Engineers and specialists from the nearest NRC regional office and/or headquarters support the resident inspectors. The NRC's regional specialists cover areas such as plant security, emergency planning, radiation protection, environmental monitoring, plant equipment and systems, fire protection, and construction activities.

Each year, NRC specialists conduct 10 to 25 routine inspections at each nuclear power plant, depending on the activities at the plants and issues that may occur. Additional special team inspections may focus on a specific plant activity, like maintenance or security, or a team may be sent to the plant to look at a specific operating problem or event.

NRC inspection resources are focused on the most safety- or risk-significant activities at a nuclear power plant. This means the NRC evaluates plant performance through selective inspections. The inspection program chooses appropriate samples of plant activities based on potential risk, past operational experience, and regulatory requirements.

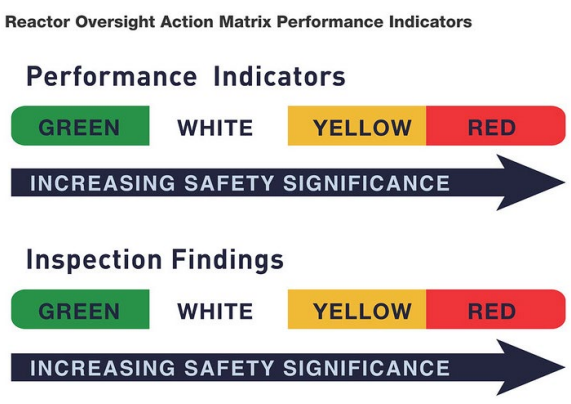
Operating reactors' performance is the main factor in deciding the frequency, scope, and depth of the NRC inspection program. The program consists of three major elements, starting with the thousands of hours involved in "baseline" inspections, the minimum required at all plants. After that, the NRC performs supplemental inspections, which increase in intensity if plant performance falls below established thresholds. Lastly, special inspections focus on a specific plant event or issue related to a group of plants.

The NRC requires plants to promptly correct safety problems or failures to comply with requirements that are outlined in inspection results. The NRC may also use its enforcement authority to sanction licensees that violate NRC rules. All inspections and findings are documented in written reports. These reports are sent to the utility and are made publicly available in the agency's electronic document database, ADAMS. Inspection reports are also available on the reactor oversight process webpage.

Performance Indicators

Nuclear power plants use statistical analysis to generate objective indicators of plant safety performance. Plants submit these performance indicators to the NRC every three months. They show how well a plant is performing compared to established thresholds for each area. These performance indicators are posted on the NRC's website.

Performance Assessment



The NRC assesses plant performance using inspection findings and performance indicators. An "action matrix" reflects licensee performance in seven safety areas: (1) initiating events, (2) mitigating systems, (3) integrity of radioactivity release barriers, (4) emergency preparedness, (5) worker radiation safety, (6) public radiation safety, and (7) plant security.

The performance indicators and inspection findings are posted to the NRC website. A color system notes their safety significance. Green indicates that performance is acceptable and has little or no impact on safety. White, Yellow, or Red inspection findings, respectively, represent a greater degree of safety

significance and trigger increased regulatory attention. The NRC addresses any significant performance issues and follows up until they are corrected.

For more information on inspection or performance assessment, see the oversight section of our "How We Regulate" webpage.

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