

Public Involvement in the Nuclear Regulatory Process

Table of Contents:

INTRODUCTION

RULEMAKINGS

LICENSING

DECOMMISSIONING AND LICENSE RENEWAL

HIGH-LEVEL WASTE

ENVIRONMENTAL IMPACTS

PETITIONS

REPORTING SAFETY CONCERNS

ENFORCEMENT

PUBLIC MEETINGS

FREEDOM OF INFORMATION ACT REQUESTS

GENERAL CORRESPONDENCE

FOR ADDITIONAL INFORMATION

INTRODUCTION

Public involvement in the Nuclear Regulatory Commission's activities is a cornerstone of strong, fair regulation of the nuclear industry. The NRC recognizes the public's interest in the proper regulation of nuclear activities and provides opportunities for citizens to make their opinions known. The NRC seeks to elicit public involvement early in the regulatory process so that safety concerns that may affect a community can be resolved in a timely and practical manner. This process is considered vital to assuring the public that the NRC is making sound, balanced decisions about nuclear safety.

This booklet briefly describes various ways you can learn about and participate in the NRC's regulatory process. Anyone may provide comments or voice concerns at critical junctures in the development of safety rules, including decisions about (1) where to locate and whether to license nuclear facilities, (2) ongoing issues about a facility's operation or termination, and (3) a facility's impact on the environment.

Notices of opportunities for involvement are published in the *Federal Register (FR)*, and sometimes on the internet. The *Federal Register* is a daily publication announcing rules, policies, and other important actions of the Federal Government. Copies are available at many local libraries. Copies are also available at NRC's local public document rooms around the country and at the NRC's Public Document Room (PDR) in Washington, D.C. You may search the [Federal Register database for 1995 through the current date](#). For major actions, the NRC issues press releases, which reach the public through local newspaper articles, mailings, and the internet.

RULEMAKINGS

One of the primary duties of the NRC is to establish regulations on the safe use of nuclear materials. These regulations address such issues as siting, design, construction, operation, and ultimate shutdown of nuclear power plants, uranium mills, fuel facilities, waste repositories, and transportation systems. NRC regulations also address other uses of nuclear materials, such as nuclear medicine programs at hospitals, academic activities, research work, industrial applications such as the use of gauges and testing equipment, and the import and export of nuclear materials and technologies. The process of developing these regulations is called "rulemaking." A regulation is sometimes referred to as a "rule."

Rulemaking is initiated mostly by NRC's technical staff, although any member of the public may petition

the NRC to develop, change, or rescind any regulation. Petitions should be addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555-0001. The rulemaking process is described in detail in the Commission's regulations in Title 10 of the Code of Federal Regulations in Part H, Section 2.802.

All rulemakings provide the public with at least one opportunity for comments. Often, there are several opportunities. In some cases, NRC holds meetings and workshops before a proposed rule is drafted. This way, members of the public can express their concerns early in the process and identify important issues to be covered in the rule. Sometimes, the NRC may publish an Advance Notice of Proposed Rulemaking in the Federal Register to present options, questions and ideas, and the public is asked to comment on these options or present options, questions, and ideas, and the public is asked to comment on these options or present options of their own. An advance does not include a preferred approach upon which comments are being solicited. After the public comment period is over, a decision is made whether or not to continue with the rulemaking and, if so, what form it will take.

When a proposed rule is developed, it is published in the Federal Register for public comment. The notice identifies an NRC contact who can reply to questions and an address for sending comments. The agency may hold meetings and workshops to discuss the proposed rule, explain its purpose and background, and receive further comments. These meetings are normally announced in the Federal Register. Comments are factored into the final rule, which, like the proposed rule, is again published in the Federal Register. The NRC issues press releases for rules that have strong public interest.

A [rulemaking web site](#) allows comments to be submitted online and provides background information on pending regulatory changes and petitions for rulemaking.

Policy statements, Commission guidance, and generic communications with licensees that have significant public interest are often handled like a rulemaking, offering an opportunity for public comment.

NRC's final rules are also codified in the Code of Federal Regulations in 10 CFR Chapter I (Parts 0-199). Chapter I of 10 CFR is revised annually as of January 1 and is available in a soft-bound, two-volume addition from the Government Printing Office (GPO). The NRC also publishes a compilation of its codified regulations and related documents in a four-volume looseleaf set entitled "NRC rules and Regulations" that is updated monthly. You may subscribe to this publication by contacting GPO.

Follow this link for more information about [rulemaking at the NRC](#).

LICENSING

Before a company can propose to site, construct, or operate a nuclear power plant or any other nuclear-related facility or to engage in the use of radioactive materials, it must apply to NRC for a license. The licensing process includes approval of the initial license, amendments, license renewals, and applications for exemptions from NRC regulations.

As part of the prelicensing process, the public is notified through the Federal Register, press releases, and local advertisements that an application has been received. Notices regarding opportunities for hearings or public comment on all licensing actions, including amendments to a facility's operating license, or license renewal proceedings, are published in the Federal Register. For nuclear power plants, individuals who are directly affected by the proceeding may participate in a formal hearing. However, for materials licenses and fuel cycle facilities, most hearings are informal.

If local interest is strong, the NRC may decide to hold public meetings in the vicinity of a proposed

facility. Notices of local meetings may be mailed to citizens' groups and civic and government leaders in the community and may be advertised in local newspapers.

DECOMMISSIONING AND LICENSE RENEWAL

When a nuclear power plant approaches the end of its initial 40-year operating license period, the utility that operates it may choose to decommission the plant and terminate its license. Other utilities may decide instead to request an extension of its license to continue to produce electricity up to 20 years past its original license under the NRC plant license renewal rule. In either case, the public has an opportunity to participate in NRC's decisionmaking process to either renew a license or decommission a facility.

This process is also used in licensing and decommissioning nuclear materials facilities, such as those handling low-level radioactive waste. When facilities stop operating, the owners must initiate decommissioning to remove or reduce radioactive contamination that might have occurred at the site during operation. The NRC has developed a list of sites in the United States that warrant special oversight because of unique decommissioning issues. This list is included in a document called the Site Decommissioning Management Plan (SDMP).

The public may become involved in the decommissioning process for these sites during the development of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). These terms are described in more detail below. The NRC also provides opportunities for public involvement through roundtable meetings. They are convened when the NRC believes that enhanced public involvement will contribute to the success of the decommissioning process. The NRC conducts roundtable meetings in the vicinity of the site to enable the public to collect information, to comment on and question the decommissioning actions at the site, and to discuss decommissioning issues among stakeholders. The roundtable format includes representatives of Federal and State agencies, interest groups, and the community. Meetings are announced either in local newspapers or on local radio stations.

HIGH-LEVEL WASTE

The projected licensing of a high-level waste (HLW) repository is a first-time endeavor for NRC, and one in which public participation started well before an actual license application. All meetings regarding the HLW program are open to the public and noticed in the Federal Register.

Nuclear power plants can store spent nuclear fuel in independent spent fuel storage installations (ISFSIs) on the premises of the plant when they obtain a general license from the NRC. Applications for this type of license would be handled the same as other licensing actions--with full notice and participation by the affected community.

ENVIRONMENTAL IMPACTS

When the NRC reviews a proposal to build a major new facility or considers any other action that might have a significant impact on the environment, an Environmental Impact Statement (EIS) must be developed by the NRC staff. The concept of an EIS originated in the National Environmental Policy Act (NEPA), which requires Federal evaluation of a proposed facility's impact on the environment. This is a detailed, scientific study describing the environmental effects of the proposed action or facility. For example, the EIS includes information on the physical characteristics of the area--geology, water, and air--the ability of transportation systems to support the facility, and local population information.

An Environmental Assessment (EA) is usually prepared and published in the Federal Register as a precursor to an EIS. An EA is a brief discussion of the need for the proposed action, along with a list of

the agencies and experts consulted. If the EA indicates the proposed action or facility will not have a significant effect on the environment, no EIS is required.

Scoping meetings provide a forum for members of the public to express their opinion and provide information in preparation for environmental evaluations. These meetings are often held to help NRC identify issues to be addressed in an EIS and typically involve State and local agencies, Indian tribes, or other interested people who request participation.

For example, while the NRC was developing its decommissioning rule, the agency conducted four scoping meetings around the country to gather public comments regarding the EIS and the clean-up criteria for the decontamination and decommissioning of NRC-licensed facilities.

PETITIONS

Any member of the public may raise potential health and safety issues in a petition to the NRC to take specific enforcement action regarding a licensed, operating facility. This provision is contained in Subpart B, Section 2.206 of the NRC's regulations and is often referred to as a "2.206 petition." In general, the petition is submitted in writing to the Executive Director for Operations and includes specific facts supporting the request for the NRC to take enforcement action. Unsupported assertions of safety problems or general opposition to nuclear power are not considered sufficient grounds for action. If warranted, the NRC could take action to modify, suspend, or revoke a license, or could take other appropriate enforcement action to resolve a problem identified by a 2.206 petition.

Once a petition is accepted for review, and throughout the petition process, the petitioner is informed of progress, given copies of all relevant correspondence, and may be offered an informal public hearing, if appropriate. An informal public hearing is offered when the petition presents new information that raises a significant safety issue or alleges a violation of NRC requirements involving a significant safety issue for which new information or a new approach is provided. The NRC publishes a notice in the Federal Register when it receives a 2.206 petition and again 30 days in advance of an informal public hearing.

More detailed information on this process is contained in a pamphlet entitled "Public Petition Process," NUREG/BR-0200, which is available from the Government Printing Office and NRC's Office of Public Affairs.

REPORTING SAFETY CONCERNS

Often workers at nuclear power plants or members of the public raise concerns that safety rules are not being followed at the facilities where they work or near where they live. The NRC has established a formal process for reviewing and resolving these concerns.

The NRC encourages workers in the nuclear industry to take their concerns directly to their employer because he or she has the primary responsibility for maintaining safe operations. However, should employees not be satisfied by company response or choose to bring safety concerns directly to the NRC, they may do so by calling NRC's toll-free safety hotline, 1-800-695-7403. Any member of the public may voice safety concerns in this same manner. Additional information on reporting safety concerns will be available in a separate booklet entitled "Reporting Safety Concerns to NRC" from NRC's Office of Public Affairs.

ENFORCEMENT

The NRC's enforcement program seeks to protect public health and safety by ensuring that licensees

comply with regulations and license conditions. Enforcement actions might take the form of notices of violations, civil penalties, or orders to modify, suspend, or revoke licenses. Enforcement conferences are often held with a licensee, a vendor, or other person before the NRC makes its final decision on a significant enforcement action. In most cases, these conferences are open to public observation.

Copies of significant enforcement actions are available on the internet on the [Office of Enforcement web page](#).

PUBLIC MEETINGS

The public can keep abreast of NRC's regulatory activities through a variety of open meetings dealing with significant safety issues. These include most technical meetings with licensees and meetings with trade organizations and public interest groups. Often, the NRC staff meets with licensees to discuss their safety performance. These meetings are open for public observation.

In some cases, meetings are held in the community near a nuclear power plant or other facility to make it easier for the public to participate. If a community expresses concern over licensing or other actions involving a facility nearby, the NRC may hold public meetings near the site to explain the NRC's role as it relates to the licensee's planned activities and to answer questions posed by local citizens. Public meetings may also be held when a licensee submits a plan to decommission a facility. Other open meetings may be held at one of the NRC regional offices or at NRC Headquarters in Rockville, Maryland.

The types of meetings that are not usually open to the public include discussions of classified, proprietary, or safeguards information; ongoing investigations; privacy information; inspector meetings with licensee management and technical staff on site; or meetings that could pose a significant administrative burden and interfere with NRC's primary safety responsibilities. The agency's policy regarding open meetings is described in more detail in NRC's Management Directive 3.5, "Public Attendance at Certain Meetings Involving the NRC Staff."

Two separate listings of open NRC meetings are available to the public. Weekly lists of staff meetings are posted in public document rooms in Washington, D.C., and near nuclear plants.

For staff meetings, a listing is available at least 10 calendar days in advance of the date of the meeting. Notices for Commission and Advisory Committee meetings are published in the Federal Register. Listings are available by telephone as follows:

Staff Meetings: 1-800-952-9674

Commission Meetings: 1-301-415-1292

Advisory Committee Meetings: 1-301-415-5024

Schedules of these meetings are also available on the the NRC's web site at <http://www.nrc.gov/NRC/PUBLIC/meet.html>

In addition to these mechanisms, the NRC announces major meetings in press releases issued to the news media and mailed to more than 1,000 addressees. Notices are posted in the Public Document Room and sometimes through advertisements placed in local newspapers several days in advance of a meeting.

FREEDOM OF INFORMATION ACT REQUESTS

The NRC releases information to the public related to its health and safety mission by placing documents in its public document rooms. However, under the Freedom of Information Act (FOIA), members of the public may request copies of other NRC documents and, unless these records fall under specific Federal exemptions, the NRC will provide access to them within 20 working days after the request is received. Under certain circumstances, fees are charged to cover the cost of locating and copying the requested material.

Freedom of information inquiries may be addressed to the Chief, Freedom of Information/Local Public Document Room Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

GENERAL CORRESPONDENCE

At any time, of course, a member of the public can request information in writing or identify concerns about nuclear facilities through regular correspondence. Routine correspondence between NRC and its licensees is made available in the Public Document Room. General correspondence should be addressed to the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

FOR ADDITIONAL INFORMATION

For more information on public involvement, contact the NRC Office of Public Affairs by telephone at 301-415-8200, or via internet at OPA@NRC.GOV

For more detailed descriptions of how to obtain information from the NRC, you can order a copy of the Citizen's Guide to NRC Information, NUREG/BR-0010, Revision 2, by writing the Government Printing Office, P.O. Box 37082, Washington, DC, 20013-7082, or calling 202-512-2249.

Return to [Technical Issues Papers Index](#)

Send Questions or Comments to opa@nrc.gov.

Enclosure 3



NRC Reactor Oversight Process

[News and Information](#) | [NRC Reactor Oversight Program](#) | [NRC Home](#) | [E-mail](#)

[Document in Adobe Acrobat \(pdf\) format](#) | [Document in WordPerfect format](#)

Note: The text of this page has been published as Revision 2 to NUREG-1649

Current Performance Assessment Information Elsewhere on NRC Web Site

- [Performance indicators and inspection findings](#)
- [Plant Performance Reviews](#)

NRC Reactor Inspection and Assessment Program

- [Introduction](#)
- [Cornerstones of Safety Operations](#)
- [Performance Indicators](#)
- [Inspections](#)
- [Assessing Plant Performance](#)
- [NRC Reponse to Plant Performance](#)
- [Making Information Available](#)
- [Comparison with Previous Program](#)
- [Glossary](#)
- [NEW Finding Plant Performance Information on NRC Web Site](#)

Introduction

The Nuclear Regulatory Commission has revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new oversight process uses more objective, timely, and safety-significant criteria in assessing performance, while seeking to more effectively and efficiently regulate the industry. It also takes into account improvements in the performance of the nuclear industry over the past twenty years.

The NRC tested the new program at thirteen reactors at nine sites across the country on a pilot basis in 1999 to identify what things worked well and what improvements were called for before beginning initial implementation at all nuclear power plants. After a year of experience has been gained with the new oversight process at all plants, the Commission anticipates making further improvements based on this wider experience.

The impetus behind this comprehensive change in approach came both from the NRC's own fundamental reviews of its regulatory program as part of the "reinventing government" process and from concerns expressed by public interest groups, the nuclear industry, and Congress.

The NRC's mission is to ensure adequate protection of public health and safety as it relates to the peaceful uses of nuclear materials in the United States. The agency does not operate nuclear power plants. Rather it regulates the safe operation of the 103 commercial nuclear power plants by mandating requirements for the design, construction and operation of such plants. The NRC conducts a rigorous process for licensing plants to allow them to operate, as well as licensing individual plant operators. The agency provides continuous oversight of plant operations to verify they are being conducted in accordance with regulations.

The NRC also establishes plant specific technical specifications which must be followed by the plant

operators to ensure that the proper combination of safety related equipment is available to safely shut down the plant in the event of an accident. The NRC has full authority to take whatever action is necessary to protect public health and safety and may demand immediate licensee actions, up to and including a plant shutdown.

The commercial nuclear power industry in the United States is a mature industry. Most of the plants have been operating for more than 10 years, and half of them have operated for more than 20 years. All the evidence suggests that the safety and reliability of the nuclear industry has improved markedly since the late 1980's and early 1990s. The number of automatic shutdowns, the number of significant safety problems, and the number of unplanned outages caused by equipment problems have all decreased. (See Glossary for definitions of terms).

The improvements in plant performance can be attributed both to efforts within the nuclear industry and to successful regulatory oversight. Despite this success, the NRC has noted that previous processes for inspection, assessment, and enforcement were not always focused on the most important safety issues. In some situations, regulatory activities have been redundant or inefficient and, at times, overly subjective.. NRC actions were not always sufficiently understandable or predictable.

To address these concerns, the new oversight program calls for:

- Focusing inspections on activities where the potential risks are greater
- Applying greater regulatory attention to nuclear power plants with performance problems, while maintaining a normal level of regulatory attention on facilities that perform well
- Using objective measurements of the performance of nuclear power plants
- Giving both the public and the nuclear industry timely and understandable assessments of plant performance
- Reducing unnecessary regulatory burden on nuclear facilities
- Responding to violations of regulations in a predictable and consistent manner that reflects the potential safety impact of the violations

The key features of the program deal with new methods for inspecting and assessing performance to ensure safe operation. It spells out more clearly what a nuclear plant operator can expect from the NRC with good plant performance and what can be expected from the NRC if performance declines.

Setting the Cornerstones of Safe Operation

The new reactor oversight program is, of course, anchored in the NRC's mission to ensure public health and safety in the operation of commercial power plants. That will always remain the agency's overarching responsibility.

The objective is to monitor performance in three broad areas -- reactor safety (avoiding accidents and reducing the consequences of accidents if they occur); radiation safety for both plant workers and the public during routine operations; and protection of the plant against sabotage or other security threats.

To measure plant performance, the oversight program focuses seven on specific "cornerstones" which support the safety of plant operations in the three broad strategic areas.

Initiating Events - This cornerstone focuses on operations and events at a nuclear plant that could lead to a possible accident, if plant safety systems did not intervene. These events could include equipment failures leading to a plant shutdown, shutdowns with unexpected complications, or large changes in the plant's power output.

Mitigating Systems - This cornerstone measures the function of safety systems designed to prevent an accident or reduce the consequences of a possible accident. The equipment is checked by periodic testing and through actual performance.

Barrier Integrity - There are three important barriers between the highly radioactive materials in fuel within the reactor and the public and the environment outside the plant. These barriers are the sealed rods containing the fuel pellets, the heavy steel reactor vessel and associated piping, and the reinforced concrete containment building surrounding the reactor. The integrity of the fuel rods, the vessel, and the piping is continuously checked for leakage, while the ability of the containment to prevent leakage is measured on a regular basis.

Emergency Preparedness - Each nuclear plant is required to have comprehensive emergency plans to respond to a possible accident. This cornerstone measures the effectiveness of the plant staff in carrying out its emergency plans. Such emergency plans are tested every two years during emergency exercises involving the plant staff and local, state, and, in some cases, federal agencies.

Occupational Radiation Safety - NRC regulations set a limit on radiation doses received by plant workers, and this cornerstone monitors the effectiveness of the plant's program to control and minimize those doses.

Public Radiation Safety - This cornerstone measures the procedures and systems designed to minimize radioactive releases from a nuclear plant during normal operations and to keep those releases within federal limits.

Physical Protection- Nuclear plants are required to have well-trained security personnel and a variety of protective systems to guard vital plant equipment, as well as programs to assure that employees are constantly fit for duty through drug and alcohol testing. This cornerstone measures the effectiveness of the security and fitness-for-duty programs.

In addition to the cornerstones, the reactor oversight program features three "cross-cutting" elements, so named because they affect and are therefore part of each of the cornerstones:

- **Human performance**
- **Management attention to safety and workers' ability to raise safety issues** (The so-called "safety-conscious work environment")
- **Finding and fixing problems** (The utility's corrective action program)

The review and assessment of these cross-cutting elements have an important role in the new program.

Measuring and Inspecting Nuclear Plant Performance

Nuclear plant performance will be measured by a combination of objective performance indicators and by the NRC inspection program. These will be closely focused on those plant activities having the greatest impact on safety and overall risk. In addition, the NRC will conduct both periodic and annual reviews of the effectiveness of each utility's programs to identify and correct problems.

Performance indicators use objective data to monitor performance within each of the "cornerstone" areas. The data which make up the performance indicators will be generated by the utilities and submitted to the NRC on a quarterly basis. Each performance indicator is measured against established thresholds which are related to their effect on safety. While performance indicators can provide insights into plant performance for selected areas, the NRC's inspection program provides a greater depth and breadth of information for consideration by the NRC in assessing plant performance.

The NRC will also monitor plant activities through its inspection program. The inspection program is designed to verify the accuracy of performance indicator information and to assess performance that is not directly measured by the performance indicator data.

Using Performance Indicators

The performance indicator data will be evaluated and integrated with findings of the NRC inspection program. Each of the performance indicators has criteria for measuring acceptable performance. (As in all industrial activities, nuclear power plants are not error-free or risk-free. Equipment problems and human errors will occur. Each performance indicator is designed to determine acceptable levels of operation within substantial safety margins.) These objective criteria are designed to reflect risk according to established safety margins, as indicated by a color coding system.

A "green" coding indicates performance within an expected performance level in which the related cornerstone objectives are met; "white" indicates performance outside an expected range of nominal utility performance but related cornerstone objectives are still being met; "yellow" indicates related cornerstone objectives are being met, but with a minimal reduction in safety margin; and "red" indicates a significant reduction in safety margin in the area measured by that performance indicator. The performance indicators will be reported to the NRC on a quarterly basis by each utility. Following compilation and review by the NRC staff, the performance indicators will be posted on the NRC's web site.

Scope of Inspections

The revised oversight program continues to utilize a variety of NRC inspectors who monitor plant activities. The program includes baseline inspections common to all nuclear plants. The baseline inspection program, based on the "cornerstone" areas, focuses on activities and systems that are "risk significant," that is, those activities and systems that have a potential to trigger an accident, can mitigate the effects of an accident, or increase the consequences of a possible accident. The inspection program will also review the "cross-cutting issues" of human performance, the "safety-conscious work environment," and how the utilities find and fix problems. Inspections beyond the baseline will be performed at plants with performance below established thresholds, as assessed through information gained from performance indicators and NRC inspections.

Performance indicators are reported quarterly by operators of nuclear plants, reviewed by the NRC staff, and posted on the NRC's web site.	
Safety Cornerstone	Performance Indicator
Initiating events	Unplanned reactor shutdowns (automatic and manual)
	Loss of normal reactor cooling system following unplanned shutdown
	Unplanned events that result in significant changes in reactor power
Mitigating Systems	Safety System not available <ul style="list-style-type: none"> • Specific Emergency Core Cooling Systems • Emergency Electric Power Systems
	Safety System Failures
Integrity of barriers to release of radioactivity	Fuel Cladding (measured by radioactivity in reactor cooling system)
	Reactor cooling system leak rate
Emergency Preparedness	Emergency response organization drill performance
	Readiness of emergency response organization

Additional inspections may also be performed in response to a specific event or problem which may arise at a plant.

The inspections will be performed by NRC resident inspectors stationed at each nuclear power plant and by inspectors based in one of the four NRC regional offices or in NRC headquarters in Rockville, Maryland. The regional offices are in King of Prussia, Pennsylvania; Atlanta, Georgia; Lisle, Illinois; and Arlington, Texas.

The new inspection program uses a "risk-informed" approach to select areas to inspect within each cornerstone. The inspection areas were chosen because of their importance from the point of view of potential risk, past operational experience, and regulatory requirements.

The baseline inspection program has three parts -- inspection of areas not covered by performance indicators or where a performance indicator does not fully cover the inspection area; inspections to verify the accuracy of a licensee's reports on performance indicators; and a thorough review of the utility's effectiveness in finding and resolving problems on its own.

Inspection reports will be issued for all inspections just as under the previous inspection program. The reports will be available to the public on the NRC's internet web site and from its Public Document Room at NRC headquarters.

	Availability of notification system for area residents
Occupational Radiation Safety	Compliance with regulations for controlling access to radiation areas in plant
	Uncontrolled radiation exposures to workers greater than 10 percent of regulatory limit
Public Radiation Safety	Effluent releases requiring reporting under NRC regulations and license conditions
Physical Protection	Security system equipment availability
	Personnel screening program performance
	Employee fitness-for-duty program effectiveness

Assessing Plant Performance

The inspection staff has developed a procedure, called the "Significance Determination Process," to help inspectors determine the safety significance of inspection findings. This process will be used for an initial screening review to identify those inspection findings that would not result in a significant increase in risk and thus need not be analyzed further (a "green" finding). Remaining inspection findings -- which may have an effect on plant risk -- will then be subject to a more thorough risk assessment, using the next phase of the Significance Determination Process. This more detailed assessment may involve NRC risk experts from the appropriate regional office and further review by the utility's plant staff. The final outcome of the review -- evaluating whether the finding is green, white, yellow, or red -- will be used to determine what further NRC action may be called for.

Each calendar quarter, the resident inspectors and the inspection staff in the regional office will review the performance of all nuclear power plants in that region, as measured by the performance indicators and by inspection findings. Every six months, this review will be expanded to include planning of inspections for the following 12-month period.

Each year, the final quarterly review will involve a more detailed assessment of plant performance over the previous 12 months and preparation of a performance report, as well as the inspection plan for the following year. This review will include NRC headquarters staff members, the regional staff, and the resident inspectors.

These annual performance reports will be available to the public on the agency's web site, and the NRC staff will hold public meetings with utilities to discuss the previous year's performance at each plant.

In addition, NRC senior management will review the adequacy of agency actions for plants with significant performance problems. The managers will also take a wider view both of the overall industry performance and of the performance of the agency's regulatory programs. The performance of plants requiring heightened agency scrutiny will then be discussed during a public meeting with the NRC Commissioners at the agency's Rockville, Maryland, headquarters.

NRC Response Plan or "Action Matrix"	
Assessment of Plant Performance (in order of increasing safety significance)	NRC Response
I. All performance indicators and cornerstone inspection findings GREEN <ul style="list-style-type: none"> • Cornerstone objectives fully met. 	<ul style="list-style-type: none"> • Routine inspector and staff interaction • Baseline inspection program • Annual assessment public meeting
II. No more than two WHITE inputs in different cornerstones <ul style="list-style-type: none"> • Cornerstone objectives fully met. 	Response at Regional level <ul style="list-style-type: none"> • Staff to hold public meeting with utility management • Utility corrective action to address WHITE inputs • NRC inspection followup on WHITE inputs and corrective action
III. One degraded cornerstone (two WHITE inputs or one YELLOW input or three WHITE inputs in any strategic area) <ul style="list-style-type: none"> • Cornerstone objectives met with minimal reduction in safety margin 	Response at Regional level <ul style="list-style-type: none"> • Senior regional management to hold public meeting with utility management • Utility to conduct self-assessment with NRC oversight • Additional inspections focused on cause of degraded performance
IV. Repetitive degraded cornerstone, multiple degraded cornerstones, or multiple YELLOW inputs, or one RED input <ul style="list-style-type: none"> • Cornerstone objectives met with longstanding issues or significant reduction in safety margin 	Response at Agency level <ul style="list-style-type: none"> • Executive Director for Operations to hold public meeting with senior utility management • Utility develops performance improvement plan with NRC oversight • NRC team inspection focused on cause of degraded performance • Demand for Information, Confirmatory Action Letter, or Order
V. Unacceptable Performance <ul style="list-style-type: none"> • Unacceptable reduction in safety margin 	Response at Agency level <ul style="list-style-type: none"> • Plant not permitted to operate • Commission meeting with senior utility management • Order to modify, suspend, or revoke license

How the NRC Will Respond to Plant Performance

The quarterly reviews of plant performance, using both the performance indicators and inspection findings, will determine what additional action, if any, the NRC will take if there are signs of declining performance. This approach to enforcement is intended to be more predictable than previous practices by linking regulatory actions to performance criteria. The new process utilizes four levels of regulatory response with NRC regulatory review increasing as plant performance declines. The first two levels of heightened regulatory review are managed by the appropriate regional office. The next two levels call for an agency response, involving senior management attention from both headquarters and regional offices.

The oversight program retains the same tools used in the past for dealing with declining plant performance and violations. These tools, however, are used in a more predictable manner that is commensurate with the decreased safety performance. In the past, the NRC tended to use fines as a prime indicator of agency concern and as a motivator to affect licensee corrective actions. Under the new approach, there is a system of specified agency actions if performance declines. Fines will generally be reserved for such things as discriminating against workers raising safety concerns, or willful misreporting of required information.

The NRC's actions for performance below the "green" level may include meetings with the utility, additional inspections, and required reviews and response by the utility. Further declines in performance would warrant stronger action by the NRC, including a civil order or even the suspension of the utility's operating license.

Violations of NRC Requirements

Each violation of NRC requirements found during NRC inspections will be evaluated to determine its effect on plant safety and risk. If the violation is of very low safety significance, it will be discussed in the inspection report with no formal enforcement action. The utility is expected to deal with the violation through its corrective action program, correcting the violation and taking steps to prevent a recurrence. The issue may also be reviewed during future NRC inspections.

If the NRC risk evaluation finds that the violation has higher safety significance, a Notice of Violation will be issued. A Notice of Violation may also be issued if the utility fails to correct a violation of low safety significance in a reasonable period of time or if a violation is found to be willful.

The Notice of Violation requires the utility to respond formally to the NRC with its actions to correct the violation and what steps it will take to prevent the violation from occurring again. The agency will then review the utility's actions in a later inspection.

Normally, these violations will not be the subject of a fine. However, there may be violations that warrant a fine because of their unusual significance. These violations are likely to be uncommon. Possible examples include exceeding a safety limit specified in a reactor license or the inadvertent startup of a reactor.

In addition, some violations will call for the traditional enforcement approach, including the possible issuance of fines. Examples include:

- Discrimination against workers for raising safety issues or other willful violations.
- Actions that may adversely affect the NRC's ability to monitor utility activities, including failure to report required information, failure to obtain NRC approval for plant changes, failure to maintain accurate records, or failure to provide the NRC with complete and accurate information.
- Incidents with actual safety consequences, including radiation exposures above NRC limits, releases of radioactive material above NRC limits, or failure to notify government agencies when emergency

response is required.

Making performance information available to the public

The revised oversight process will provide more information on plant performance than in the past, and the information will be available on a more frequent basis. This information will be placed on the NRC's internet web site as well as in its Public Document Room at NRC headquarters.

A utility will submit to the NRC the quarterly performance indicator data for each nuclear power plant it operates. The NRC staff will review the data for completeness and accuracy. The staff will also evaluate inspection findings for that quarter to determine their safety significance. This review uses the agency's "Significance Determination Process," which is keyed to how plant safety systems and procedures contribute to the risk of a potential accident.

The performance indicators and the assessment of inspection findings will be placed on the NRC web site using the color notation of their significance -- green, white, yellow, or red. The statistics and inspection findings which underlie the color notation will also be posted on the web site.

The revised oversight program is intended to fulfill the following four goals established by the Commission:

1. To maintain safety by establishing a regulatory oversight framework that provides assurance that plants continue to be operated safely by plant operators. Maintaining safety is the NRC's overarching mission.
2. To enhance public confidence in the NRC's regulatory program by increasing the predictability, consistency, objectivity and transparency of the oversight process so that all parties will be well served by the changes taking place.
3. To improve the effectiveness, efficiency, and realism of the oversight process by focusing both agency resources and utility resources on those issues with the most safety-significance.
4. To reduce unnecessary regulatory burden as the process becomes more efficient and effective.

How This New Oversight Process Differs from the Previous Approach

The previous oversight process evolved over a period of time when the nuclear power industry was less mature and there was much less operational experience on which to base rules and regulations. Very conservative judgments governed the rules and regulations. Significant plant operating events occurred with some frequency, therefore the oversight process tended to be reactive and prescriptive, closely observing plant performance for adherence to the regulations and responding to operational problems as they occurred.

But we now have the benefit of four decades of operational experience and, generally speaking, steadily improving plant performance, particularly over the last decade or so. The new program focuses more of the agency's resources on the relatively small number of plants which evidence performance problems. The baseline inspection program is considered the minimum inspection effort needed to assure that plants meet the "safety cornerstone" objectives. The baseline inspection program is performed at all reactor sites by NRC resident inspectors and inspectors from the regional offices.

Plants which do not meet the "safety cornerstone" objectives, measured by performance indicators and inspection findings, will receive increased inspection, focusing on areas of declining performance. There will also be inspections beyond the baseline program, even at plants performing well, if there are operational problems or events the NRC believes require greater scrutiny. Generic problems, affecting

some or all plants, may also require additional inspections.

The previous oversight program relied more heavily on fines when violations occurred, while the new program will make broader use of other enforcement tools such as orders and other formal regulatory actions. When fines were imposed previously, they were often issued long after the violations occurred and their impact was substantially less than the cost of repairs or the costs associated with a shutdown to correct the violations. The new process is intended to be more effective in correcting performance or equipment problems because the agency's response will be both more timely and more predictable.

The new assessment program is substantially different from the previous process. It makes greater use of objective performance indicators. Together, the indicators and inspection findings provide the information needed to support reviews of plant performance, to be conducted on a quarterly basis, with the results posted on the NRC's internet site.

The new assessment process also features expanded reviews on a semi-annual basis to include inspection planning and a performance report, all of which will also be posted on the NRC's web site.

The performance assessment process previously involved three processes:

- **Plant Performance Review** - Conducted every six months to assess events, inspection findings, and other data. This review was done to plan future inspections and to identify those plants with declining performance that required further NRC action.
- **Senior management meetings** - Twice a year, NRC senior managers reviewed information assessing plant performance to discuss what regulatory action was needed at plants with declining performance. The managers designated those plants warranting heightened NRC monitoring as being on a "watch list." These "watch list" plants were then discussed at a public meeting with the Commission.
- **Systematic Assessment of Licensee Performance (SALP)** - Every 12 to 24 months, the NRC staff performed a separate review of the performance of each plant, preparing a Systematic Assessment of Licensee Performance report. This report included a numerical rating of the plant in four categories -- plant operations, maintenance, engineering, and plant support -- as well as a narrative discussion of performance in each area.

Glossary

Baseline Inspection Program - The normal inspection program performed at all nuclear power plants. The program will focus on plant activities that are not adequately measured by performance indicators, on the corrective action program, and on verifying the accuracy of the performance indicators.

Corrective Action Program - The system by which a utility finds and fixes problems at the nuclear plant. It includes a process for evaluating the safety significance of the problems, setting priorities in correcting the problems, and tracking them until they have been corrected.

Cross-cutting Area - Nuclear plant activity that affects most or all safety cornerstones. These include the plant's corrective action program, human performance, and "safety-conscious work environment."

Inspection Reports - Reports are issued periodically to document inspection findings. These may cover a specific time period for the baseline inspection or a particular event or problem examined in a reactive inspection. All inspection reports are public documents and, when issued, are posted to the NRC's internet web site.

Performance Indicator - Objective data which records performance in a specific cornerstone of safety at a nuclear power plant.

Reactive Inspection - An inspection to examine the circumstances surrounding an operational problem or event occurring at a nuclear plant.

Regulatory Conference - A meeting between the NRC staff and a utility to discuss potential safety issues or to discuss a change in performance as indicated by a declining performance indicator or inspection finding. These meetings are open to public observation unless they cover security issues, NRC investigation findings, or similar sensitive topics.

Resident Inspector - An NRC inspector assigned to a nuclear plant on a full-time basis. Each site has at least two resident inspectors.

Risk-informed - Incorporating an assessment of safety significance or relative risk in NRC regulatory actions

Cornerstone of Safety - Nuclear plant activities that are essential for the safe operation of the facility. These cornerstones are grouped under the categories of reactor safety, radiation safety, and safeguards.

Safety Conscious Work Environment - A working environment in which employees are encouraged to report safety concerns without fear of criticism or retaliation from their supervisors because they raised the issue.

Significance Determination Process - The process used by the NRC staff to evaluate inspection findings to determine their safety significance. This involves assessing how the inspection findings affect the risk of a nuclear plant accident, either as a cause of the accident or the ability of plant safety systems or personnel to respond to the accident.

April 13, 2000 - opa3@nrc.gov