

# PROGRAM PERFORMANCE

The NRC monitors materials safety issues through the agency's event evaluation and incident response activities. In particular, the NRC met regularly to evaluate the safety significance of the events reported by agency licensees and Agreement States.

**TIMELINESS REVIEW OF NUCLEAR MATERIAL LICENSING APPLICATIONS** Percent Completed on Time



The NRC's timeliness in reviewing nuclear material license renewals and sealed source and device designs has improved from 1999 through 2004.

## STATE AND TRIBAL PROGRAMS

The NRC establishes and maintains effective communications and working relationships with States, local governments, Indian tribes, and interstate organizations. The NRC shares its regulatory responsibilities with 33 Agreement States. To ensure adequate protection public health and safety, as well as the compatibility of Agreement State programs with NRC programs, the NRC conducted nine Integrated Materials Performance Evaluation Program reviews of Agreement State programs. The Integrated

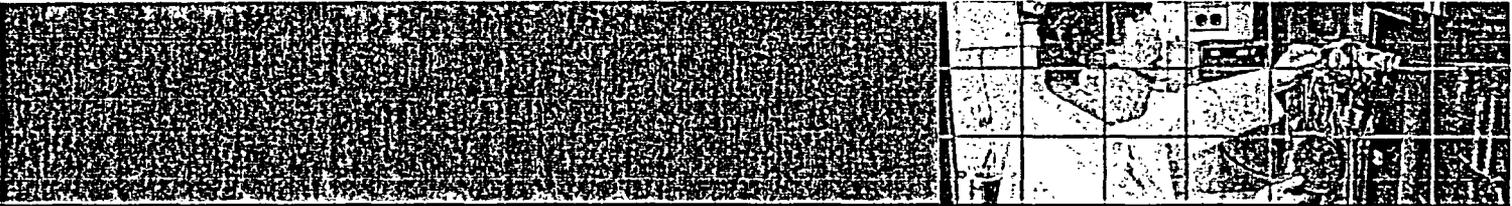
Materials Performance Evaluation Program uses a common evaluation process that applies to both Agreement State and NRC regional materials programs to attain a uniform materials safety policy throughout the Nation. NRC conducted nine reviews of Agreement State programs and one review of an NRC regional office.

In accordance with the Atomic Energy Act, the NRC entered into an amendment to the Agreement with the State of Utah transferring to the State regulatory authority for byproduct material (uranium mill tailings and other uranium milling wastes) which became effective August 16, 2004.

Also in accordance with the Atomic Energy Act, the NRC entered into nine agreements for States to conduct security inspections for NRC.

## MATERIALS RESEARCH

The research program includes developing a technical basis to risk-inform the regulatory requirements for materials licenses by developing risk assessment tools and safety goals/guidelines for materials applications.



## NUCLEAR MATERIALS SAFETY

The NRC developed a database with national and international data sets needed to perform radiologic and dosimetric calculations. This tool will enable NRC staff and licensees to quickly assess radiation exposures by having the needed information in a single database.

In response to recommendations from the Government Accountability Office, the NRC cooperated with other Federal agencies to assess the significance of radioactive material released to municipal sewage systems and published a report on the results of a survey to evaluate the extent of radioactivity occurring in sewage sludge.

### ANNUAL GOALS AND MEASURES

**Strategic Goal-1: Prevent radiation-related deaths and illnesses, promote the common defense and security, and protect the environment in the use of source, byproduct, and special nuclear materials.**

#### *Strategic Goal Results*

The NRC has established five measures to determine whether the agency has met its Nuclear Materials Safety strategic goal. These top-level measures define the NRC's success in overseeing nuclear materials licensees. The goal of the NRC's regulatory efforts is to prevent the occurrence of any of the events described in the measures below.

Measure	2001	2002	2003	2004
1-1 No deaths resulting from acute radiation exposures from civilian uses of source, byproduct, or special nuclear materials, or deaths from other hazardous materials used or produced from licensed material. <sup>14</sup>	0	0	0	0
1-2 No more than six events per year resulting in significant radiation or hazardous materials exposures <sup>15</sup> from the loss or use of source, byproduct, and special nuclear materials.	0	0	0	0
1-3 No events resulting in releases of radioactive material resulting from civilian uses of source, byproduct, or special nuclear materials that cause an adverse impact on the environment. <sup>16</sup>	0	0	0	0
1-4 No losses, thefts, or diversion of formula quantities of strategic special nuclear material, radiological sabotages, or unauthorized enrichment of special nuclear material regulated by the NRC. <sup>17</sup>	0	0	0	0
1-5 No unauthorized disclosure or compromise of classified information causing damage to national security. <sup>18</sup>	0	0	0	0

**Results:** The NRC has met all of the strategic goal measure targets.

# PROGRAM PERFORMANCE

## PERFORMANCE GOALS

In addition to our strategic goals, the NRC had four performance goals and associated performance measures for the Nuclear Materials Safety program:

- (1) Maintain safety, protection of the environment, and the common defense and security.
- (2) Increase public confidence.
- (3) Make NRC activities and decisions more effective, efficient, and realistic.
- (4) Reduce unnecessary regulatory burden on stakeholders.

## PERFORMANCE GOAL RESULTS

### Performance Goal-1: Maintain safety, protection of the environment, and the common defense and security

Measure	2001	2002	2003	2004
1-1 No more than 300 losses <sup>19</sup> of control of licensed material per year. <sup>20</sup>	244	272	219	175
1-2 No occurrences of accidental criticality. <sup>21</sup>	0	0	0	0
1-3 No more than 30 events per year <sup>22</sup> resulting in radiation overexposures <sup>23</sup> from radioactive material that exceed applicable regulatory limits.	27	23	16	7
1-4 No more than 45 medical events per year. <sup>24</sup>	33	33	39	35
1-5 No more than 5 releases per year <sup>25</sup> to the environment of radioactive material from operating facilities that exceed the regulatory limits. <sup>26</sup>	0	4	0	0
1-6 No more than 5 substantiated cases per year of attempted malevolent use <sup>27</sup> of source, byproduct, or special nuclear material.	0	0	0	0
1-7 No breakdowns of physical protection or material control and accounting systems resulting in a vulnerability to radiological sabotage, theft, diversion, or unauthorized enrichment of special nuclear material. <sup>28</sup>	0	0	0	0
1-8 No non-radiological events that occur during NRC-regulated operations that cause impacts on the environment that cannot be mitigated within applicable regulatory limits, using reasonably available methods. <sup>29</sup>	0	0	0	0

Results: The NRC has met all of the performance goal measure targets.

## NUCLEAR MATERIALS SAFETY

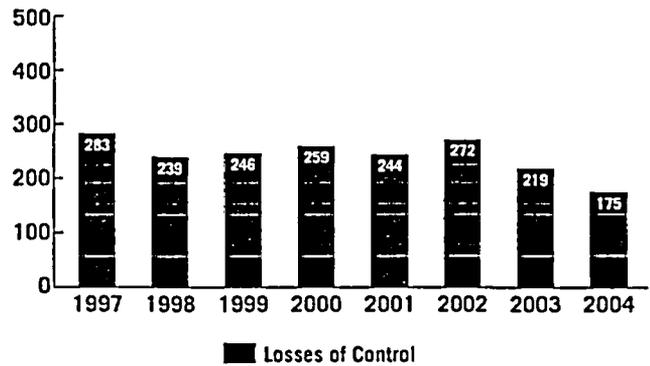
**1-1 Losses of Control:** The industry experienced a total of 175 losses of control of licensed material in FY 2004, which was within the target of 300 losses. This measure tracks reportable events of materials entering the public domain in an uncontrolled manner. Many of the events counted toward this measure do not, by themselves, pose a risk to public health and safety. For example, most of the losses of control of licensed material involve shielded materials, which are unlikely to result in overexposures to individuals or releases to the environment with most eventually recovered. However, the NRC includes these losses because they may indicate weaknesses in licensees' programs. Very few of the events tracked in the graph on the top right involve high enough quantities of radioactive material to pose a security concern.

**1-2 Accidental Criticality:** The industry did not experience any instances of accidental criticality in FY 2004 or in any year since data collection began in FY 1997.

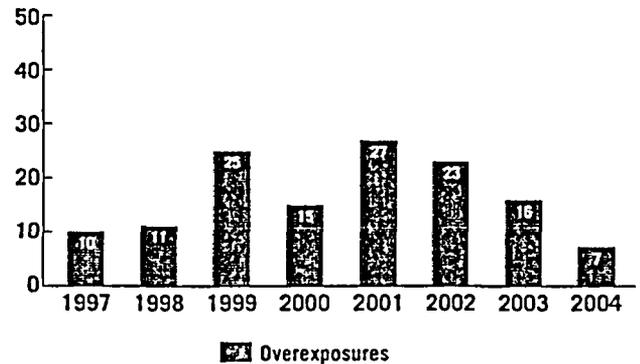
**1-3 Radiation Overexposures:** The industry experienced 7 events in FY 2004 that resulted in radiation overexposures from radioactive material that exceeded applicable regulatory limits. For fuel cycle facilities, this measure extends to other hazardous materials that are used with, or produced from, licensed material, consistent with 10 CFR Part 70.

Reportable chemical exposures are those that exceed license commitments. They also include chemical exposures involving uranium recovery activities under the Uranium Mill Tailings Radiation Control Act.

**TARGET: NO MORE THAN 300 LOSSES OF CONTROL OF LICENSED NUCLEAR MATERIAL**

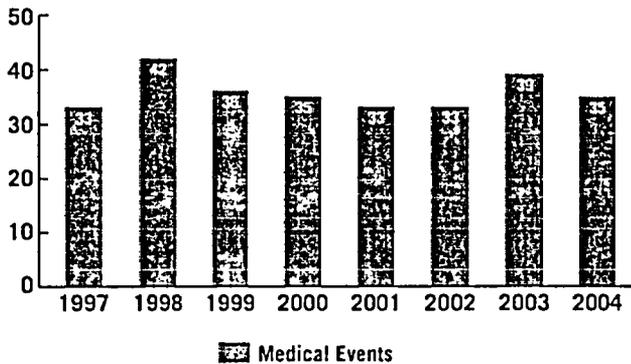


**TARGET: NO MORE THAN 30 EVENTS RESULTING IN RADIATION OVEREXPOSURES**



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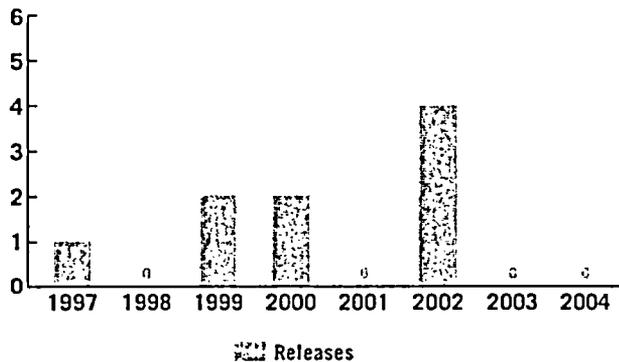
**TARGET: NO MORE THAN 45 MEDICAL EVENTS**



**1-4 Medical Events:** The industry experienced 35 medical events in FY 2004. Since data collection began under the Government Performance and Results Act, the peak year was FY 1998, when 42 events occurred. This measure pertains to medical events reported under 10 CFR Part 35, "Medical Use of Byproduct Material." The NRC's Medical Use Program includes those who use byproduct material in medical diagnosis and therapy.

**1-5 Releases to the Environment:** The fifth measure is an indicator of the effectiveness of the NRC's nuclear materials environmental programs. The industry did not experience any releases to the environment that exceeded regulatory limits in FY 2004.

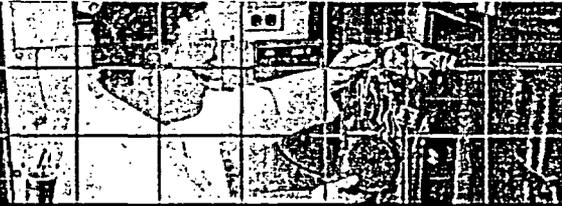
**TARGET: NO MORE THAN 5 RELEASES TO THE ENVIRONMENT**



**1-6 Malevolent Uses:** The industry did not experience any instances of attempted malevolent use of source, byproduct, or special nuclear material in the reporting period from FY 2001-FY 2004.

**1-7 Breakdowns of Protection or Control:** The industry did not experience any breakdowns of physical protection or material control and accounting systems resulting in a vulnerability to radiological sabotage, theft, diversion, loss of special nuclear material, or unauthorized enrichment of special nuclear material in FY 2004 or in any year since data collection began in 1990.

**1-8 Nonradiological Events:** The industry did not experience any nonradiological events during NRC-regulated operations that had an impact on the environment during FY 2004, or in any year since data collection began under the Government Performance and Results Act in FY 1997. This measure involves only chemical releases from the uranium mining and milling facilities that are regulated by the NRC. As such, it is limited to nonradiological environmental impacts from operations, including remediation. Examples of events that might be counted include chemical releases resulting from excursions at in situ leach facilities or releases from mill tailings piles that could contaminate groundwater.



## NUCLEAR MATERIALS SAFETY

### Performance Goal-2: Increase public confidence.

Measure	2001	2002	2003	2004
2-1 Complete milestones related to collecting, analyzing, and trending information for measuring public confidence.	Met	Met	Met	Met
2-2 Complete all public outreaches.	Met	Met	Met	Met
2-3 Issue Director's Decisions for petitions filed to modify, suspend, or revoke a license under 10 Code of Federal Regulation 2.206 within an average of 120 days.	NA	NA	NA	TBD

**Results:** The NRC has met all of the performance goal measure targets.

**2-1 Public Confidence:** The FY 2004 target for this performance measures is to "Create a Web-based system to compile and analyze trends in the responses of the feedback forms to assess the agency's meeting performance." The NRC has analyzed the data, and the results were transmitted to the staff.

**2-2 Public Outreach:** Public outreach meetings provide opportunities for meaningful public participation in NRC activities and information concerning those activities. In FY 2004, the NRC held over 20 public outreach meetings associated with this measure. Examples of public outreach efforts in FY 2004 include the Uranium Recovery Workshop, a workshop on Integrated Safety Analysis Summary reviews, a series of public meetings on the proposed Louisiana Energy Services gas centrifuge facility and the U.S. Enrichment Corporation's Full-Scale American Centrifuge Facility, the annual meetings of the Organization of Agreement States and the Conference of Radiation Control Program Directors, and two meetings of the Advisory Committee on the Medical Use of Isotopes. The NRC had also planned to conduct a public meeting to discuss the final safety evaluation report concerning the Savannah River mixed-oxide fuel fabrication facility, but this meeting has been delayed until FY 2005 to allow for evaluation of the changes that Duke Cogema Stone & Webster submitted in June 2004.

**2-3 Directors Decisions:** In FY 2004, the NRC received two petitions that were filed under 10 CFR 2.206 with regard to the Nuclear Materials Safety program. The Director's Decision on the Sequoyah Fuels petition is on hold pending completion of the associated licensing review. The Radiac Research Corporation petition was closed in 48 days.