

Nuclear Regulatory Commission

Notice of Availability of Revised Fuel Cycle Oversight Process

AGENCY: Nuclear Regulatory Commission.

ACTION: Request for public comment on revision of the NRC's fuel cycle oversight program.

SUMMARY:

The Nuclear Regulatory Commission (NRC) is proposing significant revisions to its processes for overseeing the safety and security of fuel cycle facilities. The NRC plans to develop a revised oversight process for fuel cycle facilities that is more risk-informed, and performance-based, resulting in more objective, predictable, and transparent results of licensee or certificate holder assessments. (This notice will use "licensees" throughout, but in doing so the intent is also to include "certificate holders.") Current oversight consists mainly of inspections, enforcement and periodic assessments based on inspection findings. NRC staff intends that any revised oversight would not establish any new regulatory requirements. Rather, revised oversight would improve inspection and assessment so that NRC conclusions would be more closely based on risk and more understandable to members of the public. Revised oversight could potentially add objective measures of performance, called performance indicators, with criteria for measuring acceptable performance. However, development of performance indicators may not be part of the initial revision to the oversight process. Inspections would focus in areas of highest risk that are not well-measured by performance indicators and on validating performance indicator information. Assessments would be based on more objective criteria. Supplemental inspections (those above and beyond the number and type of inspections normal for a well-performing plant) of licensees whose performance shows indications of decline, would also be based on objective criteria. These principles are currently

applied by the NRC in the oversight of power reactor safety and security and is outlined in “Reactor Oversight Process,” NUREG-1649, (Agencywide Documents Access and Management System [ADAMS] Accession No. ML070890365).

Since 1999, the NRC has undertaken several initiatives to examine and improve the NRC’s oversight process for fuel cycle facilities, including those licensed or certified under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 40 (Domestic Licensing of Source Material), Part 70 (Domestic Licensing of Special Nuclear Material), and Part 76 (Certification of Gaseous Diffusion Plants). Although previous efforts resulted in some revisions to inspection and assessment procedures, current NRC oversight could be improved by more fully incorporating into inspection and assessment the risk insights of licensees’ integrated safety analyses, where applicable (the requirement to perform an integrated safety analysis apply only to 10 CFR Part 70 licensees). Integrated safety analyses establish safety controls based on analyses of potential hazards at a facility.

To meet the objective of developing an oversight process with an improved degree of transparency, predictability, objectivity and consistency, using risk-informed and performance-based tools, the staff is undertaking a comprehensive effort to develop a Revised Fuel Cycle Oversight Process (RFCOP). The staff’s efforts will be consistent with the recent guidance in this area, notably the guidance provided in the Staff Requirements Memoranda dated April 3, 2008, and February 17, 2009 (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML0809404390 and ML0904900320), and will be responsive to recommendations in the Office of Inspector General report OIG 07-A-06 (ADAMS ML070100282).

DATES: The comment period expires **[60-days from the date of issuance]**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any one of the following methods. Please include Docket ID NRC-2009-**[insert remaining docket number here]** in the subject line of your comments. Comments submitted in writing or electronic format will be posted on the NRC Web site and on the Federal rulemaking Web site Regulations.gov. Because your comments will not be edited to remove any identifying information, the NRC cautions you against including any information in your submission that you do not want to be publically disclosed.

The NRC requests that any party soliciting or aggregating comments received from other persons for submission to the NRC inform those persons that the NRC will not edit their comments to remove any identifying or contact information, and therefore they should not include any information in their comments that they do not want publically disclosed.

Federal Rulemaking Web site: Go to <http://www.regulations.gov> and search for documents filed under Docket ID NRC-2009-**[insert remaining docket number here]**. Address questions about NRC dockets to Carol Gallagher 301-492-3668; e-mail Carol.Gallagher@nrc.gov.

Mail comments to: Michael T. Lesar, Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, *Mail Stop:* TWB-05-B10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by fax to RBD at (301) 492-3446.

You can access publically available documents related to this notice using the following methods:

NRC's Public Document Room (PDR): The public may examine and have copied for a fee publically available documents at the NRC's PDR, Public File Area 01 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

NRC's Agencywide Documents Access and Management System (ADAMS): Publically available documents created or received at the NRC are available electronically at the NRC's Electronic Reading Room at http://www.nrc.gov/reading_room-rm/adams.html. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resources@nrc.gov.

Members of the public interested in obtaining additional information in regard to the NRC's Revised Fuel Cycle Oversight Process will be able to do so by periodically visiting **[insert RFCOP Federal Register Notice regulations.gov URL here]**. The NRC expects to continue publishing documents about the Revised Fuel Cycle Oversight Process using the *regulations.gov* website, in addition to making them available electronically in the Public Document Room (PDR), and the Electronic Document Room using the Agencywide Document Access and Management System (ADAMS), http://www.nrc.gov/reading_room-rm/adams.html.

FOR FURTHER INFORMATION CONTACT: Russell Gibbs, Team Leader, Division of Fuel Facility Inspection, Region II, U.S. Nuclear Regulatory Commission, Washington, D.C. 20005-0001. Telephone: (404) 562-4806 or (301) 492-3120; Fax (404) 562-4955 or (301) 492-3363; Email: Russell.Gibbs@nrc.gov.

BACKGROUND:

The NRC's mission is to license and regulate the civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.

NRC's current fuel cycle facility oversight program relies primarily on inspections at each fuel cycle facility. Inspections review licensee activities in the areas of nuclear criticality, chemical process, fire, and radiation safety, emergency preparedness, physical security, information security, and material control and accounting. NRC's inspection results are documented in inspection reports.

Over the years, NRC staff has periodically changed the fuel cycle oversight process to make improvements. The NRC plans to build on these previous actions by revising the oversight program to better use the risk insights from integrated safety analyses and to develop more objective assessment and decision tools. Integrated safety analyses are required by NRC regulations to be done by Part 70 licensees and applicants for a Part 70 license. The analyses evaluate what could go wrong at a facility and establish the basis for safety controls called items relied on for safety (IROFS).

In 1999, the success in the initial implementation of the Reactor Oversight Process (ROP) prompted the NRC staff to evaluate whether the fuel cycle facility oversight process could be improved using elements similar to those in the ROP. Stakeholders (licensees, public interest groups, NRC staff, interested members of the general public, etc.) were actively involved in the development of a revised oversight process. After approximately two years, the NRC decided to defer further work on the revised oversight process until after licensees

completed the integrated safety analyses and the NRC reviewed them. The NRC staff also evaluated the feasibility of performance indicators for fuel cycle facilities, but subsequently ended that work in 2006 at the direction of the Commission. In 2007, the Office of Inspector General (OIG) issued an audit report recommending that the NRC develop a fuel cycle oversight process that is consistent with a structured process, similar to the ROP. In April 2008, the Commission directed the staff to make the fuel cycle performance review process more transparent and risk-informed and to consider performance indicators or metrics leveraging the risk insights of ISAs.

In March 2009, a Steering Committee was established to provide overall leadership to revise the fuel cycle oversight process. The Steering Committee then established a team of NRC staff members with a broad range of experiences to develop a revised oversight process while working closely with both internal and external stakeholders.

The revised oversight process would use the NRC's Strategic Goals as its foundation. The NRC's Strategic Goals are to: (1) ensure adequate protection of public health and safety and the environment; (2) and ensure adequate protection in the secure use and management of radioactive materials.

The staff intends to use risk-informed methods to assess facility performance. In a "risk-informed" approach to regulatory decision making, risk insights are considered together with other factors to establish a process that better focuses both licensee and regulatory attention on design and operational issues commensurate with their importance to safety and security. The NRC plans to produce a predictable, graded process that will help to focus NRC oversight based on both the most risk significant aspects of plant design and operation as well as licensee performance. NRC staff intends that the revised oversight process more fully use the risk insights from licensees' integrated safety analyses, where applicable. The NRC intends that the

revised oversight will use objective measures and metrics for NRC assessments of licensee performance and allow the NRC to make timely decisions on what kind of inspections will be conducted beyond a basic set of inspections. The revised program would include a baseline level of oversight that would be carried out for all licensees. The inspection program may be supplemented by performance indicator information provided by licensees voluntarily.

This program, when fully implemented, would apply to uranium enrichment plants, high and low-enriched uranium and plutonium processing plants, and uranium hexafluoride processing facilities. Uranium mill facilities have a separate inspection program.

The NRC staff is considering an oversight framework that would include strategic performance areas (safety and security) supported by cornerstones. In this framework, licensee performance in each cornerstone may be assessed using a combination of performance indicators and the results of a baseline inspection program as determined by a defined significance determination process. Both performance indicators and the results of the inspection program would have risk-informed thresholds, and crossing either a performance indicator or an inspection threshold would have the same meaning in the assessment of each cornerstone. Licensee and NRC action for a given level of performance would be prescribed by an Action Matrix. The entire process would be supported by a robust licensee corrective action program at each licensee facility.

Although the NRC believes that enhancements to fuel cycle oversight are needed, the NRC is confident that its current oversight program is adequate for the NRC to conclude whether or not licensees are operating safely and securely.

Scope of Public Comment Period

The NRC seeks public comment and feedback on the specific topics highlighted in the questions below. Commenters are not limited to and are not obligated to address every issue discussed in the questions. In providing comments, each commenter's response should reference the number of the applicable question (e.g., "Response to A.1."). Comments should be as specific as possible and should indicate why a commenter supports or does not support an aspect of this plan. The use of examples is encouraged.

At this time comments are requested on the following issues.

A. The Regulatory Oversight Framework, Cornerstones, Significance Determination, Action Matrix, Performance Indicators, and their Thresholds.

1. Graphic descriptions of an Oversight Framework and a Fuel Cycle Facility Oversight Process are available in ADAMS (ML091970084). These graphically describe how the RFCOP would: 1) facilitate greater regulatory attention to facilities with performance problems while maintaining a baseline level of oversight on facilities that perform well; 2) give industry and public timely and understandable assessments of facility performance; 3) allow all stakeholders to understand what the regulatory response to issues and indicators will be; and 4) focus NRC and licensee resources on those aspects of performance having the greatest impact on safety and security.

Are there any other significant areas that need to be addressed for the NRC to meet its mission of ensuring that fuel cycle facilities are operated in a manner that provides adequate protection of public health and safety and the environment, and protects against radiological sabotage and the theft or diversion of special nuclear materials?

2. Cornerstones

The cornerstones being considered for these facilities include nuclear criticality, radiological, and chemical safety, emergency preparedness, physical security, information security and material control and accounting. Information Security will not be incorporated into the revised oversight at this time. Fire safety would be addressed through its impacts on other safety cornerstones such as criticality, radiological and chemical safety. These cornerstones are being considered because staff believes that they best represent the requirements that are necessary to meet the Agency's mission.

Are there other important aspects of fuel cycle facility performance that would not otherwise be captured by these cornerstones?

3. Significance Determination Process

When a licensee performance deficiency is identified, it would be assessed using a defined significance determination process which would use risk insights to evaluate the significance of the performance deficiency against defined thresholds. The risk-significance of the performance deficiency would be determined before any NRC action, beyond baseline inspection and oversight, would be taken. If it is determined that the performance deficiency is not risk-significant, each facility would be expected to disposition the issue using its own corrective action program without additional oversight by the NRC. If it is determined to be risk-significant, the NRC's response would be prescribed using an Action Matrix.

Are there other important aspects of significance determination that should be considered by NRC?

4. Performance Indicators and Associated Thresholds

Performance indicators may not be developed in the initial revision to the fuel cycle oversight process. However, the NRC staff plans to interact with industry and other stakeholders to assess development of indicators to measure important attributes that will help the NRC ensure that the facility is operating in a manner that protects public health and safety and ensures security. The performance indicators, which would be submitted voluntarily by licensees on a periodic basis, would provide a sample of objective data on which to assess licensee performance. The performance indicators are intended to directly relate to the cornerstones and be significant, high level indicators of facility performance that, when thresholds are crossed, reveal adverse trends that warrant increased regulatory oversight.

Would performance indicators, along with inspection findings, be effective in determining levels of licensee performance? What should be considered in determining performance indicators and their thresholds? How should the performance indicators be used?

5. Action Matrix

An Action Matrix would be developed to provide guidance to ensure consistent regulatory response for a given level of licensee performance. The matrix would be categorized into four areas (meeting between NRC and Licensee Senior Management, licensee action, NRC inspection, and regulatory action) and would be graded across a range of licensee performance. The NRC's decision to take an action beyond baseline inspection and oversight would be a direct result of performance indicators, if available, or inspection findings that crossed defined thresholds. If licensee performance declines, more significant actions would be considered.

What should the NRC consider in the development of an Action Matrix? Would the use of the Action Matrix and underlying decision logic be an appropriate approach to NRC and licensee action?

6. Other Comments

Are there any other comments related to the oversight framework, cornerstones, performance indicators, or thresholds?

B. Risk-Informed Baseline Inspections

The baseline inspection program would be based on a set of inspectable areas that, in conjunction with the performance indicators, if available, would provide enough information for the NRC to determine whether the objectives of each cornerstone of safety or security are being met. This baseline inspection program would be the minimum inspection at each facility. The baseline inspection could be different for different types of facilities that have different potential risks (for example low enriched uranium processing versus high enriched uranium processing).

Are there any other factors that should be considered in defining the baseline inspection program? Are there any other comments related to the baseline inspection program?

C. Assessment Process

1. Frequency of Assessments:

The revised oversight process would provide for continuous, semi-annual, annual, and biennial reviews of licensee performance. The resulting assessment would be based on licensee performance, as measured by performance indicators, if available, and inspection program results, as compared against an Action Matrix. The semiannual and annual assessments would also include inspection planning.

Would this frequency of conducting assessments be appropriate to maintain a current assessment of licensee performance?

2. Communicating Assessment Results:

The revised oversight would include several methods for communicating information to licensees and the public. First, the information being assessed (performance indicator and inspection results) would be made public as the information becomes available. Second, the NRC would send each licensee a letter at a defined frequency (e.g., every six months) that provides the NRC's assessment of licensee performance and describes the NRC's oversight of the facility. In addition, the letter would outline any changes to the NRC's planned inspections for the upcoming 18 months. Third, the NRC would hold an annual public meeting with each licensee to discuss its performance.

Would these methods of communication provide sufficient opportunity for licensees and the public to gain an understanding of performance and interact with the NRC?

3. Other Comments

Are there any other comments related to the proposed assessment process?

D. Implementation

1. Transition Plan

A transition plan that identifies important activities needed to complete and implement the potential processes would have to be developed.

Are there major activities that if not accomplished could prevent successful implementation of the potential processes?

2. Other Comments

Are there any other comments related to implementing the new processes?

E. Additional Comments

In addition to the previously mentioned issues, commenters are invited to give any other views on the NRC assessment process that could assist the NRC in improving its effectiveness.

Dated at Rockville, Maryland this 21 day of August 2009.

For the Nuclear Regulatory Commission

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