UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

June 19, 2014

Mr. Mark A. Satorius
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REVISED FUEL CYCLE OVERSIGHT PROCESS

Dear Mr. Satorius:

During the 615th meeting of the Advisory Committee on Reactor Safeguards, June 11-13, 2014, we reviewed the staff's proposed approach to enhance the NRC's revised Fuel Cycle Oversight Process (FCOP) and the related Regulatory Guide (RG) 3.75 (DG-3044), "Corrective Action Programs for Fuel Cycle Facilities." Our Radiation Protection and Nuclear Materials Subcommittee met on May 7, 2014, to review and discuss these topics. During these meetings we had the benefit of discussions with representatives from the NRC staff and comments from the Nuclear Energy Institute (NEI). We also had the benefit of the documents referenced.

CONCLUSIONS AND RECOMMENDATIONS

1. The revised FCOP framework is a substantial improvement over the traditional process, and it should be implemented.

2. The staff's proposed structure for the oversight process provides incentives for effective corrective action programs (CAPs). Regulatory Guide 3.75 provides adequate guidance for the programmatic elements of a CAP. It should be issued as final.

3. Further public outreach regarding the FCOP should be encouraged and supported. This outreach should include Agreement State staff and licensees including medical, educational, industrial, and other facilities and should initially be designed to help licensees determine if FCOP program elements would be of benefit to their facilities.

4. NRC staff should meet formally with FCOP users to explain elements of RG 3.75 and the associated inspection procedure. Pertinent examples should be provided for clarification.

BACKGROUND

On March 19, 2010, the staff provided to the Commission SECY-10-0031, "Revising the Fuel Cycle Oversight Process," and requested that the Commission approve a plan to enhance the FCOP. In a Staff Requirements Memorandum (SRM) dated August 4, 2010, the Commission disapproved the staff's plan and directed the staff to pilot a project to develop a set of cornerstones that could link licensee performance to a regulatory action matrix. The SRM also directed the staff to consider how the NRC Enforcement Policy could best reflect that most fuel cycle licensees had voluntarily developed CAPs. The SRM stated that the Enforcement Policy should provide such licensees with incentives to maintain strong CAPs as an important facet of sustaining high safety and security performance. In response to the Commission's direction, the staff revised Section 2.3.2 of the NRC Enforcement Policy. The revised policy permits Severity Level IV violations to be dispositioned as non-cited violations if the NRC finds that the licensee has implemented an adequate CAP, and that the Section 2.3.2a criteria are met.

Additionally, in the SRM for SECY-09-0190, dated August 27, 2010, the Commission directed the staff to provide fuel cycle facilities with credit for having an adequate CAP. The staff provided proposed guidance for fuel cycle facility CAPs in draft NUREG-2154, "Acceptability of Corrective Action Programs for Fuel Cycle Facilities." That document was issued for public comment in February 2013 and was discussed during an April 2013 public meeting. After the public meeting, NEI submitted a letter providing comments on the draft NUREG. One comment recommended conversion of the draft NUREG to a regulatory guide. The NRC staff agreed with this recommendation and has accordingly prepared DG-3044. The regulatory guide will be used to support NRC determination of CAP adequacy for fuel cycle facilities.

In response to Commission direction and our February 17, 2011 letter, the staff prepared SECY-11-0140, "Enhancements to the Fuel Cycle Oversight Process," dated January 5, 2012. In SECY-11-0140, the staff presented three options for continuing to enhance the fuel cycle oversight process, and recommended Option 1.

The approach in Option 1 includes an FCOP with cornerstones, a Fuel Cycle Significance Determination Process (FCSDP), and an action matrix based on FCSDP results. The staff would use the cornerstones as elements of a risk-informed inspection program. Further, this approach would be useful in assessing inspection findings in the performance assessment process. The FCSDP would be used to assess the safety or security significance of inspection findings in an objective, predictable, and transparent manner.

Under Option 1, the staff would pilot the use of the performance deficiency concept and minor threshold criteria, and give credit to licensees having an effective CAP. The performance assessment process would contain a fuel cycle action matrix based on the FCSDP and consider the cross-cutting areas used in the Reactor Oversight Process. The cross-cutting areas would be informed by the Safety Culture Policy Statement. A supplemental inspection program, based on licensee performance, would be developed. Finally, the NRC Enforcement Policy would be revised to incorporate the FCSDP.

We reviewed SECY-11-0140 and issued a report dated October 17, 2011, concluding that the proposed FCOP framework is a substantial improvement over the traditional process and that it is ready to go to the next stage of development. We recommended that during the pilot process, the staff consider a separate cornerstone that explicitly reflects barrier performance. We also recommended that development of a quantitative FCSDP be pursued for the evaluation of more significant events.

The Commission approved the staff's approach in Option 1 in SRM-SECY-11-0140 with additional direction. Among the added directives were for the staff to continue interactions with stakeholders, including the use of public workshops, to develop the cornerstones for the FCOP. The Commission also directed the staff to develop a publically available, resource loaded, project plan with established timelines and major milestones for the enhancements to the FCOP, and to implement a pilot program at a representative group of fuel cycle facilities once the revised process is completed.

DISCUSSION

The staff has prepared a publically available, resource loaded, project plan identifying the major milestones and accomplishments to complete the work to enhance the FCOP in accordance with Option 1 of SECY-11-0140, plus the additional Commission directions. The project plan includes GANTT charts showing the timelines for accomplishing the milestones and activities. The project plan will be completed in three phases:

> Phase 1 - Corrective Action Program, Issue Characterization, and Inspection Program Improvements. Phase 1 is expected to be completed by June 2014.
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> Phase 2 – Revised FCOP Framework Development. Phase 2 will be initiated in July 2014. This phase includes four activities: (a) Cornerstones, (b) Qualitative Fuel Cycle Significance Determination Process, (c) Performance Assessment Process, and (d) Supplemental Inspection Program.
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> Phase 3 - Pilot Program, Lessons Learned, and Implementation. Phase 3 is planned for some time in the future. This phase includes four activities: (a) Pilot Program, (b) Quantitative Fuel Cycle Significance Determination Process, (c) Implementation of the Revised Fuel Cycle Oversight Process, and (d) Project Management.

The Phase 2 and Phase 3 enhancements to the FCOP are to be completed over the next several calendar years. The staff indicated that the FCOP will be informed by the Safety Culture Policy Statement. We look forward to further interaction on this topic.

There are a significant number of licensees such as Agreement State-licensed facilities and disposal facilities that have large inventories of waste that they manage and dispose. The Agreement State-licensed community would benefit from knowing about the FCOP program and having a chance to evaluate how it may help them in their responsibilities, particularly groups like hospitals and other materials licensees. Some might benefit from the structured thought process that is part of the FCOP. Further public outreach regarding the FCOP should be encouraged and supported.

Regulatory Guide 3.75 (DG-3044), "Corrective Action Programs for Fuel Cycle Facilities"

Task C of Phase I of enhancements to the FCOP was for the staff to issue guidance on corrective action programs for fuel cycle facilities. The staff has completed the work required to finalize this regulatory guide, including issuing it for public comment and considering the comments in the preparation of the final guide. Regulatory Guide 3.75 describes programmatic elements that the staff considers acceptable when developing CAPs for fuel cycle facilities that are licensed under 10 CFR Part 40, "Domestic Licensing of Source Material;" 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material;" or holders of certificates of compliance or approvals of a compliance plan for gaseous diffusion plants under 10 CFR Part 76, "Certification of Gaseous Diffusion Plants." Regulatory Guide 3.75 also contains guidance on implementation of these program elements.

The proposed FCOP framework is a substantial improvement over the traditional process, and it should be implemented. The staff's proposed structure for the oversight process provides incentives for effective CAPs. Regulatory Guide 3.75 provides adequate guidance for the programmatic elements of a CAP. It should be issued as final.

No training guidance is provided in RG 3.75. However, there is an expectation for licensees to develop training programs and to train their employees on the use of the corrective action program. NRC staff should meet formally with FCOP users to explain elements of RG 3.75 and the associated inspection procedure. Pertinent examples should be provided for clarification.

Sincerely

/RA/

John W. Stetkar
Chairman

REFERENCES

1. U.S. Nuclear Regulatory Commission, "Revising the Fuel Cycle Oversight Process," SECY-10-0031, March 19, 2010 (ML100570250)

2. U.S. Nuclear Regulatory Commission, "Revising the Fuel Cycle Oversight Process," Staff Requirements Memorandum (SRM) - SECY-10-0031, August 4, 2010 (ML102170054)

3. U.S. Nuclear Regulatory Commission, "Briefing on the Fuel Cycle Oversight Process Revisions," Staff Requirements Memorandum (SRM) M100429, May 12, 2010 (ML101320075)

4. U.S. Nuclear Regulatory Commission, "Paper Comparing Integrated Safety Analysis for Fuel Cycle Facilities and Probabilistic Risk Assessments for Reactors," December 15, 2010 (ML103330474)

5. U.S. Nuclear Regulatory Commission, “A Comparison of Integrated Safety Analysis and Probabilistic Risk Assessment,” Revision 1, February 2011 (ML110610195)

6. ACRS Letter, Subject: “Comparison of Integrated Safety Analysis (ISA) and Probabilistic Risk Assessment (PRA) for Fuel Cycle Facilities,” February 17, 2011 (ML110460328)

7. U.S. Nuclear Regulatory Commission, “Enhancements to the Fuel Cycle Oversight Process,” Draft SECY-11-0140, provided to the ACRS on October 3, 2011 (ML111180705)

8. ACRS Letter, Subject: “Enhancing the Fuel Cycle Oversight Process” October 17, 2011 (ML11284A143)

9. U.S. Nuclear Regulatory Commission, “Staff Requirements (SRM) – SECY-11-0140 – Enhancements to the Fuel Cycle Oversight Process,” January 5, 2012 (ML120050322)

10. U.S. Nuclear Regulatory Commission, “Acceptability of Corrective Action Programs for Fuel Cycle Facilities - Draft Report for Comment,” NUREG-2154, January 2013 (ML120050322)

11. U.S. Nuclear Regulatory Commission, Regulatory Guide 3.75, “Corrective Action Programs for Fuel Cycle Facilities,” June 2014 (ML14139A321)

12. U.S. Nuclear Regulatory Commission, “Staff Requirements – SECY-09-0190 – Major Revision to NRC Enforcement Policy,” August 27, 2010 (ML102390327)

5. U.S. Nuclear Regulatory Commission, “A Comparison of Integrated Safety Analysis and Probabilistic Risk Assessment,” Revision 1, February 2011 (ML110610195)

6. ACRS Letter, Subject: “Comparison of Integrated Safety Analysis (ISA) and Probabilistic Risk Assessment (PRA) for Fuel Cycle Facilities,” February 17, 2011 (ML110460328)

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10. U.S. Nuclear Regulatory Commission, “Acceptability of Corrective Action Programs for Fuel Cycle Facilities - Draft Report for Comment,” NUREG-2154, January 2013 (ML120050322)

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12. U.S. Nuclear Regulatory Commission, “Staff Requirements – SECY-09-0190 – Major Revision to NRC Enforcement Policy,” August 27, 2010 (ML102390327)

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