



Department of Energy

Washington, DC 20585

October 3, 2011

Dr. Eric D. Isaacs
Director, Argonne National Laboratory
President, UChicago Argonne, LLC
9700 South Cass Avenue
Argonne, Illinois 60439

Dear Dr. Isaacs:

The Office of Health, Safety and Security's Office of Nuclear Safety Enforcement conducted an onsite regulatory assistance review of the Argonne National Laboratory (ANL) nuclear safety regulatory compliance program during July 12-13, 2011. The review included an evaluation of ANL's programmatic processes for identifying, reporting, and tracking nuclear safety regulatory noncompliances; trending of regulatory compliance performance indicators; and self-assessments to monitor the performance of the program.

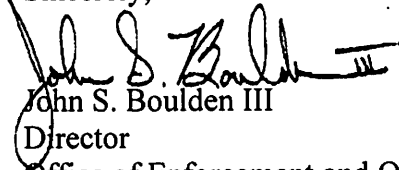
The ANL nuclear safety regulatory compliance program is supported by documented policies and procedures and a network of line management personnel resources. Nuclear safety issues are entered into the Issues Management Tracking System, where they are screened for nuclear safety regulatory noncompliances and evaluated for Noncompliance Tracking System reportability by the laboratory's Office of Compliance Oversight and Assessment (COA). COA works closely with designated subject matter experts within each organization at ANL to ensure that nuclear safety compliance issues are correctly characterized and evaluated. Collectively, these program elements allow ANL to effectively implement a functional nuclear safety regulatory compliance program that is generally in alignment with the guidance set forth in the Department of Energy's *Enforcement Process Overview*.

As described in the enclosed report, the regulatory assistance review identified a number of program strengths, as well as recommendations for your consideration that provide opportunities to further improve the implementation of the ANL nuclear safety regulatory compliance program. Most notably, ANL would benefit from formalizing and enhancing its processes for identifying repetitive and programmatic noncompliances. Program improvements, whether self-identified or through implementation of the recommendations noted in this report, may serve as a basis for mitigation for any future nuclear safety related enforcement action against ANL, as described in the enforcement incentives in the *Procedural Rules for DOE Nuclear Activities* (10 C.F.R. Part 820, appendix A).



No reply to this letter is required. If you have any questions regarding this review, please contact me at (301) 903-2178, or your staff may contact Mr. Steven Simonson, Acting Director, Office of Nuclear Safety Enforcement, at (301) 903-7707.

Sincerely,

A handwritten signature in black ink, appearing to read "John S. Boulden III". The signature is written in a cursive style with a horizontal line at the end.

John S. Boulden III
Director
Office of Enforcement and Oversight
Office of Health, Safety and Security

Enclosure: Regulatory Assistance Review

cc: Joanna Livengood, ASO
Stuart Meredith, ANL

**Office of Nuclear Safety Enforcement
Regulatory Assistance Review
UChicago Argonne, LLC
Argonne National Laboratory**

I. Introduction

During July 12-13, 2011, the Office of Nuclear Safety Enforcement, within the Office of Health, Safety and Security, conducted a regulatory assistance review of UChicago Argonne, LLC, the prime contractor at the Argonne National Laboratory (ANL). The Office of Nuclear Safety Enforcement planned and conducted the regulatory assistance review in accordance with the guidance in the U.S. Department of Energy (DOE) *Enforcement Process Overview* (EPO), dated June 2009. The EPO document is located on the Office of Health, Safety and Security website at: http://www.hss.doe.gov/enforce/docs/Final_EPO_June_2009_v4.pdf

The goal of the regulatory assistance review was to understand ANL's management processes for identifying, screening, reporting and tracking nuclear safety regulatory noncompliances, developing corrective actions, and trending noncompliance issues, in order to identify program strengths, ongoing initiatives, and areas impacting program effectiveness. The Office of Nuclear Safety Enforcement gained first-hand information about ANL's program effectiveness and had the opportunity to exchange feedback regarding implementation of the ANL program. Finally, regulatory assistance reviews assist the DOE contractor community by enhancing the uniformity of nuclear safety noncompliance identification and reporting.

During the onsite visit, the review team evaluated ANL's staff qualifications and experience, self-assessments, and noncompliance screenings for preselected operational issues. In addition, the review team interviewed ANL employees and observed operation of the Issues Management Tracking System (IMTS). The regulatory assistance review report is based on the review team's evaluation of ANL's nuclear safety regulatory compliance program policies and procedures, issues screened for noncompliances, examples of corrective actions, and subcontractor nuclear safety program implementation.

Overall, the review team found that ANL's regulatory compliance program enables ANL to identify, report, evaluate, track and correct nuclear safety noncompliances to prevent recurrence. The review team identified a number of program strengths, as well as opportunities to enhance the ANL nuclear safety regulatory compliance program. Of particular note is the fact that ANL has significantly reduced the average time to report noncompliances into the DOE Noncompliance Tracking System (NTS) from an average of 69 days in 2008 to only 18 days in 2010, which is within the EPO guidance of 20 days. Strengths and recommendations are discussed in further detail in the appropriate sections of this report.

II. General Implementation

The Office of Compliance Oversight and Assessment (COA) is the corporate organization charged by senior management to administer the ANL regulatory compliance program, manage regulatory noncompliance data, and serve as the interface with the DOE's Office of Nuclear Safety Enforcement. The COA organization reports directly to the laboratory director and has been delegated sufficient authority and independence to make decisions without undue pressure from line or senior management. ANL has assigned one full-time employee for nuclear safety regulatory compliance, in addition to the COA director.

ANL establishes its nuclear safety regulatory compliance training requirements through the use of the Electronic Job Hazards Questionnaire (EJHQ). ANL personnel involved with nuclear safety regulatory compliance are required to take EQO104, *Price-Anderson Amendments Act (PAAA) Program*, which is delivered as computer-based training. In addition, an overview of nuclear safety regulatory compliance is provided to ANL managerial and non-managerial personnel as part of their general employee training.

ANL procedures LMS-PROC-4, *Issues Management (5/20/2011)*, and LMS-PROC-82, *Managing Noncompliance Issues Covered by the Price-Anderson Amendments Act and the 10 CFR 851 Worker Safety and Health Program (7/13/2010)*, establish the strategy and processes that ANL uses to identify, evaluate, report, and track nuclear safety regulatory noncompliances. The review team examined management processes as represented in ANL's policies and procedures, program implementation records, and responses from interviews with key staff in the COA and Issues Management groups.

ANL has a centralized process for screening potential nuclear safety noncompliance issues and evaluating them for NTS reportability. IMTS serves as the central repository for identified issues. COA personnel work closely with designated subject matter experts within each organization to ensure that nuclear safety compliance issues are correctly characterized and evaluated. In addition, COA is responsible for NTS report submission, tracking, and verification of closure of corrective actions.

Strengths:

- ANL has an active and functional regulatory compliance program that aligns with the guidance established in the DOE EPO. The program provides a mechanism for ANL to maintain an awareness of its compliance status across all organizational entities.
- COA reports directly to the laboratory director.
- The EJHQ seems to be an effective tool for identifying the ANL personnel who need detailed nuclear safety regulatory compliance training.
- The transition to a centralized program for screening potential nuclear safety noncompliances and evaluating identified noncompliances for NTS reportability is a

positive move toward enhancing accuracy and consistency in the nuclear safety regulatory compliance program.

- The recently established Business and Operations Council is an effective tool for keeping ANL senior management informed of emerging regulatory compliance issues.
- COA's nuclear regulatory staff is well informed of DOE's expectations for nuclear safety regulatory compliance as defined in the EPO, and staff members seem very committed to performing their assigned duties properly.

Recommendations:

- Two of ANL's nuclear safety regulatory compliance procedures, LMS-PROC-4, Revision 4, and LMS-PROC-82, Revision 2, would benefit from revisions to improve clarity. Suggestions are provided below:
 - Clarify who is involved in the "external approval process" for reporting noncompliance issues.
 - Integrate screening and NTS reportability determinations for employee concerns.
 - Address the identification and screening of issues for ANL subcontractor work activities.
- In addition, LMS-PROC-82 would benefit from the following specific revisions:
 - Clearly define the role of line management in the screening and NTS reportability evaluation of nuclear safety noncompliances.
 - Modify to reflect DOE's expectation, as stated in the EPO, that nuclear safety NTS reports be submitted within 20 days from the date that the noncompliance has first been identified.
 - Address the trending and analysis of locally tracked nuclear safety noncompliances for identification of repetitive noncompliances and programmatic issues.
- The computer-based training module EQO104, *Price-Anderson Amendments Act (PAAA) Program*, has some sections which are no longer current. Suggested updates include changing the referenced civil penalty amount to \$150,000 and noting that 10 CFR 708, *Employee Protection Program*, is enforceable even if an employee nuclear safety concern is later determined to be unfounded.

III. Identification and Screening of Noncompliances

ANL issues are entered into the IMTS in accordance with LMS-PROC-4. The COA Regulatory Compliance Group screens potential noncompliance issues in accordance with LMS-PROC-82, and the results of the COA screening determinations are documented in IMTS. COA personnel contact the designated subject matter experts within each ANL organization if they need additional information to determine noncompliance.

The review team examined IMTS issues screened over the past 2 years. Although a few IMTS entries resulted in a questionable determination, COA staff was generally effective in screening issues at ANL for potential noncompliance with DOE nuclear safety requirements.

Strengths:

- COA staff is generally effective in screening issues at ANL for potential noncompliance with DOE nuclear safety requirements.
- Communications between COA personnel and their counterparts within ANL organizations seem to be frequent and effective in gaining additional insight into the screening of issues. Questions regarding the COA screening determinations are openly discussed, and nearly all concerns are resolved at this level.

Recommendation:

- The documentation of screening results in IMTS could be enhanced, using a graded approach, by including a screening determination rationale for issues in which it is not clear whether a violation of nuclear safety requirements had occurred or whether additional information was needed to make this determination. NTS reportability determinations would also benefit from this improved approach to justification and documentation.

IV. Evaluation for NTS Reportability

COA performs an NTS reportability determination in accordance with LMS-PROC-82 for IMTS issues involving a nuclear safety noncompliance. LMS-PROC-82 establishes a requirement for reporting into the DOE NTS within 20 calendar days from the date that an issue is determined to be a reportable noncompliance. Non-reportable nuclear safety noncompliances are locally tracked in IMTS in accordance with LMS-PROC-4. The review team examined all ANL ORPS reports submitted over the last 3 years that met the reporting thresholds established in the DOE EPO, Table B.1. Over this timeframe, ANL has been consistent in reporting Table B.1 types of nuclear safety noncompliances into NTS.

Strengths:

- ANL has significantly reduced the average time to report noncompliances into NTS (from the determination date) from an average of 69 days in 2008 to only 18 days in 2010, which is within the EPO guidance of 20 days.
- ANL has been consistent in reporting Table B.1 types of nuclear safety noncompliances into NTS over the last 3 years.

Recommendations:

- ANL is encouraged to continue to refine its use of SAP[®] Crystal Reports to identify repetitive nuclear safety noncompliances. ANL has not consistently trended and analyzed locally tracked nuclear safety noncompliances within IMTS to identify repetitive noncompliances. ANL has recently issued COA-9, Revision 0, dated 5/10/2011, which formally establishes a program to analyze IMTS data to identify potential repetitive, recurring, or programmatic noncompliances. COA personnel have recently begun to attempt to mine and analyze the data using SAP[®] Crystal Reports.
- ANL would benefit from a formal process for evaluating issues for potential programmatic noncompliance. The review team identified some ANL assessment reports which appeared to document programmatic breakdowns in ANL operations. However, ANL did not conclude that a programmatic noncompliance with nuclear safety requirements had occurred.

V. Issues Management and Trending

ANL has an issues management program to address conditions that are noncompliant with nuclear safety requirements. Procedure LMS-PROC-4 defines the process for managing issues and the corrective actions taken to correct them and prevent recurrence. ANL staff members enter issues into IMTS, and ANL organizations track all corrective actions until final disposition. Issues identified through independent assessments are entered into IMTS by COA. Resolution of issues is based on a graded approach with four levels of significance (low, medium, high, and very high); NTS-reportable noncompliances are assigned “high” significance. LMS-PROC-4, Table E-5 defines required actions based on the significance of the issue (i.e., causal analysis, extent-of-condition review, corrective action plan, and effectiveness review). IMTS is used to track and manage noncompliance issues to closure.

NTS-reportable noncompliances are managed in accordance with LMS-PROC-82. Division directors or department heads are responsible for evaluating the need for, and performing, an extent-of-condition review in accordance with QAPROC-3.7, *Extent of Condition Review*. Line managers are responsible for performing investigations in accordance with LMS-PROC-89, *Incident Investigation*; performing causal analyses in accordance with LMS-PROC-92, *Causal Factor Analysis*; and developing formal corrective action plans to address all causal factors identified in the investigation. COA is responsible for developing agreements on corrective action plans with the responsible divisions, and the resulting plans are implemented by the responsible line managers. COA also verifies and approves completion of individual corrective actions and overall corrective action plans. The COA Assessments Group manager validates the effectiveness of corrective action implementation as required by QAPROC-3.2, *Assessments – Independent Assessments*.

Strength:

- ANL has improved in proactively identifying nuclear safety noncompliant conditions through its self-assessment processes. The review team examined all ANL NTS reports

submitted from 2006 to the present in order to evaluate the extent to which ANL proactively identified nuclear safety noncompliant conditions. Approximately 60 percent of the nuclear safety noncompliant conditions that the review team examined in the ANL NTS reports were identified by ANL; the remaining 40 percent were identified by self-disclosing events or by an external organization. The data also showed that ANL identified approximately 80 percent of the noncompliant conditions reported over the past 3 years.

Recommendation:

- ANL is encouraged to continue to track the timeliness of corrective action completion. The review team's examination of NTS reports submitted over the past 5 years indicated that established target completion dates for identified corrective actions were frequently extended. During the review, COA personnel acknowledged that ANL has had some difficulty in meeting target completion dates and that corrective actions have been taken to improve timeliness.

VI. Summary

ANL has established and maintains a functional regulatory compliance program that is supported by senior management. The ANL regulatory compliance program contains the functional elements necessary for identifying, screening, and reporting nuclear safety regulatory noncompliances and managing corrective actions consistent with the guidelines delineated in the DOE EPO. Improvement items that merit consideration include: refining administrative procedures for regulatory compliance, formalizing processes to identify repetitive and programmatic noncompliances, improving conformance with corrective action target completion dates, and documenting the rationale for screening and NTS reportability determinations.

ANL is encouraged to consider the recommendations identified during this review as opportunities for improving nuclear safety performance and avoiding or reducing the severity of regulatory noncompliances. ANL's attention to these items will facilitate the Office of Nuclear Safety Enforcement's exercise of discretion for noncompliant conditions considered to be less significant; support mitigation consideration in any future enforcement action; and ensure that nuclear safety program shortcomings receive appropriate recognition and corrective actions. Any corrective actions taken to address the identified opportunities for improvement should be coordinated with DOE's Argonne Site Office.