AUDIT REPORT

Audit of NRC's iLearn Learning Management System

OIG-11-A-16   July 27, 2011

**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

July 27, 2011

MEMORANDUM TO: R. William Borchardt
                   Executive Director for Operations

FROM: Stephen D. Dingbaum **/RA/**
                   Assistant Inspector General for Audits

SUBJECT: AUDIT OF NRC'S ILEARN LEARNING MANAGEMENT
                   SYSTEM (OIG-11-A-16)

Attached is the Office of the Inspector General's (OIG) audit report titled, *Audit of NRC's iLearn Learning Management System.*

The report presents the results of the subject audit. During an exit conference held on July 20, 2011, the agency agreed with the findings and recommendations in this audit report and said that no agency suggestions or comments would be provided in connection with the report.

Please provide information on actions taken or planned on each of the recommendations within 30 days of the date of this memorandum. Actions taken or planned are subject to OIG followup as stated in Management Directive 6.1.

We appreciate the cooperation extended to us by members of your staff during the audit. If you have any questions or comments about our report, please contact me at 415-5915 or Kathleen Stetson, Team Leader, Financial and Administrative Audit Team, at 415-8175.

Attachment: As stated

EXECUTIVE SUMMARY

BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) implemented the iLearn Learning Management System (iLearn) in April 2008 in response to the E-Government Act of 2002.[1] iLearn is a vehicle for providing training distribution and tracking services directly to employees. It serves as a central point for training activities across the agency and allows employees to see all NRC-offered courses, develop a learning plan, register for training, track training history, access online training, and complete evaluations from their desktop.

Organizationally, iLearn is the responsibility of the Associate Director of Human Resources Training and Development (HRTD) within the Office of Human Resources (HR). Approximately 1.5 NRC Full-time Equivalent (FTE) and 1 contractor employee manage iLearn.

NRC procured the system through a Government shared-service provider on a pay-as-you-go basis, using an interagency agreement with the Office of Personnel Management (OPM). The system, a commercial-off-the-shelf product, is hosted by Plateau Systems. As of June 2011, the agency had spent approximately $1.5 million on iLearn and plans to spend almost $500,000 next year.

iLearn is intended to be inclusive of all courses offered at NRC. Currently, the system houses 599 online courses; 492 are SkillSoft courses, 42 are Harvard Business courses, and 65 are NRC-developed courses.

PURPOSE

The audit objective was to determine the effectiveness of the iLearn Learning Management System to support the agency's current and future training needs.

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[1] E-Government Act of 2002 (Public Law 107-347) approved by the President on December 17, 2002.

RESULTS IN BRIEF

While iLearn is capable of effectively supporting NRC's current and future training needs, the Office of the Inspector General (OIG) identified the following issues in the management of iLearn:

A. Mandatory fields are not always complete.
B. NRC lacks written policies and procedures describing course manager duties.

Addressing these issues will improve the effectiveness of iLearn in meeting the agency's training needs.

RECOMMENDATIONS

This report makes recommendations to improve iLearn. A list of these recommendations appears on page 10 of this report.

AGENCY COMMENTS

During an exit conference held on July 20, 2011, the agency agreed with the findings and recommendations in this audit report and said that no agency suggestions or comments would be provided in connection with the report.

ABBREVIATIONS AND ACRONYMS

FTE   Full-time Equivalent

HR   Office of Human Resources

HRTD   Human Resources Training and Development

iLearn   iLearn Learning Management System

NRC   U.S. Nuclear Regulatory Commission

O&M   Operations and Maintenance

OIG   Office of the Inspector General

OPM   Office of Personnel Management

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I. BACKGROUND

The NRC implemented iLearn in April 2008 in response to the E-Government Act of 2002. iLearn is a vehicle for providing training distribution and tracking services directly to employees. It serves as a central point for training activities across the agency and allows employees to see all NRC-offered courses, develop a learning plan, register for training, track training history, access online training, and complete evaluations from their desktop.

Organizationally, iLearn is the responsibility of the Associate Director of HRTD within HR. Approximately 1.5 NRC FTE and 1 contractor employee manage iLearn. In addition, approximately 22 employees serve as course managers for the courses in iLearn. According to HRTD staff, course manager duties include monitoring the list of students who use the "Request a Schedule" feature in iLearn and ensuring the course data in iLearn is accurate and complete for the courses they manage.

NRC procured the system through a Government shared-service provider on a pay-as-you-go basis, using an interagency agreement with OPM. The system, a commercial-off-the-shelf product, is hosted by Plateau Systems. As of June 2011, the agency had spent approximately $1.5 million on iLearn and plans to spend almost $500,000 next year. Operation and maintenance (O&M) expense details are shown in the table on the following page.

Table 1.

Summary of iLearn O&M Expenses (figures have been rounded)				
Type of Expense	**2008-2009 (Base)**	**2009-2010 (Option Year 2)**	**2010-2011 (Option Year 3)**	**2011-2012 (pending)**
Licenses	$219,000	$ 190,000	$ 201,000	$228,000
Initial Implementation	$282,600			
System Upgrade Services		$ 134,000		$ 88,000
Contractor System Support Analyst	$171,600	$ 180,000	$ 180,000	$180,000
Total Non-FTE Operating Expenses	$ 673,200	$ 504,000	$ 381,000	$ 496,000

Source: HRTD – Note that contract years start on June 15 and end on June 14 of the following year.

iLearn is intended to be inclusive of all courses offered at NRC. Currently, the system houses 599 online courses; 492 are SkillSoft courses, 42 are Harvard Business courses, and 65 are NRC-developed courses. SkillSoft and Harvard courses are commercial-off-the-shelf courses for which the NRC has purchased licenses (e.g., the Federal Budgeting Process and Managing Six Sigma Team Performance). The 65 NRC-developed courses are custom courses developed to meet NRC learning objectives and include titles such as Effective Communications for NRC Inspectors and Access Authorization and Fitness for Duty.

II.   PURPOSE

The audit objective was to determine the effectiveness of the iLearn Learning Management System to support the agency's current and future training needs. The report appendix contains information on the audit scope and methodology.

III.   FINDINGS

During this audit, OIG auditors noted several positive items: (1) overall iLearn user satisfaction has increased significantly from 59 percent in December 2009 to 89 percent in March 2011; (2) the agency developed a dashboard[2] that provides management with information that is simply presented, easy to monitor, and indicates where action needs to be taken; and (3) HR staff developed a No Fear Act online training course that was selected by OPM to be used across Government.

While iLearn is capable of effectively supporting NRC's current and future training needs, OIG identified the following issues in the management of iLearn:

A. Mandatory fields are not always complete.

B. NRC lacks written policies and procedures describing course manager duties.

Addressing these issues will improve the effectiveness of iLearn in meeting the agency's training needs.

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[2] A dashboard is defined as a Web site that (1) organizes information so that it is easy to read and interpret, (2) provides up-to-date status information on key performance indicators, and (3) presents information visually through graphics (charts, gauges, maps, tables).

A. iLearn Mandatory Fields Are Not Always Complete

Agency guidance requires use of mandatory fields in iLearn to capture course prerequisites[3] and general information such as course description, course length, and point-of-contact. However, these fields are often left blank. This data completeness issue occurs because management (1) does not enforce use of the prerequisite feature and (2) lacks a quality assurance program to ensure that mandatory fields are used. Without course prerequisite information in iLearn, students are able to register for courses for which they are not eligible or prepared, thereby using a training slot that could be used by another student who may need the course for timely completion of his or her qualification curriculum. Furthermore, incomplete iLearn data makes it difficult for users to plan their training effectively and could affect the accuracy of NRC's biweekly reports to OPM containing training information such as training credits, hours, and purpose for each course completed by employees.

Guidance Regarding Mandatory Fields

Agency guidance addresses the use of mandatory fields in iLearn for required course prerequisites. In addition, iLearn course input forms detail the fields required to be entered when a course is added to the system.

Prerequisite Feature

HRTD Operating Procedure 403 states that required prerequisites must be identified in the description section of the iLearn catalog and enforced through the iLearn prerequisite feature. For example, students are required to complete the Westinghouse Technology course (R-304P) before taking the Westinghouse Advanced Technology course (R-504P). The iLearn prerequisite feature does not allow a student to sign up for a course unless the required prerequisite has been met. (If a student is registered for the prerequisite course, and the ending date of that course is before the start date of the desired course, iLearn allows the student to register.)

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[3] In this context, prerequisites are defined as courses that are required to be completed before another course can be taken.

iLearn Course Input Form

iLearn course input forms detail the fields required to be entered when a course is added to the system. There are two different input forms: one for instructor-led training and one for online courses.

Mandatory Fields Left Blank

Despite agency guidance, mandatory information is often not included in the iLearn course listing.

Prerequisite Feature

Although agency guidance prescribes mandatory fields, OIG identified numerous instances where required fields were not completed. OIG reviewed 19 technical courses identified by the agency as having required prerequisites, and determined that all of them included the required prerequisites in the course description; however, only 2 of the course offerings enforced the prerequisites through the prerequisite feature.

iLearn Course Input Form

A comparison of the information in iLearn for a sample of 14 technical and non-technical courses against the information required by the appropriate iLearn course input forms found that all 14 courses had at least one mandatory field (e.g., course description) that was blank and many contained more than one blank required field. In addition, 1 of the 14 courses contained inconsistent information related to the course duration.

Management Does Not Enforce Prerequisite Feature and Lacks a Quality Assurance Program

The data completeness issue occurs because HRTD management does not enforce use of the prerequisite feature and lacks a quality assurance program to ensure the feature is used, if applicable. This results in inefficiencies in planning training and potential inaccuracies in reporting training data to OPM.

Prerequisite Feature

Management has not enforced the use of the iLearn prerequisite feature. When the prerequisite feature is not used, students are able to register for courses for which they are not eligible or prepared, thereby using a slot that could be used by another student who may need the course for timely completion of his/her qualification curriculum.

iLearn Course Input Form

Course managers in HRTD, as well as course managers in program offices, are responsible for ensuring that iLearn course descriptor information is complete for their respective courses, but they do not always fulfill this function. Additionally, there is no quality assurance program to ensure that all mandatory fields, such as course description, are completed. Missing iLearn data makes it difficult for users to plan their training effectively and could affect the accuracy of NRC's reports to OPM that contain training information. The information that OPM requires is derived from the data contained in the mandatory fields.

Recommendations

OIG recommends that the Executive Director for Operations:

1. Issue guidance to course managers instructing them to complete all mandatory fields as described on the iLearn course input form.

2. Develop and implement a quality assurance program for all data in iLearn to ensure mandatory fields are complete and accurate.

3. Correct incomplete mandatory fields in iLearn.

B. NRC Lacks Written Policies and Procedures Describing Course Manager Duties

Federal guidance directs that agencies have policies and procedures in place to help ensure that agency objectives are met. However, NRC lacks written policies and procedures describing the responsibilities of individuals assigned to serve as course managers for iLearn courses. Accordingly, course managers are not consistently fulfilling their duties. Without established policies and procedures to clearly communicate management expectations, course managers may be unaware of their duties or may use inconsistent and less than optimal methods to fulfill their duties.

Standards for Internal Control in the Federal Government

The Government Accountability Office's *Standards for Internal Control in the Federal Government* states that internal control activities help ensure that management's directives are carried out. Control activities are described as the policies, procedures, techniques, and mechanisms that enforce management's directives.

Course Managers Do Not Consistently Fulfill Duties Associated with iLearn

NRC course managers do not consistently fulfill their duties associated with iLearn. There is a large disparity among course managers as to what they believe are their iLearn responsibilities. For example, some course managers do not monitor the "Request a Schedule" feature in iLearn. This feature enables a prospective student to input the date by which a course is needed and add a comment. OIG found several instances where students asked questions in the comment box and expected a response.

Although iLearn is set up to send an e-mail notification to the course manager when the minimum number of students is reached, it does not notify the course manager when a student sends a comment or question. In addition, as noted previously in this report in Finding A, mandatory fields are often left blank because some course managers are not aware that they need to be completed. HRTD representatives stated that course managers are responsible for monitoring the list of students requesting a

schedule before the minimum is reached; however, many course managers are unaware of this responsibility. Therefore, potential students may not get the requested course in the timeframe needed, and they may not get a response to their questions.

Lack of Written Policies and Procedures

Written policies and procedures describing course manager responsibilities and management's expectations do not exist. Without established policies and procedures to clearly communicate management's expectations regarding course manager duties and responsibilities, course managers may use inconsistent and less than optimal methods in carrying out their duties. This could affect students' ability to obtain needed training in a timely manner to support mission accomplishment. Periodic training is provided to course managers by HRTD staff; however, this training is not mandatory.

<u>**Recommendations**</u>

OIG recommends that the Executive Director for Operations:

4. Develop and implement written policies and procedures describing course manager duties and responsibilities.

5. Provide mandatory training to course managers specific to their iLearn duties and responsibilities.

IV.   Other Matters

Although it was not the focus of our audit, based on a request from HRTD management, OIG looked into the matter of training activities that do not go through HR and program office procurement authority for these activities.

NRC delegations designate HR as having sole delegated authority to procure training (other than SF-182[4] training) in headquarters. Regions also have such authority to meet specific regional training needs. However, contrary to this authority, there have been instances of headquarters program offices procuring training without coordinating with HRTD.

HRTD management has presented this issue to the Human Capital Council[5] as well as to the agency Program Management, Policy Development and Analysis staff. Additionally, as these instances surface, HRTD is reaching out to the program offices, reminding them of the delegation authority, and encouraging them to coordinate with HRTD on future acquisitions.

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[4] SF-182 is the form NRC employees use to request training outside of NRC.

[5] The Human Capital Council was established by the NRC Executive Director for Operations in concert with HR in July 2006. The purpose of the Human Capital Council is to provide an agency-level forum for the formulation of strategies to address human capital challenges, share best practices, and develop an integrated approach to address human capital issues.

V.   CONSOLIDATED LIST OF RECOMMENDATIONS

OIG recommends that the Executive Director for Operations:

1. Issue guidance to course managers instructing them to complete all mandatory fields as described on the iLearn course input form.

2. Develop and implement a quality assurance program for all data in iLearn to ensure mandatory fields are complete and accurate.

3. Correct incomplete mandatory fields in iLearn.

4. Develop and implement written policies and procedures describing course manager duties and responsibilities.

5. Provide mandatory training to course managers specific to their iLearn duties and responsibilities.

VI.   AGENCY COMMENTS

During an exit conference held on July 20, 2011, the agency agreed with the findings and recommendations in this audit report and said that no agency suggestions or comments would be provided in connection with the report.

SCOPE AND METHODOLOGY

The audit objective was to determine the effectiveness of the iLearn Learning Management System to support the agency's current and future training needs. The audit focused on reviewing the internal controls over iLearn through an examination of documents and by conducting interviews. OIG also performed benchmarking with other agencies.

OIG reviewed relevant Federal regulations, including Office of Management and Budget Circular A-123, *Management's Responsibility for Internal Control*; the Government Accountability Office's *Standards for Internal Control in the Federal Government*; and the U.S. Code of Federal Regulations, Title 5, Part 410, *Training*. OIG reviewed agency guidance, including management directives, operating procedures, and HRTD's strategic plan. In addition, OIG contacted the Government Accountability Office and the Library of Congress to obtain best practices regarding their respective learning management systems.

OIG interviewed HR management officials to obtain their insights into the implementation and oversight of iLearn. Additional interviews were conducted with course managers and administrative staff from headquarters, Region IV, and the Technical Training Center.

OIG reviewed use of the prerequisite feature for 19 technical courses identified by the agency as having required prerequisites. OIG also reviewed use of the required fields as indicated on the iLearn course input form for 14 technical and non-technical courses in iLearn.

We conducted this performance audit at NRC headquarters from September 2010 through April 2011 in accordance with generally accepted Government auditing standards. Those standards require that the audit is planned and performed with the objective of obtaining sufficient, appropriate evidence to provide a reasonable basis for any findings and conclusions based on the stated audit objective. OIG believes that the evidence obtained provides a reasonable basis for the report findings and conclusions based on the audit objective. Internal controls related to the audit objective were reviewed and analyzed. Throughout the audit, auditors were aware of the possibility or existence of

fraud, waste, or misuse in the program. The audit work was conducted by Kathleen Stetson, Team Leader; Terri Cooper, Audit Manager; Kevin Nietmann, Senior Technical Advisor; and John Tornabane, Management Analyst.