



Audit of Regulatory Framework

Office of Audit and Ethics

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Executive Summary

The Canadian nuclear regulator was founded in 1946, with the creation of the Atomic Energy Control Board (AECB) under the *Atomic Energy Control Act*. The Canadian Nuclear Safety Commission (CNSC) was established as the successor to the AECB in the year 2000 when the *Nuclear Safety and Control Act* (NSCA) came into force.

The CNSC's regulatory framework consists of laws passed by Parliament, along with regulations, licences and documents that the CNSC uses to regulate the nuclear industry. These documents are intended to clearly communicate the objective of the NSCA and facilitate compliance, in order to protect the health and safety of Canadians, the environment and national security.

In accordance with the International Atomic Energy Agency Safety Guide, the CNSC must ensure that regulations and guides are kept up to date and that procedures are established for their periodic review.

During 2010, the CNSC set-up a three-year regulatory framework plan that identified more than 100 projects for developing or amending regulations, regulatory documents and guidance documents. It is therefore essential that the CNSC have an adequate and effective process to identify, plan and manage the timely development of such documents.

To assist in the achievement of its goal, a regulatory framework steering committee (RFSC) was established to lead in setting the regulatory framework priorities and to provide guidance and direction for the development of a clear, pragmatic regulatory framework for Canada's nuclear industry.

Key findings

The CNSC's Regulatory Policy Directorate actively manages Canada's nuclear regulatory framework in consultation with the Commission Tribunal, CNSC experts and the public using a range of products, services and processes.

The oversight of the regulatory framework development process is the responsibility of the Management Committee, supported by the RFSC. The oversight regime has adequate processes in place to monitor and direct the development and maintenance of regulatory instruments. The process is rigorous and timely with regular reports to the Management Committee on the status and progression of active regulatory projects.

All parties interviewed agreed that the regulatory framework plan and its supporting processes is a significant improvement over past practices, although they recognized opportunities for further improvements.

Throughout the audit, it was evident that the availability of subject matter experts — who are in high demand across the organization and contribute significantly to the development of regulatory instruments — is the key operational risk. Through the

human resource succession plan, long-term and short-term solutions have been put in place. These solutions include the alumni program, the succession fund and recruitment plans. However, senior managers still identify their greatest challenge to be the continuing availability of well-seasoned technical staff, as the CNSC's industry guidance and reputation depends largely on available talent.

As demonstrated by recent events, critical situations such as the crisis in Japan can create a surge on the demand for CNSC resources particularly for the subject matter experts. These unforeseen demands on resources highlight the need for efficient processes and well informed resource allocation.

The absence of risk-based criteria, to support the priority ranking of the over 130 items in the regulatory framework plan, represents another key organizational risk. Priorities are regularly discussed during the RFSC meetings and other management meetings; however, the risks to the CNSC posed by the absence of a particular regulatory document or guidance document have not been documented. This creates a gap in the information available to management needed to support their comprehensive assessment of the items on the plan. Priority setting needs to be solidified and agreed upon corporately, by establishing a process to prioritize the instruments included in the plan.

As at March 2011, a requirement for more than 130 new regulatory instruments had been identified and included in the plan. The Regulatory Policy Division continues to work on the plan to identify areas of potential savings (i.e., consolidation of documents) and to determine which existing instruments will need to be reviewed and updated. The full impact of this update is not yet known.

The regulatory framework plan was launched in June 2010, but is already experiencing significant slippage that may be further compounded by requirements that have not yet been factored into it.

The Regulatory Policy Directorate (RPD) has several tools for information management purposes. Consolidation of these documents and reporting systems used to track and report the status of the plan could make overall information management more efficient.

Key recommendations

1. RPD, in cooperation with the RFSC, should establish risk-based criteria to guide the approach and process used to identify priorities within the regulatory framework plan. This would include the development of a standard methodology and/or process for setting priorities, the inclusion of all known requirements and the consolidation of related documents, and the justification of all items to be included in the plan.
2. We recommend that the Director General of the Regulatory Policy Directorate (DG RPD) consider the use of a consolidated document management and reporting system, or tool, in support of the development of regulatory documents. In addition,

linkages should be integrated in the reporting tools to enable timesavings efficiencies and provide for a minimization of data-entry errors.

3. We recommend that RFD conduct a full update of the regulatory framework plan to highlight all items that are currently not visible, and identify items where priority and effort can be reduced. The updated plan should then be prioritized using the risk-based criteria as noted in recommendation 1, and the timeframe for completion reassessed.
4. We recommend that the DG RPD ensure the scoping document, process flow diagrams and associated text related to the revised RFSC processes are updated in order to reflect current practices, approved by MC, and posted to BORIS, the CNSC's internal staff Web site.

Conclusion

In our opinion, the CNSC has adequate processes to identify, plan, and manage the development and maintenance of regulatory instruments (regulations, regulatory documents and guidance documents) considered necessary to clearly set out the CNSC's requirements, to facilitate compliance with the *Nuclear Safety and Control Act* and its Regulations in order to protect Canadians.

However, the overall effectiveness of the processes has been reduced by the absence of a mechanism to assure management that scarce resources are being applied to the areas of highest risk and priority within a fully justified, consolidated and prioritized Plan.

The CNSC's Office of Audit and Ethics would like to acknowledge the firm of Samson and Associates, which contributed significantly to this audit.

1. Introduction

1.1. Background

The Canadian nuclear regulator was founded in 1946 with the creation of the Atomic Energy Control Board (AECB) under the *Atomic Energy Control Act*. The Canadian Nuclear Safety Commission (CNSC) was established as the successor to the AECB in May 2000 when the *Nuclear Safety and Control Act* (NSCA) came into force.

The CNSC's regulatory framework consists of laws passed by Parliament, regulations made by the Commission under the NSCA, licences, as well as regulatory documents and guidance documents (henceforth the “documents”) published by the CNSC. The CNSC's commitment is to ensure the nuclear industry clearly understands the CNSC's requirements, as set out in regulations and regulatory documents, which are supported where needed by guidance documents that explain how licensees can meet those requirements. In support of this commitment, the CNSC realigned the regulatory framework in 2009 to better separate the regulatory requirements set out in documents from the associated guidance. The CNSC's regulatory framework is illustrated in Figure 1.

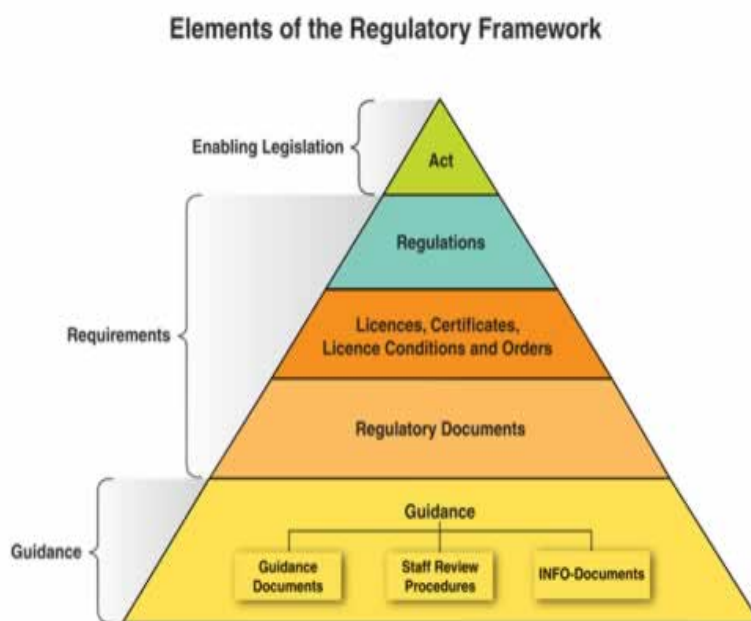


Figure 1. The CNSC's regulatory framework

Throughout the years, the AECB and the CNSC have published a variety of documents to clarify regulatory expectations. The CNSC's regulatory framework includes a range of documents categorized as requirement documents, policies, standards and guides, as well as the current categories of regulatory documents and guidance documents.

The CNSC invests considerable resources in developing and maintaining the regulatory framework to ensure it is up to date. As such, some documents have been updated, consolidated or deleted, while new requirements continue to arise.

According to the International Atomic Energy Agency Safety Guide, regulatory bodies such as the CNSC should ensure that regulations and guides are kept up to date, and that procedures are established for their periodic review. Accordingly, there is an expectation that the CNSC will ensure regulatory requirements and guidance are kept relevant, current, and available. A 2009 report issued by the International Regulatory Review Service (IRRS) found the coverage of the guidance difficult to estimate.

CNSC resources have been and continue to be primarily focused on the regulatory and operational areas of highest risk and priority. This includes overseeing Canada's nuclear facilities and activities to ensure the safety of its citizens, the environment, nuclear security and the implementation of international agreements for which CNSC is identified as the responsible agency. For the development of the regulatory framework, resources have been dedicated to areas of known gaps in the regulatory requirements and guidance and to areas where existing documents need to be clarified.

During the year 2010, the CNSC completed the development of a three-year regulatory framework plan (henceforth referred to as "the plan") that identifies over 100 projects for developing or amending regulations, regulatory documents and guidance documents. Due to the extensive level of effort needed to deliver on the plan and competition for subject matter experts to develop documents, it is essential that the CNSC establish an adequate and effective process to identify, plan and manage the timely development of such documents.

To assist in the achievement of this goal, a Regulatory Framework Steering Committee (RFSC) was established in June 2010. The RFSC's mandate is to lead the organization in setting the regulatory framework priorities and to provide guidance and direction for the development of a clear, pragmatic regulatory framework for Canada's nuclear industry.

1.2. Objective and scope

The objective of the audit was to determine whether the CNSC has effective processes in place to identify, plan and manage the timely development and maintenance of regulatory instruments (regulations, regulatory documents and guidance documents) considered necessary to clearly set out the CNSC's requirements, to facilitate compliance with the *Nuclear Safety and Control Act*, its Regulations, and licences, in order to protect Canadians.

The scope of the audit encompassed the development of new (planned) and the amendment or revision of existing regulatory and guidance documents. It included the governance, risk management and control processes in place for the strategic planning, prioritizing and management of the development of new documents included in the plan and the maintenance of the published regulatory and guidance documents.

The scope of the audit did not include issues related to the content and/or adequacy of the specific regulatory documents.

1.3. Analysis of risks

As part of the planning phase for the audit, a risk assessment was conducted to identify potential areas of risk as well as areas for improvement. Planning consisted of a combination of interviews with key stakeholders and a review of documentation relevant to the scope of the audit.

The highest risks for the development of the regulatory framework identified in our preliminary assessment include:

- the limited pool of experienced subject matter experts (SMEs) possessing sufficient breadth and depth of knowledge in nuclear science and engineering and nuclear regulation to ensure effective and efficient completion of the projects included in the plan
- the communications and implementation of revised processes for the acceptance and development of regulatory instruments
- the effectiveness of the communication processes with users and stakeholders which could result, in turn, in missed opportunities for suggestions and input into the range of regulatory documents under development
- the adequacy and timeliness of the information provided to CNSC's oversight bodies (i.e. the RFSC) with respect to the development of regulatory framework initiatives to allow for re-prioritization and/or corrections to the plan

1.4. Audit criteria

The criteria for the audit of the regulatory framework were developed to address the highest risks identified in our preliminary assessment. They address the effectiveness and adequacy of the core management controls that should be in place in any department or agency to enable the achievement of objectives. The audit criteria are presented in Appendix A.

While the audit criteria were established against two distinct lines of enquiry, we have presented the results of the audit under the three broad headings of governance, risk management, and communications, due to the interrelatedness of the findings.

1.5. Approach and methodology

The conduct phase of the audit consisted of an assessment of the control processes and practices in place for the identification, review and recommendation of regulatory instruments for inclusion in the three-year regulatory framework plan and the internal controls that are in place for the management of that plan.

Specifically, we interviewed key staff and managers with a vested interest in the plan; we reviewed the documentation used to make determinations and recommendations to the Commission regarding regulatory instruments and we conducted walkthroughs of the associated processes with key staff and managers. The audit was conducted between December 2010 and March 2011.

The audit was conducted within the established parameters of the Treasury Board *Policy on Internal Audit* as well as the *Auditing Standards for the Government of Canada*.

1.6. Statement of assurance

Sufficient and appropriate audit procedures have been conducted and evidence has been gathered to support the accuracy of the findings and conclusions in this report and to provide an audit level of assurance. The findings and conclusions are based on a comparison of the conditions, as they existed at the time, against pre-established audit criteria that were agreed upon with management. The findings and conclusion are only applicable to the entity examined and for the scope and time period covered by the audit.

2. Observations and Recommendations

2.1. Governance and strategic directions

2.1.1 Regulatory framework steering committee (RFSC)

Prior to 2006, the CNSC's regulatory framework development plan was managed under a regulatory document steering committee, which assembled the plan and reviewed the requirements for identified projects. The annual plan would go to the Operations Management Committee to seek approval of the plan and of the resource requirements. In light of the three key undertakings of CNSC (licensing and certification, compliance and the regulatory framework), the trend was to focus on the allocation of resources to licensing and compliance activities with the policy work performed with residual time. Between 2006 and 2009, the committee was replaced with a regulatory policy committee. This committee's involvement in the regulatory framework program was limited primarily to approving documents for presentation to the Commission, and providing high level policy direction. It did not oversee the management of the regulatory framework program. During this period of time, there was limited progress in the development of the regulatory framework.

In 2010, a new regulatory framework steering committee was established by the DG RPD to drive the regulatory framework priorities and to provide leadership, guidance and direction towards achieving a clear, pragmatic regulatory framework. Its mandate is to:

- i. develop, recommend for approval by Management Committee (MC), and maintain the CNSC's regulatory framework plan
- ii. monitor and manage the implementation of the plan
- iii. provide a forum for timely resolution of issues
- iv. report to MC, on a quarterly basis, regarding performance of regulatory framework initiatives against the plan

Essentially, the RFSC was formed to ensure corporate-level strategic thinking was applied to the regulatory framework development process. This was assured by a membership composed entirely of senior managers. As such, Directors General and appropriate Directors are directly implicated in decisions affecting the regulatory framework, including the development processes, and have an ongoing awareness of the regulatory requirements.

The Committee is guided by planned agendas, regular monthly meetings, and detailed background information on items for discussion. As with any other structured committee, the open and closed action items are tracked in order to not lose sight of commitments.

Specific directorates are responsible for identifying the need to create new documents, or revise or withdraw existing documents. However the requirements are subject to review by the RFSC for reasonableness, completion and prioritization of the work to be done. The RFSC submits its recommendation to the MC, which has the final approval authority for the inclusion of new and/or revised documents in the plan.

A status update of the regulatory framework plan is presented to the MC on a quarterly basis with a focus on changes to the plan and the standing of existing projects. There are processes in place to provide all necessary detailed project information to managers and to ensure the accuracy of information between presentations.

We noted that the context and comprehensiveness of the information provided in the quarterly reports to the RFSC and MC has improved from the initial report in June 2010 to the latest report of January 21, 2011, indicating a positive evolution in reporting processes.

Managers and staff interviewed believe that the RFSC process represents an improvement over previous approaches. Previously, staff could see documents from their area remain in year five of the five-year plan and not move forward. They believe that the new process provides more visibility for their items and greater assurance that they will be seen through to publication. Consequently, managers and staff can now better predict and plan for work necessary to develop the documents, which is very important due to resource limitations.

Staff and managers interviewed noted a tendency for staff across CNSC to work primarily in “silos” or “stovepipes”. Staff and managers believe the RFSC process — particularly the introduction of the scoping document — will improve the collaborative process over time, as awareness of other initiatives is fostered through the review and approval process, and thereby reduce this tendency.

In our opinion, the governance framework in place through the RFSC is adequate for providing ongoing and timely communication between the RFSC and the CNSC’s management, regarding the identification of the necessary regulatory instruments that should be developed and included in the regulatory framework plan.

Sufficient and adequate information is provided before the scheduled quarterly meetings, and the RFSC and MC exchange information regularly.

An effective oversight regime, managed by the RFSC in support of MC, is in place for the review of regulatory documents. However, in the following section, we discuss how the RFSC can improve its overall effectiveness and adopt a more strategic approach.

2.1.2 Setting priorities

Directors General and Vice-Presidents (i.e., senior management team) are aware of their respective priorities. However priorities do not follow a standardized or defined method of being established. For example, priorities may arise from bottom-up channels and, if warranted, end up in the plan. They can also originate from Presidential and VP directives or the Commission.

Priorities are discussed during RFSC meetings, as well as other management meetings. However, the priority setting could be solidified and agreed upon corporately by establishing a process to prioritize the documents included in the plan. There is currently no formal process to assess either current items or proposed additions to the plan against specific criteria based on risk. The absence of a formal prioritization may result in lack of coordination or in efforts that are not dedicated to corporate priorities.

To date, the work of the RFSC has been primarily focused on document review simply because of the newness of the process, the volume of documents, and the RFSC's initial need to identify documents requiring work.

The RFSC has not yet collectively justified or screened the plan to ensure the absolute necessity of currently included items. Furthermore, the items in the Plan have not been subject to a formal/structured review to ensure that consolidation opportunities have been optimized. These actions may result in opportunities to improve efficiency.

The CNSC is a dynamic organization and must react to various priorities over which it has little or no control (i.e., the shutdown of the NRU reactor at Chalk River, the high level of public concern over the shipment of slightly radioactive steam generators through the Great Lakes and, more recently, the catastrophic nuclear events at Fukushima in Japan). A strategic approach by the RFSC would ensure that regulatory framework development work is focused on the issues of highest priority even in the midst of these unplanned events.

An example of where the committee could introduce efficiency gains would be in establishing a strategic approach to document development. There have been suggestions and discussions regarding the idea of more comprehensive manuals broken into chapters, to deal with related activities, such as the type of nuclear facility or type of equipment being used, licensing phase, topic (safety and control area for example), in lieu of the current practice of developing individual documents on specific topics. Some managers and staff interviewed believe such a step would save time and effort as there are common elements through the related documents, and subject matter experts would spend less time on detailed processes.

Ensuring a strategic approach to the plan should be the priority for the RFSC in order to first address urgent matters that are impacted in light of identified delays.

Recommendation

1. The DG RPD, in cooperation with the RFSC, should establish risk-based criteria to identify and establish priorities for the regulatory framework plan. This would include identifying the level of risk faced by the industry and/or the CNSC, given the absence of a recommended regulatory or guidance documents and, developing a standard methodology and criteria for establishing priorities.

Management action plan

The CNSC agrees that clearly understood and agreed-to criteria and processes for identifying and establishing regulatory framework priorities are essential to maintaining a strategically-focused, risk-based, multi-year regulatory framework plan. The RPD, in consultation with the RFSC, will clarify the criteria and processes to identify regulatory framework priorities. The criteria and processes will need to be flexible and be able to consider varying levels of complexity of projects. This work is targeted for completion by September 30, 2011.

2.1.3 Monitoring the plan

As part of our review we conducted a walk-through of several documents, such as RD-98, *Reliability Programs for Nuclear Power Plants*, and GD-98, *Guidance on Reliability Programs for Nuclear Power Plants*, including the initial scoping process and the process for documents under development. Given the infancy of the revised processes, no documents had been fully processed under the new regimen. We were able, however, to confirm that the review steps and approvals for the documents reviewed had been completed as required.

Two tools are currently used to manage and report on the status of items included in the overall plan. The information that is communicated to the management committee is largely the result the information captured in these tools. They are the scheduler and the tracker.

2.1.3.1 Scheduler

Since June 2010, the RFD has used Microsoft Project to assist with managing the various active projects under the regulatory framework plan. This tool is essential in managing a project through to completion by consolidating the project information, supporting the scheduling of various tasks required to complete the project, and as necessary, assigning the resources needed to complete those tasks. The use of MS Project also assists RFD in estimating the time required to complete each task and project.

At this time, 23 documents of the 134 items in the plan are in the scheduler. To be more specific, only items which are active in the Regulatory Framework Division are reflected in this tool. The Scheduler is not a corporate-wide tool to schedule projects: RPD is the owner and performs all the necessary changes of this document. The project scheduler is available as a read-only document to all CNSC employees via an e-Docs¹ link or as a pdf in the absence of MS Project.

¹ E-Docs is the CNSC's corporate electronic document management system.

2.1.3.2 Tracker

RPD reports on its progress to the RFSC and MC through updates to the plan itself and through an Excel document called the “tracker”. The tracker is a tool developed in-house for the purposes of tracking documents which are active under the RPD.

New projects are monitored by RPD, and the tracker is updated to add a project when the respective Scoping Documents have been approved and submitted to RPD. Once a project is included in the tracker, it is subject to periodic updates by RPD either as the need arises or once a month prior to submission to the RFSC’s meeting. The tracker is made available to management through an e-Doc link that provides a baseline to obtain feedback, or simply to communicate the status to interested CNSC parties.

Information contained in the tracker includes the project target dates, the current status, projects to be scheduled in the next two fiscal quarters, projects completed and published, projects withdrawn, as well as an explanation of any slippage.

The tracker includes also only a portion of the plan’s 134 items. As of February 2011, the tracker provided a snapshot status of 64 items in the plan, including the 23 scheduled and active documents. It was noted that each of the above three tools (i.e., the plan, the tracker, and the scheduler) are separate stand-alone documents whereby updates are made individually, without links to save time and to minimize potential data-entry errors.

CNSC does not have a consolidated management tool that reflects the status of all items in the plan. The tracker, the scheduler, and the plan provide valuable, but different information. Furthermore, each document provides status information of different sub-groups within the plan (e.g., the plan includes approx. 134 items; the scheduler includes 23 items; while the tracker addresses 64 items). While each tool has its own merits, information communicated to management should be consolidated in one document, or tool, in order to ensure the completeness of the data presented.

Recommendation

2. We recommend that the DG RPD consider the use of a consolidated document management and reporting system, or tool, in support of the development of regulatory documents. In addition, links should be integrated in the reporting tools to enable time savings and minimize data-entry errors.

Management action plan

The CNSC agrees that the use of a consolidated document management and reporting system for the regulatory framework would improve the management of regulatory framework projects. Work is already underway to integrate the regulatory framework plan, the regulatory framework tracker and other documents and tools used to manage and track projects in the Plan. RPD will work with the Information Management and Technology Directorate to identify potential tools to support this integration. This work is targeted for completion by March 31, 2012.

2.2 Risk management

2.2.1 The regulatory framework plan

The 2010-2013 regulatory framework plan calls for all documents to be in production within three years and completed within five years. In order to meet the target, 134 documents needed to enter the development process during the three-year plan that started in April 2010. Given that the average total production time of a document is 18 to 24 months, RPD estimated it would take five years to complete all projects included in the plan.

It is important to note that of the 134 documents included in the plan approved by MC in June 2010, there are a number of projects that will require less work, thereby reducing the burden on CNSC resources. These include review of documents published by AECB to identify those that might be withdrawn and archived; those that need to be revised; projects that might be taken on by the Canadian Standards Association as part of its nuclear standards program; and documents that might be consolidated into fewer projects. Some of this work has taken place over the course of 2010-2011, resulting in amendments to the plan that were presented to MC for approval in October 2010 and January 2011. Further analysis is required to determine which documents may be consolidated.

As at March 2011, the details of the plan indicated that 16 projects would be completed and published by fiscal year end. Roughly 80 to 90 known items remain in the plan. A significant number of these projects still need to be analyzed to confirm the purpose and scope, and to complete any benchmarking and related analysis prior to beginning the actual development of the documents.

Two important elements, however, have not yet been factored into the plan that will impact the magnitude of the workload and affect the time and resources needed to bring this project to a fruitful conclusion. These include:

- The review and identification of the 2000-2005 documents that may need to be updated. Most of the documents for update have been identified, and RPD is conducting follow-up work to further understand what needs to be done with each and to move forward in an integrated and strategic manner; i.e., to prioritize the work in context of all of the other work in the plan. The update of existing documents could result in approximately 10 to as many as 20 documents being added to the plan for updating.
- The review and identification of 2005-2009 documents that need to be updated. While it is expected this will not present a great deal of additional work, it needs to be assessed and quantified.

There are also drafts of regulatory and/or guidance documents that are being worked on by the staff, but are not documented in the plan. While these projects (sometimes referred to as “skunk-works”) may be of value to the CNSC, they may represent a diversion of resources from corporate priorities, and should be managed as part of the plan.

For management to better appreciate the level of effort and resource requirements needed to bring the regulatory framework to a mature state, the plan must be adequately compiled by including all known requirements, including downstream needs and must be formally screened and justified. Under the current state, the RFSC and MC do not have all of the information needed to make sound decisions, especially as it applies to prioritization and allocation of resources.

Recommendation

3. We recommend that RPD conduct a full update of the regulatory framework plan to include all known requirements by adding those that are not visible and identifying documents where opportunities exist for reduced level of effort (i.e., potential consolidation of related documents). The updated plan should then be prioritized using the risk-based criteria noted in Recommendation 1 and, the timeframe for completion reassessed.

Management Action Plan

The CNSC is committed to updating the regulatory framework plan to take into consideration lessons learned from the March 2011 Fukushima nuclear event in Japan, opportunities for better alignment of the CNSC's regulatory framework initiatives and the CSA's nuclear standards program, opportunities for consolidation, and changes in the CNSC's regulatory context and priorities. Work on drafts of regulatory and/or guidance documents that are not currently in the plan will be included in this update, and aligned with downstream needs and regulatory priorities, using the risk-based criteria for establishing priorities, as outlined in the management action plan responding to recommendation 1. Only authorized, priority work will continue to be resourced. The target for completing this work is December 31, 2011.

2.2.2 Resources

Every year, CNSC management develops detailed operations plans consider resource requirements for the licensing and compliance programs. In the past the resource requirements for the regulatory framework program, specifically subject matter experts, were not included in the operational plan, which made it difficult for the CNSC to secure resources needed to update and maintain the regulatory framework. Accessing the required subject matter expertise has been one of the key challenges in moving this program forward.

For the 2011–12 planning period, the resource requirements of the regulatory framework program have been included in the operational plan. However, the level of effort allocated to regulatory projects by the Operations Branch may be imprecise, as there is no historical data on which to base the allocation. We also note that at the project management level, individual project charters do not include an estimate of resources or an agreement with Operations on the level of effort required. Once a

project starts the active development stage, managers and staff sign-off on individual projects and commitments are included in their respective management performance contracts.

The CNSC operates in a matrix fashion for the development and maintenance of documents. RFD and senior management recognize that the limited pool of subject matter experts (SMEs) is one of the key risks impacting the administration of the regulatory framework. This risk is further compounded by the potential retirement of SMEs and the related need for succession planning, and the expectation that in 2013, CNSC will begin to receive a licence application to construct new nuclear power plants at Darlington. The review of the licence application will be a CNSC priority, and will absorb a great deal of already scarce SME time, with corollary impact on the resources available to work on the regulatory framework.

Another significant risk is the diversion of management and staff's time and energy to address unforeseen crises and priorities, such as the shutdown of the NRU reactor and other events noted above. Such events are unpredictable and, as history has shown, will continue to arise and affect day-to-day operations.

The CNSC is currently operating at capacity specifically as demand applies to SMEs. In the first year of the revised plan approved by MC in June 2010, significant slippage on some projects was experienced and reported to MC, as highlighted in the January 21, 2011 presentation. It is not clear to what extent this slippage was due to the need to assign staff to other work or to overly ambitious project timelines. Regardless, it will be difficult for the CNSC to recoup this time and meet the original target for completion, given that subject matter experts are committed to other equally important work.

When scoping the plan, management, SMEs and their respective managers knew it was an ambitious undertaking; however, all were committed to meeting it. Going forward, the plan should be subject to greater scrutiny and analysis with particular consideration to the level of effort required and the resources available.

Recommendation

4. We recommend that an estimated level of effort, negotiated with and approved by key contributors, be mandatory requirement for project plans of all documents under development (DG RPD).

Management action plan

The RFSC will require all projects to be fully scoped, with resources identified and scheduled, before being presented to RFSC for inclusion in the regulatory framework plan. Regulatory framework planning will be integrated with operational planning to ensure that availability of subject matter experts is confirmed. With the support of DGs in ROB and TSB, RPD will migrate to this integrated approach in stages, as follows:

- a) All projects where work on a regulatory document or guidance document is currently under way will have revised and confirmed plans by September 30, 2011.
- b) All projects currently in the planning phase (scoping, benchmarking, resourcing and scheduling) will have plans in place by December 31, 2011.

All projects currently scheduled to begin in FY 2012–13 and beyond will have fully scoped plans and schedules prior to launching the work. RFSC will continue to track project progress very closely using a monthly dashboard and will take corrective action to minimize slippage.

2.2.3 Succession planning

As previously noted, the CNSC's success in meeting its regulatory framework priorities is dependent on the availability of SMEs. The HR Dashboard 2009-2010 Annual Report states that there are "significant portions", roughly 20% in each of the Regulatory Operations and Technical Support Branches, of RL-7-TS/SE staff that became eligible to retire as of March 31, 2010. However, not all will choose this option. Succession planning is one approach to ensuring that subject matter expertise will be available to advance the plan.

The DG, Human Resources Directorate (HRD) described two key mitigating arrangements in place to manage succession related risks.

- i. The alumni program, where retired staff can be brought back to mentor new staff or other required work. No official languages or security issues exist to delay staffing processes. This initiative was introduced 18 months ago and the CNSC has brought in approximately 12 people through the program so far.
- ii. The Corporate Succession Fund, where staff who declare their intent to retire, can be backed up (job shadowing) by a new hire, with knowledge of regulatory requirements and processes being transferred to the new hire before the more experienced staff member retires. The fund was only put in place this past fall, and the majority of the staffing actions will take place in 2011-2012. There are currently 12 submissions for the fund; staffing for three positions will be completed in 2010-2011, and the remaining nine or so will be staffed in 2011-2012.

Notwithstanding these initiatives, the summary from the all-management meeting of October 4 and 5, 2010, and audit interviews indicate that senior management continues to view succession planning and the limited availability of expert resources as key

CNSC operational risks. Some directorates have been more active in developing positions for RL-5 and 6 positions in order to address long-term knowledge transfer and succession planning.

Based on known needs, the CNSC's Human Resources Directorate has completed a succession plan for management positions. HRD is currently working with senior managers to identify critical positions for non-management staff and anticipates completing any required succession planning actions in 2011-2012.

2.3 Communications

2.3.1 Communications with staff and managers

The primary means of communication for and about the changes to the regulatory framework and the development process has been through senior management (i.e., RFSC and the DGs who make up the membership) and down to their staff.

DGs and Directors interviewed believe they adequately convey necessary information to their staff; however, a number of employees feel there are gaps in the communication process. Evidence of these gaps can be seen by the inconsistency of information on CNSC's intranet, BORIS. For example, the new "scoping" document is not available on BORIS and the high-level flow chart does not match the revised process, which is what is deemed to be the current process for document development. Consequently, the format for the scoping document is not yet standardized nor understood to be a mandatory part of the process, which could result in various versions of the template and/or approach being used.

RFD established a new process map for developing various documents that describe, in an educational format, the flow of events throughout a document's lifecycle (i.e., from initiation to publication). While the new process has been implemented for the most part, it has not been formally approved or communicated, as some of the documentation is being refined.

Currently, the regulatory framework program would benefit from a concerted plan and strategy to formally communicate the new process and its requirements to all staff. The absence of a formal communication regarding the development and maintenance of the regulatory framework and its new process could have affect overall efficiencies and result in wayward activities.

Communication risks are minimized by RPD's close involvement in all stages of the Document development.

Recommendations

5. We recommend that the DG RPD ensure the scoping document, the process flow diagrams and information regarding the RFSC's processes be updated to reflect current practices, be formally approved by MC, and then communicated to staff and posted to BORIS.

6. We recommend that RPD fully document and communicate its processes and procedures to achieve greater consistency and to enable staff involved in the process to more effectively and efficiently contribute to the regulatory framework plan.

Management action plan

The CNSC agrees that clarity regarding tools and processes developed to support the management of the CNSC's regulatory framework, including administrative procedures followed by the RFSC, would assist managers and staff to better understand how the regulatory framework and how it is being managed. Such tools and processes will be included in a revamp of the regulatory framework sub-site on BORIS. This work is targeted for completion by September 30, 2011.

2.3.2 Stakeholder input

As a standard part of the regulatory process, the CNSC solicits user/stakeholder feedback on specific regulatory documents, through its Web site. All comments received are posted for feedback to ensure that stakeholders are aware of others' concerns and can comment if they wish. On occasions where numerous comments are received in the second round, a third round of request for feedback will be posted for commentary.

Comments from users and stakeholders are compiled and addressed in disposition tables developed by RPD. The tables are made available to the public when the regulations or documents are published; stakeholders who commented during the consultation period are directly notified that the disposition table is available.

CNSC staff and management also use the disposition tables to ensure stakeholder comments are properly addressed. Major issues that might affect the regulatory framework plan are brought up to the RFSC for discussion and resolution.

As part of this process, input from key stakeholders is obtained through CNSC subject matter experts who work in the field at sites such as uranium mines and mills and nuclear power plants. As part of their duties, CNSC staff routinely identifies and communicate to senior management, including the Commission, issues for consideration in the development of documents.

In our opinion, this process provides for a transparent methodology and process and substantially ensures the completeness of the comments received from the users/stakeholders.

The CNSC has adequate processes and controls to address any risks associated with the collection and dispositioning of stakeholder comments regarding draft regulations and documents.

2.4 Overall conclusion

In our opinion, the CNSC has adequate processes in place to identify, plan, and manage the development and maintenance of regulatory instruments (regulations, regulatory documents and guidance documents) considered necessary to clearly set out the CNSC's requirements, to facilitate compliance with the NSCA and its Regulations and licences, in order to protect Canadians.

The overall effectiveness of the processes, however, is reduced by the fact that there is no mechanism in place to assure management that scarce resources are being applied to the areas of highest risk and priority within a fully justified, consolidated and prioritized plan.

Appendix A: Detailed Audit Criteria

Line of enquiry #1

The CNSC has an effective management control framework in place to identify, assess and recommend the regulatory instruments that should be developed and included in the regulatory framework plan.

Governance and strategic directions

1. There is ongoing, comprehensive, accurate, and timely communication between the RFSC and the CNSC's management regarding the identification, assessment, and recommendation of the necessary regulatory instruments that should be developed and included in the regulatory framework plan, including the status of the above plan (including the President).
2. Relevant information is provided to members of the RFSC oversight body in advance of the scheduled meeting date to permit sufficient time to review and come prepared to meetings, including:
 - updates to the plan (including additions and deletions) and assessment of their corresponding impact to the overall plan
 - overall status of the plan including its sufficiency and appropriateness of its context

Policy and programs

1. Sufficient and competent resources exist for the identification, assessment, development of the regulatory framework instruments.
2. The CNSC has access to adequate subject-matter expertise for the identification, assessment, development of the regulatory framework instruments in accordance with the plan.
3. Responsibility for the research, analysis, development, and approval of the regulatory documents is clearly established/documented.

Citizen-focused services

1. Suggestions, complaints, and other communication documents are captured, and assessed (and communicated to the relevant internal CNSC parties).
2. Follow-up procedures exist to ensure communicated input and feedback is responded to in a timely fashion by the relevant CNSC individual/group.
3. Input is sought, on a regular basis, from stakeholders via established and functional mechanisms (such as through the CNSC Web site, public announcements/notifications and environmental scanning).
4. A formal process is in place to consider the inputs and suggestions of the plan, for both short- and long-term aspects.
5. The CNSC's planning processes explicitly considers this input and use it to:
 - assess priorities in accordance with the plan
 - continually ensure the plan is relevant and aligned with CNSC and community (user) needs

Risk management

1. Known risks are consistently applied during strategic and operational planning processes.
2. Risk information obtained is used to support resource allocation.

Learning, innovation and change management

1. Significant changes to the regulatory development process are well (and widely) communicated to the appropriate CNSC individual(s) on a timely basis.
2. Succession and resource planning is conducted on a regular basis and considers short and long-term CNSC needs in the regulatory document context (particularly for the subject- matter experts).

Line of enquiry #2

The CNSC has an effective project management framework that ensures the timely development of regulatory framework projects included in the regulatory framework plan.

Governance and strategic directions

1. There is ongoing, comprehensive, accurate, and timely communication between the RFSC and CNSC management regarding the status of the plan (including the President).
2. Information is provided to members of the RFSC oversight body in advance of the scheduled meeting date, to permit sufficient time to review it and prepare for meetings. This information includes:
 - updates to the plan
 - overall status of the plan, including sufficient and appropriate context

Policy and programs

1. Sufficient and competent resources exist for the identification, assessment, development of the regulatory framework instruments.
2. The CNSC has access to adequate subject-matter expertise for the identification, assessment, development of the regulatory framework instruments in accordance with the plan.
3. Responsibility for the research, the analysis, the development, and the approval of the regulatory documents is clearly established and documented.

Citizen-focused services

1. Suggestions, complaints, and other communication documents are captured, and assessed (and communicated to the relevant internal CNSC parties).
2. Formal communication of the processes exists and supports the sharing of timely, relevant and reliable information to stakeholders.

Risk management

1. Known risks are consistently applied during strategic and operational planning processes.
2. Risk information obtained is used to support resource allocation.

Learning, innovation and change management

1. Significant changes to the regulatory development process are well (and widely) communicated to the appropriate CNSC individual(s) on a timely basis.

2. Succession and resource planning is conducted on a regular basis and considers short and long-term CNSC needs in the regulatory document context (particularly for subject matter experts).

Appendix B: Overview of Audit Recommendations and Management Action Plans

1. Recommendation: The DG Regulatory Policy Directorate, in cooperation with the RFSC, should establish risk-based criteria to identify and establish priorities for the regulatory framework plan. This would include identifying the level of risk faced by the industry and/or the CNSC, given the absence of a recommended regulatory or guidance document, and developing a standard methodology and criteria for establishing priorities.		
Unit responsible	Management response	Timeline
RPD	The CNSC agrees that clearly understood and agreed-to criteria and processes for identifying and establishing regulatory framework priorities are essential to maintaining a strategically focused, risk-based, multi-year regulatory framework plan. The Regulatory Policy Directorate (RPD), in consultation with the Regulatory Framework Steering Committee (RFSC), will clarify the criteria and processes for identifying regulatory framework priorities. The criteria and processes will need to be flexible and able to take into account the varying levels of complexity of projects. This work is targeted for completion by the end of Q2 FY 2011–12.	Sept 30, 2011

2. Recommendation:

We recommend that the DG Regulatory Policy Directorate (DGRPD) consider the use of a consolidated document management and reporting system, or tool, in support of the development of regulatory documents. In addition, links should be integrated in the reporting tools to save time and minimize data-entry errors.

Unit Responsible	Management Response	Timeline
RPD	The CNSC agrees that the use of a consolidated document management and reporting system for the regulatory framework would improve the management of regulatory framework projects. Work is already underway to integrate the regulatory framework plan, the regulatory framework tracker and other documents and tools used to manage and track projects in the plan. RPD will work with the Information Management and Technology Directorate to identify potential tools to support this integration. This work is targeted for completion by the end of FY 2011-12.	March 31, 2012

3. Recommendation:

We recommend that RPD conduct a full update of the regulatory framework plan to include all known requirements by adding those that are not visible and identifying documents where opportunities exist for reduced level of effort (i.e., potential consolidation of related documents). The updated plan should then be prioritized using the risk-based criteria noted in recommendation 1 and, the timeframe for completion reassessed.

Unit Responsible	Management Response	Timeline
RPD	The CNSC is committed to updating the regulatory framework plan to consider lessons learned from the March 2011 Fukushima nuclear event in Japan, opportunities for better alignment of the CNSC's regulatory framework initiatives and the CSA's nuclear standards program, opportunities for consolidation, and changes in the CNSC's regulatory context and priorities. Work on drafts of regulatory and/or guidance documents that are not currently in the plan will be included in this update, and aligned with downstream needs and regulatory priorities, using the risk-based criteria for establishing priorities, as outlined in the management action responding to recommendation 1. Only authorized, priority work will continue to be resourced. The target for completing this work is the end of Q3 FY 2011–12.	Dec 31, 2011

4. Recommendation:

We recommend that an estimated level of effort, negotiated with and approved by key contributors, be a mandatory requirement for the project plans of all documents under development (DG RPD).

Unit Responsible	Management Response	Timeline
RPD	<p>The RFSC will require all projects to be fully scoped, with resources identified and scheduled, before being presented to the RFSC for inclusion in the regulatory framework plan. Regulatory framework planning will be integrated with operational planning to ensure subject matter experts are available. With the support of DGs in ROB and TSB, RPD will migrate to this integrated approach in stages, as follows:</p> <ul style="list-style-type: none"> a) All projects where work on an RD or GD is currently underway will have revised and confirmed plans by the end of Q2 FY 2011–12. b) All projects currently in the planning phase (scoping, benchmarking, resourcing and scheduling) will have plans in place by the end of Q3 FY 2011–12. <p>All projects currently scheduled to begin in FY 2012–13 and beyond, will have fully scoped plans and schedules prior to launching the work.</p> <p>The RFSC will continue to track project progress very closely using a monthly dashboard and will take corrective action to minimize slippage.</p>	<ul style="list-style-type: none"> a) Sept 30, 2011 b) Dec 31, 2011

5. Recommendation:

We recommend that the DG RPD ensure the scoping document, process flow diagrams and information regarding the RFSC processes be updated to reflect current practices, be formally approved by MC, communicated to staff and posted to the CNSC's intranet, BORIS.

6. Recommendation:

We recommend that RPD fully document and communicate its processes and procedures to achieve greater consistency and to enable staff involved in the process to more effectively and efficiently contribute to the regulatory framework plan.

Unit Responsible	Management Response	Timeline
RPD	The CNSC agrees that clarity regarding tools and processes developed to support the management of the CNSC's regulatory framework, including administrative procedures followed by the RFSC, would assist managers and staff to better understand how the regulatory framework, and how it is being managed. Such tools and processes will be included in a revamp of the Regulatory Framework sub-site on BORIS. This work is targeted for completion by the end of Q2 FY 2011–12.	Sept 30, 2011

Appendix C: Acronym List

AEGB:	Atomic Energy Control Board
NSCA:	<i>Nuclear Safety and Control Act</i>
RFSC:	Regulatory Framework Steering Committee
DG RPD:	Director General, Regulatory Policy Directorate
RFD:	Regulatory Framework Division
MC:	Management Committee
DG:	Director General
RPD:	Regulatory Policy Directorate
SME:	subject matter expert
ROB:	Regulatory Operations Branch
TSB:	Technical Support Branch
RD:	Regulatory Document
GD:	Guidance Document
HRD:	Human Resources Directorate