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Approve Regulatory Document

Approuver le document d'application de la réglementation

REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*

REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des travailleurs des installations dotées de réacteurs, version 2*

Public Meeting

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Submitted by:
CNSC Staff

Soumis par :
Le personnel de la CCSN

Summary

This CMD pertains to a request for a decision regarding:

- draft regulatory document
REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*

The following action is requested of the Commission:

- approve draft REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*

The following items are attached:

- draft REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*
- detailed comments table

Résumé

Ce document à l'intention des commissaires (CMD) concerne une demande de décision au sujet de :

- l'ébauche du document d'application de la réglementation REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des travailleurs dans des installations dotées de réacteurs, version 2*

La Commission pourrait considérer prendre la mesure suivante :

- approuver l'ébauche du REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des travailleurs dans des installations dotées de réacteurs, version 2*

Les pièces suivantes sont jointes :

- l'ébauche du REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des travailleurs dans des installations dotées de réacteurs, version 2*
- le tableau des réponses aux commentaires reçus

Signed/signé le

June 9, 2023/9 juin 2023



Dana Beaton

Director General

Regulatory Policy Directorate

Directrice générale de la

Direction de la politique de réglementation

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1 OVERVIEW	2
1.1 Background.....	2
1.2 Highlights.....	3
2 CONSULTATION	5
3 IMPLEMENTATION	9
4 OVERALL CONCLUSIONS AND RECOMMENDATIONS	9
4.1 Overall Conclusions.....	9
4.2 Overall Recommendations.....	10

EXECUTIVE SUMMARY

Regulatory document REGDOC-2.2.3, Personnel Certification, Volume III: *Certification of Reactor Facility Workers*, Version 2 sets out requirements and guidance for the certification of reactor facility workers by the CNSC.

REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2* provides increased flexibility to licensees in managing staff and in developing and implementing their training. Moreover, it sets performance-based, technology-neutral requirements as the basis for the development of the pertinent programs at future, non-CANDU sites. Finally, the removal of the validity periods from knowledge-based certification examinations provides licensees with significant added flexibility, which should alleviate reported candidate recruitment and retention issues, particularly with regards to persons planning to start a family. Based on evidence, CNSC staff concluded that the existing validity periods did not constitute an effective means of knowledge decay prevention; however, candidates would continue to undergo a series of exams prior to certification.

The fundamentals from REGDOC-2.2.3, Volume III, Version 1 have been preserved in Version 2. The only entirely new, major requirement is the implementation of a performance-based personnel selection program, which is primarily intended to guide the recruitment of personnel at future reactor facilities. CANDU reactor licensees already maintain personnel selection programs meeting the minimum requirements.

The layout of the REGDOC has been completely redesigned to facilitate the subsequent inclusion of non-CANDU facilities, reduce the document's length, eliminate repetition, and provide a more intuitive layout.

During the consultation period, the CNSC received 139 comments from six stakeholders, including three nuclear reactor licensees. Representative comments and CNSC staff responses are provided below. Although given the opportunity, neither environmental non-governmental organizations, nor Indigenous peoples commented on the REGDOC. In addition to the formal consultation process, CNSC staff had ongoing discussions during analysis with the industry, notably through the Certification Training Advisory Group (CTAG).

This revision will have positive impacts on regulatory oversight as well as on licensee operations by addressing known regulatory gaps and reducing administrative burden, while ensuring nuclear reactor workers employed in designated positions have the necessary knowledge, skills, and safety-related attributes to perform their duties effectively and safely.

CNSC staff concluded that this REGDOC is ready for final approval by the Commission for publication.

1 OVERVIEW

1.1 Background

REGDOC-2.2.3, Volume III, Version 2 specifies detailed requirements and provides guidance regarding the certification of the reactor facility workers employed or seeking employment in designated positions at reactor facilities, excluding research reactors.

The original personnel certification regulatory document for Nuclear Power Plants (NPP) workers, RD-204, *Certification of Persons Working at Nuclear Power Plants*, was published in 2008. As part of the rebranding initiative, RD-204 was republished in 2019 as REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Persons Working at Nuclear Power Plants*. The purpose of the rebranding initiative was to update legacy regulatory documents to the new REGDOC nomenclature and numbering system. All regulatory documents were migrated to the CNSC's new framework structure.

REGDOC-2.2.3, Volume III, Version 1 included a single amendment relating to the validity periods for knowledge-based certification examinations. CNSC changed the maximum length of the extension of validity periods for knowledge-based certification examinations, currently possible under Subpart F, from one year to three years after completing the technical analysis (e-Doc #5916147), which included a Gender-Based Analysis Plus (GBA+) component. This change was designed to allow licensees to recruit additional, suitable candidates for positions requiring CNSC certification, particularly persons planning to start a family. This change did not change any knowledge requirements only the validity periods after a candidate had passed an exam.

An extensive revision of REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 1*, was conducted to incorporate CNSC's regulatory experience, feedback from the relevant practitioners at reactor facilities, and gender and as well as non-gender-based GBA+ considerations. Based on the analysis conducted by CNSC staff, it was determined that the document should be revised to ensure ease of use, standardization, regulatory clarity, regulatory coherence, reduction of burden, completeness, and shelf life.

The main objectives of this revision were:

- Balancing a performance-based approach with prescriptive objectives to:
 - promote licensee ownership, innovation, and best practice; and
 - prepare for the future via technology-neutral requirements;
- clarifying the regulatory intent via an improved document layout, new and updated terminology, and addition of guidance;
- making pragmatic choices to reduce burden by eliminating complexity of limited safety pay-off;

- creating a comprehensive reference, particularly to:
 - include requalification requirements and unpublished expectations;
 - reference complementary REGDOCs published after 2008; and
- making regulatory improvements by leveraging lessons-learned.

Generally, the changes proposed are modifications to existing requirements. The fundamentals remain, but the CANDU-centric, prescriptive requirements have been made technology-neutral where possible, and new processes are recommended as necessary to address known regulatory gaps. The only entirely new major requirement is the implementation of a performance-based personnel selection program — designed to guide the selection of suitable candidates at future reactor facilities; programs meeting the minimum requirements are already implemented at CANDU facilities. The REGDOC continues to require that candidates undergo a series of exams, including a final exam in a reactor simulator, prior to certification.

1.2 Highlights

Personnel certification is intended to provide additional assurance of the safety and competence of certified workers while employed in positions of immediate relevance to nuclear safety, as designated in operating licences. Personnel certification is an independent attestation, by the certifying body, which is also the regulator in the present case, of worker competency, in the interest of public safety and public trust. [REGDOC-3.6, *Glossary of CNSC Terminology*](#) defines certification as a “written attestation from the Commission, or from a designated officer authorized by it, that a person is qualified to carry out licensed activities (including the duties of a given position)”. If approved, this REGDOC will apply to:

- workers requiring CNSC certification at Class IA nuclear facilities other than research reactors;
- licensees operating the said reactor facilities; and
- personnel involved in the training and evaluation, or the certification examination and requalification testing, of the pertinent workers.

REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*, provides the detailed requirements and guidance for the certification of the reactor facility workers employed or seeking employment in the following designated positions:

- auxiliary systems operator (ASO) (aka Unit-0 Control Room Operator);
- reactor operator (RO) (aka Authorized Nuclear Operator, Control Room Operator);
- shift supervisor (aka Shift Manager, Control Room Shift Supervisor); and

- senior health physicist (SHP) (aka Authorized Health Physicist, Responsible Health Physicist).

The layout of the REGDOC has been completely redesigned to include existing processes previously undocumented, allow for the eventual inclusion of compliance schemes applicable to non-CANDU facilities, reduce the length of the document, remove repetition, and make its usage more intuitive. REGDOC-2.2.3, Volume III, Version 2 comprises three parts:

- Part I describes the regulatory and procedural provisions of the CNSC personnel certification scheme relevant to reactor facility workers;
- Part II describes the organizational and physical infrastructures that must be implemented by the licensee to support the personnel certification scheme described in Part I and achieve the worker qualifications specified in Part III; and
- Part III specifies the prerequisites that reactor facility workers must meet to be eligible for the personnel certification processes described in Part I.

Some of the key regulatory changes documented in Version 2 based on the revision objectives include:

- a shift toward more performance-based, technology-neutral requirements overall, while retaining sufficient prescriptiveness to maintain a standardized, hence fair, personnel certification scheme for all candidates and certified workers;
- the removal of prescriptive education and experience prerequisites in favor of performance-based requirements as basis for the implementation of fair and effective personnel selection programs, notably for non-CANDU operations;
- the removal of prescriptive training topics and sequence consistently with the systematic approach to training (SAT) mandated by REGDOC-2.2.2 and implemented at CANDU sites after 2008;
- the removal of a distinct certification process for Shift Managers (SM) employed at multi-unit CANDU sites and the issue of a single certification for all shift supervisors, addressing long-standing SM employment issues;
- the removal of the validity periods from all knowledge-based certification examinations to address reported candidate recruitment and retention issues;
- the replacement of threefold, two-tier minimum shift requirement scheme with a universal four (4) shifts/quarter requirement, significantly reducing burden for CNSC and licensee staffs without negatively impacting safety;
- the addition of new and existing (but previously undocumented) standardized processes to address known regulatory gaps; and

- the use of guidance and explicit expectations to clarify the regulatory intent, thereby addressing longstanding regulatory interpretation issues.

CNSC staff expects REGDOC-2.2.3, Volume III, Version 2 to have positive impacts on both regulatory oversight and licensee operations, such as:

- supporting the submission of compliant personnel certification applications;
- assuring and assisting licensee compliance;
- reducing administrative and regulatory burden by simplifying complex requirements;
- clarifying terminology;
- clarifying regulatory interpretations;
- resolving known regulatory issues, such as the employment of shift managers;
- establishing new standard processes to address modern employment realities, including personnel transfer between reactor facilities and the post-retirement employment of certified workers; and
- alleviating candidate recruitment and retention issues previously reported and only partially addressed in Version 1.

2 CONSULTATION

During analysis, CNSC staff had ongoing discussions with the industry, notably trainers and examiners employed by licensees, and representatives from the CANDU Owners Group (COG) and the Driving Advancement of Women in Nuclear (DAWN)¹.

In addition, management representatives from industry and CNSC staff regularly met to discuss the revision of REGDOC-2.2.3, Volume III during CTAG meetings.

A draft version of REGDOC-2.2.3, Volume III, Version 2 was issued for a 106-day public consultation period beginning on July 4th, 2022, and ending on October 18th, 2022.

During the consultation period, the CNSC received 139 comments from six stakeholders, including three nuclear reactor licensees; namely:

- Bruce Power
- Ontario Power Generation
- New Brunswick Power

¹ DAWN is a group of Canadian leaders and influencers from the nuclear sector who are championing gender equity. The initiative aims to remove structural and cultural barriers for women to establish successful careers in the nuclear sector.

- Canadian Nuclear Association
- GE- Hitachi Nuclear Energy
- Froats and Froats Associates

Neither environmental non-governmental organizations, nor Indigenous peoples commented on the REGDOC. While no formal indigenous consultation was held, Indigenous peoples were informed using our regular communications channels, including email to subscribers, social media posts and emails to users of Let's Talk Nuclear Safety. CNSC's Indigenous and Stakeholder Relations Division confirmed that the topic of personnel certification was not one that Indigenous communities have expressed interest in discussing with the CNSC in more detail.

A workshop was held on February 16th, 2023 with representatives of nuclear reactor licensees and COG to discuss how CNSC staff addressed their comments. Industry requested clarification and underlined some implementation challenges, which were satisfactorily addressed by CNSC staff without any negative effect on safety. Despite the number of comments initially received, the industry publicly expressed support for the document after the workshop.

The following comments offered during the consultation activities may be of particular interest:

Comment 1: Applicability and implementation at new facilities

Stakeholders raised concerns regarding applicability and ability to implement at new facilities, such as Small Modular Reactors (SMRs).

CNSC staff response:

The revised REGDOC was developed to be less specific to nuclear power plants and to provide flexibility for future facilities. It is more performance-based and less CANDU-centric in anticipation of new facilities, including, but not limited to, SMRs. The document structure was also revised to allow for the addition of new designated positions and compliance schemes in the future.

Furthermore, the CNSC's licensing process is largely performance-based, allowing for flexibility. A graded approach will allow for the combined use of the proposed REGDOC, existing licensing guides, and future licence conditions handbooks (LCH). This combined approach is meant to deal effectively with the commissioning and licensing challenges posed by new technology and novel concepts of operations (COO).

Finally, many of the relevant concerns were largely based on vendor's familiarity with the US context, since the USNRC sets detailed, but more prescriptive, operator licensing requirements, notably during construction and commissioning.

No change was applied to the proposed REGDOC as a result of Comment 1.

Comment 2: Use of subjective and prescriptive wording

Industry commented that the draft REGDOC included subjective wording throughout the document (e.g., acceptable, suitable, effective, comprehensive).

They also commented on terms that seemed overly prescriptive (e.g., applicable, relevant, mandated).

CNSC staff response:

The proposed draft was reviewed post-consultation and some minor changes were applied to remove unnecessary subjective and prescriptive wording.

However, given that the revised REGDOC represents a fundamental departure from the past prescriptive approach, in favor of a hybrid, more performance-based personnel certification scheme, CNSC staff have maintained the use of qualitative metrics wherever the use of quantitative metrics was undesirable or impossible.

This usage is consistent with other REGDOCs. In order to discharge their duties under the Act, CNSC staff must be able to exercise some professional judgment in overseeing compliance. CNSC staff must also have the option to disagree with licensee staff, especially in the context of a performance-based regulatory approach.

Minor changes only were applied to the proposed REGDOC as a result of Comment 2.

Comment 3: Perceived conflict with SAT programs

Industry found the REGDOC seemed to undermine the systematic approach to training (SAT) that licensees have in place. Additionally, they noted that the document and REGDOC-2.2.2, *Personnel Training* had some overlap.

CNSC staff response:

The revised REGDOC-2.2.3 neither undermines nor contradicts any training system, including the SAT already implemented at CANDU sites. The introduction of generic program descriptions and performance-based safety goals for the SAT-based training components was necessary in replacement of the training topics currently mandated. The prescription of these training topics is no longer necessary since the publication of REGDOC-2.2.2 and the implementation of SAT-based training.

As a result of the revised requirements, new facilities will be able to implement training systems without interfering with existing CANDU-centric programs. The overlap between the two REGDOCs exists by design, since the *raison d'être* of personnel certification is to exercise added regulatory oversight for workers employed in designated positions, in addition to the requirements applicable to all workers. Since aligning REGDOC-2.2.3 with the current regulatory framework was one of the objectives of the revision, CNSC staff duly considered all complementary REGDOCs published after 2008, including REGDOC-2.2.2.

No change was applied to the proposed REGDOC as a result of Comment 3.

Comment 4: Misalignment with CNSC examination guides

Industry found the document included misalignment with CNSC examination guides EG1, *Requirements and Guidelines for Written and Oral Certification Examinations for Shift Personnel at Nuclear Power Plants* and EG2,

Requirements and Guidelines for Simulator-based Certification Examinations for Shift Personnel at Nuclear Power Plants

CNSC staff response:

The examination guides were published in 2004 and 2005 and are at once outdated and CANDU-centric. The misalignment issues raised were already known by CNSC staff and will be reflected in the updated examination guides. This modernization project has already begun and the required revision will resume once Version 2 of REGDOC-2.2.3, Volume III is published.

No change was applied to the proposed REGDOC as a result of Comment 4.

Comment 5: Increased requirements for Senior Health Physicists (SHP)

Industry questioned the proposed increase of relevant work experience from six months to two years at the hiring facility. These new requirements would increase staffing challenges and power plants already have a limited number of SHPs.

CNSC staff response:

CNSC staff initially proposed to simplify the work experience prerequisite overall, but at the same time to extend the minimum time spent at the hiring facility, because six (6) months appeared too short for a leadership position. Further discussions revealed that this period was simply made to coincide with the minimum time required (in 2008) to train an experienced SHPs transferred from another CANDU station.

Given that the current requirement is not based on first principle, but past empirical knowhow, and since the proposed increase would cause operational issues, the requirement to have two (2) years of work experience at the hiring facility was modified to include experience gained at any reactor facility. This change was deemed acceptable because the newly required performance-based personnel selection program includes a requirement for the licensee to determine suitable minimum experience for all designated positions, which purpose differs from training.

However, it should also be noted that the revised four (4) years of prior experience overall is actually more flexible than current requirement since the former need not be gained at a reactor facility.

The change proposed by industry under Comment 5 was applied to the proposed REGDOC post-consultation.

Comment 6: Minimum employment

Industry was concerned that the new minimum employment requirement focused on a lead position. As a result, scheduling and tracking shifts and hours of work could be problematic, and all certified shift workers may not be able to meet the quarterly minimum shift requirement.

CNSC staff response:

The requirement was revised based in the industry feedback and now specifies that certified shift workers must perform the minimum quarterly shift requirement as members of the minimum staff complement (MSC). The modified requirement recognizes shifts worked in an assisting capacity. This change was deemed acceptable by CNSC staff because work in an assisting capacity, when done as a member of the MSC, constitutes meaningful exposure to the duties of the designated position, based on the documented purpose of the minimum employment requirements, which is explicitly stated for the first time via Version 2.

The change proposed by industry under Comment 6 was applied to the proposed REGDOC post-consultation.

3 IMPLEMENTATION

CNSC regulatory documents are primarily implemented by revising License Conditions Handbooks (LCHs) during licensing renewals and by requesting implementation plans from licensees on an ongoing basis. Implementation plans are then captured in the LCH.

However, the implementation of REGDOC-2.2.3, Volume III, Version 2 differs because the document is referenced within a Licence Condition (LC) in all Power Reactor Operating Licences (PROLs) in accordance with section 9(2) of the *Class I Nuclear Facilities Regulations*.

Currently, licensees are required to comply with REGDOC-2.2.3, Volume III, Version 1 as an LC under the Human Performance Management Safety and Control Area (SCA) in all PROLs. To implement the revised REGDOC, all PROLs will require an amendment to the appropriate LC, to replace REGDOC-2.2.3, Volume III, Version 1 with REGDOC-2.2.3, Volume III, Version 2. If Version 2 is approved by the Commission, CNSC staff will contact impacted licensees to discuss timelines for requesting a licence amendment.

CTAG will continue to provide a forum for industry to communicate information and express any potential concerns related to implementation.

4 OVERALL CONCLUSIONS AND RECOMMENDATIONS

4.1 Overall Conclusions

Draft REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2* was developed through consultation with stakeholders and is essential to communicating and formalizing the CNSC's requirements and guidance related to the certification of the reactor facility workers employed or seeking employment in designated positions.

CNSC staff conclude that this REGDOC is ready for final approval by the Commission for publication.

4.2 Overall Recommendations

CNSC staff recommend that the Commission approve REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2*.



Human Performance Management **Personnel Certification, Volume III: Certification of Reactor Facility Workers**

REGDOC-2.2.3, Version 2

June 2023



Personnel Certification, Volume III: Certification of Reactor Facility Workers

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This document can be viewed on the [CNSC website](#). To request a copy of the document in English or French, please contact:

Canadian Nuclear Safety Commission
280 Slater Street
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9
Canada

Tel.: 613-995-5894 or 1-800-668-5284 (in Canada only)

Fax: 613-995-5086

Email: cpsc.info.ccsn@cpsc-ccsn.gc.ca

Website: nuclearsafety.gc.ca

Facebook: facebook.com/CanadianNuclearSafetyCommission

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LinkedIn: linkedin.com/company/cpsc-ccsn

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Preface

This regulatory document is part of the CNSC’s human performance management series of regulatory documents, which also covers human factors, personnel training and other personnel certification matters. The full list of regulatory document series is included at the end of this document and can also be found on the [CNSC’s website](#).

Regulatory document REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Reactor Facility Workers*, Version 2 sets out the detailed requirements and guidance for the certification of workers employed at reactor facilities operated in Canada.

This document is the second version of REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Persons Working at Nuclear Power Plants*, published in September 2019. A document showing the changes made to the first version is available from the CNSC upon request.

Complementary regulatory documents

The requirements and guidance documented in this regulatory document are in addition to the requirements and guidance applicable to reactor facility workers in general. Workers certified or seeking certification by the CNSC are therefore not exempt from any applicable requirements specified in other regulatory documents.

In particular, this document must be read in conjunction with complementary regulatory documents in the human performance management series and other safety and control areas referenced in the licence or any accompanying documentation, as applicable. A comprehensive list of complementary regulatory documents of relevance is included as “Additional Information” in the last section of this regulatory document.

Regulatory approach

For information on the implementation of regulatory documents and on the graded approach, see REGDOC-3.5.3, *Regulatory Fundamentals*.

The words “shall” and “must” are used to express requirements to be satisfied by the licensee or licence applicant. “Should” is used to express guidance or that which is advised. “May” is used to express an option or that which is advised or permissible within the limits of this regulatory document. “Can” is used to express possibility or capability.

Nothing contained in this document is to be construed as relieving any licensee from any other pertinent requirements. It is the licensee’s responsibility to identify and comply with all applicable regulations and licence conditions.

Table of Contents

1.	Introduction.....	11
1.1	Purpose.....	11
1.2	Scope.....	11
1.3	Relevant legislation.....	11
1.4	National and international standards.....	12
Part I – Personnel Certification Scheme.....		13
2.	Background Information.....	13
3.	Employment Stipulations	13
3.1	Permitted employment.....	13
3.2	Employment status.....	14
3.3	Employment record.....	14
4.	Designated Positions	15
4.1	Station-specific designated positions.....	15
4.2	Designated position staffing	15
4.3	Roles and responsibilities of certified workers.....	15
5.	General Provisions Pertinent to All Applications	15
5.1	Authorized applicant.....	15
5.2	Complete application	16
5.3	Basic information.....	16
5.4	Transmission.....	16
6.	Application for Certification.....	17
6.1	Worker competency declaration	17
6.2	Personnel selection	17
6.3	Worker qualification summary	17
6.4	Supporting documentation.....	18
6.5	Application schedule.....	18
6.6	Effective date of certification.....	18
6.7	Certification deferment	18
7.	Application for Certification Renewal	18
7.1	Worker competency declaration	18
7.2	Worker requalification summary	19
7.3	Supporting documentation.....	19

7.4	Application schedule.....	19
7.5	Effective date of renewal	20
7.6	Early certification renewal.....	20
8.	Application for Recertification Within 5 Years of a Certificate Expiry	21
8.1	Worker competency declaration	21
8.2	Worker requalification summary	21
8.3	Supporting documentation.....	22
8.4	Application schedule.....	22
8.5	Effective date of certification.....	22
9.	Application for Recertification Following Decertification or Certificate Expiry After 5 Years	22
9.1	Worker competency declaration	23
9.2	Recertification substantiation.....	23
9.3	Supporting documentation	23
9.4	Application schedule.....	24
9.5	Effective date of certification.....	24
10.	Application for Senior Health Physicist Examination or Requalification Testing	24
11.	Refusal to Certify and Decertification	24
11.1	Background information	24
11.2	Licensee requests for decertification	25
11.3	Requesting an opportunity to be heard	25
11.4	Commission or designated officer decision	25
12.	Administrative Processes.....	25
12.1	Legal name change	25
12.2	Replacement certificates	26
Part II – Licensee Organizational and Physical Infrastructures.....		27
Subpart A – Organizational Infrastructure		27
13.	Policies and Procedures.....	27
13.1	Training and qualifying workers for initial certification	27
13.2	Maintaining the qualification of certified workers	27
14.	Personnel Selection Program	27
14.1	Personnel selection program requirements	27
14.2	Personnel selection criteria	28

	14.2.1	Basic prerequisites	28
	14.2.2	Supplementary prerequisites for shift supervisors and senior health physicists ..	28
14.3		Selection of reactor operators for shift supervisor training.....	29
	14.3.1	Performance as reactor operator	29
	14.3.2	Personnel selection exemption.....	29
	14.3.3	Notification of selection for shift supervisor training.....	29
14.4		Advancement to senior shift supervisor.....	30
	14.4.1	Minimum experience as shift supervisor prior to advancement	30
	14.4.2	Supplemental training.....	30
	14.4.3	Work under supervision.....	30
	14.4.4	Notification of advancement to senior shift supervisor	31
14.5		Personnel transfer	31
	14.5.1	Personnel transfer process	31
	14.5.2	Initial training	32
	14.5.3	General knowledge training exemption	32
	14.5.4	Certification examinations.....	32
	14.5.5	General knowledge examination exemption.....	32
	14.5.6	Notification of personnel transfer	33
	14.5.7	Added information upon application for certification	33
15.		Training Programs.....	34
	15.1	Initial training programs	34
	15.2	Continuing training programs	34
	15.2.1	Update training	34
	15.2.2	Refresher training	35
	15.2.3	Simulator-based continuing training for operations personnel.....	35
	15.2.4	Nuclear emergency response training.....	35
	15.3	Training system for reactor facilities	36
	15.4	Formal learner evaluations.....	36
	15.5	Trainer qualifications	37
16.		Certification Examination and Requalification Testing.....	37
	16.1	Separation of the training and examination functions	37
	16.2	Certification examinations	38
	16.3	Requalification testing	38
	16.4	Security of certification examinations and requalification tests	38
	16.5	Examiner qualifications	39

17.	Work Under Supervision	39
18.	Management Interviews	39
19.	Administrative Policies and Procedures Applicable to Workers in Training	40
19.1	Reintegration of a worker in training following a prolonged training interruption	40
20.	Administrative Policies and Procedures Applicable to Certified Workers	41
20.1	Fitness for duty	41
20.2	Minimum employment of certified workers	41
20.2.1	Minimum shift requirement for operations personnel	41
20.2.2	Minimum shift requirement deferment	42
20.2.3	Minimum employment of senior health physicists	42
20.3	Management of prolonged unemployment	43
20.4	Removal from duty for cause.....	43
20.4.1	Failure to meet a minimum employment requirement.....	43
20.4.2	Requalification test failure.....	43
20.4.3	Inability to work safely and competently.....	43
20.4.4	Certificate expiry	44
20.4.5	Proposed decision not to certify or to decertify	44
20.5	Baseline reinstatement process	44
20.5.1	Update training	45
20.5.2	Refresher training	45
20.5.3	Simulator-based training.....	45
20.5.4	Work under supervision.....	45
20.5.5	Management interview	45
20.6	Remediation following removal from duty for cause	46
20.6.1	Failure to meet a minimum employment requirement.....	46
20.6.2	Requalification test failure.....	46
20.6.3	Inability to work safely and competently.....	46
20.6.4	Certificate expiry	46
20.6.5	Proposed decision not to certify or to decertify	47
20.7	Notification of change in employment status	47
20.7.1	Notification of removal from duty	47
20.7.2	Notification of reinstatement to duty	47
21.	Information Management	48
21.1	Corporate documentation.....	48
21.1.1	Roles and responsibilities	48

21.1.2	Operational procedures	48
21.1.3	Training and qualifying governance	48
21.1.4	Trainer and examiner qualifications	49
21.2	Personnel records	49
Subpart B – Physical Infrastructure		51
22.	Knowledge-Based Examination and Testing Facilities.....	51
23.	Performance-Based Examination and Testing Facilities	51
23.1	Simulation capabilities.....	51
23.2	Physical layout.....	52
23.3	Simulator operating room	52
23.4	Communication systems and equipment	52
23.5	Data-recording systems and equipment	52
23.5.1	Recording of operator actions.....	53
23.5.2	Recording of system parameters.....	53
23.5.3	Audiovisual recording system	53
23.5.4	Control of audiovisual data.....	53
Part III – Worker Qualifications.....		54
Subpart C – Operations Personnel.....		54
24.	Operations Personnel Certification.....	54
24.1	Core qualifications for operations personnel	54
24.1.1	Personnel selection	54
24.1.2	General knowledge	54
24.1.3	Plant familiarization.....	54
24.1.4	Station-specific knowledge.....	54
24.1.5	Nuclear emergency management.....	55
24.1.6	On-the-job training	55
24.1.7	Simulator-based training.....	55
24.1.8	Knowledge-based general certification examination.....	55
24.1.9	Knowledge-based station-specific certification examination	55
24.1.10	Performance-based certification examination.....	55
24.1.11	Work under supervision.....	55
24.1.12	Management interview	56
24.2	Supplementary qualifications for shift supervisors.....	56
24.2.1	Supplementary personnel selection criteria	56

24.2.2	Supplementary station-specific knowledge	56
24.2.3	Supplementary knowledge-based station-specific certification examination	56
24.3	Requalification of operations personnel	56
24.3.1	Continuing training	57
24.3.2	Knowledge-based requalification testing	57
24.3.3	Performance-based requalification testing	57
24.3.4	Minimum employment of operations personnel	57
24.4	Qualifying for recertification within 5 years of a certificate expiry	57
24.4.1	Tailored training	57
24.4.2	Knowledge-based requalification testing	58
24.4.3	Performance-based requalification testing	58
24.4.4	Work under supervision	58
24.4.5	Management interview	58
24.5	Qualifying for recertification following decertification or certificate expiry after 5 years	58
24.5.1	Decertification basis remediation	58
24.5.2	Tailored training	59
24.5.3	Knowledge-based station-specific certification examination	59
24.5.4	Performance-based certification examination	59
24.5.5	Work under supervision	59
24.5.6	Management interview	59
Subpart D – Senior Health Physicists		61
25.	Senior Health Physicist Certification	61
25.1	Qualifications for senior health physicists	61
25.1.1	Personnel selection	61
25.1.2	Prior education	61
25.1.3	Prior work experience	61
25.1.4	Initial training	61
25.1.5	Radiation protection expertise	61
25.1.6	Management interview	61
25.1.7	Certification examination	62
25.2	Requalification of senior health physicists	62
25.2.1	Continuing training	62
25.2.2	Management interview	62
25.2.3	Requalification testing	62
25.3	Qualifying for recertification following decertification or certificate expiry	63

25.3.1	Decertification basis remediation	63
25.3.2	Tailored training	63
25.3.3	Management interview	63
25.3.4	Certification examination	63
Appendix A : Station-Specific Designated Positions.....		64
A.1	Station-Specific Positions Requiring an Auxiliary Systems Operator (ASO) Certification	64
A.2	Station-Specific Positions Requiring a Reactor Operator (RO) Certification	64
A.3	Station-Specific Positions Requiring a Shift Supervisor Certification	64
A.4	Station-Specific Positions Requiring a Senior Health Physicist (SHP) Certification.....	64
Appendix B : Compliance Schemes Acceptable to the CNSC.....		65
Appendix C : Senior Health Physicist Examination and Testing Topics.....		66
C.1	Regulations and Reactor Operating Licence.....	66
C.2	Radiation Protection	66
C.3	Roles and Responsibilities	66
Appendix D : Station-Specific Training Samples.....		67
D.1	Station-Specific Training for Reactor Operators	67
D.2	Supplementary Station-Specific Training for Control Room Shift Supervisors.....	67
D.3	Station-Specific Training for Senior Health Physicists	68

Personnel Certification: Certification of Reactor Facility Workers

1. Introduction

The Canadian Nuclear Safety Commission (CNSC) requires that the reactor facility workers employed in certain positions of immediate relevance to nuclear safety must be certified by the CNSC as qualified to carry out the duties of their employment. For the purpose of this regulatory document, said positions are referred to as designated positions.

1.1 Purpose

The purpose of this regulatory document is to specify the detailed requirements and provide guidance pertinent to the certification of the reactor facility workers employed or seeking employment in designated positions.

1.2 Scope

When referenced in a licence, this regulatory document applies to:

- a. all workers seeking certification by the CNSC, or seeking to maintain or renew such certification, for employment in one of the designated positions identified in the licence
- b. the licensee operating the reactor facility identified in the licence
- c. the personnel identified in this regulatory document and involved in the training and evaluation, or the certification examination and requalification testing, of workers employed or seeking employment in designated positions at the reactor facility identified in the licence

This regulatory document comprises 3 parts, as follows:

- a. Part I describes the regulatory and procedural devices that make up the CNSC personnel certification scheme relevant to reactor facility workers.
- b. Part II describes the organizational and physical infrastructures that the licensee must implement to support the personnel certification scheme described in Part I and achieve the worker qualifications specified in Part III.
- c. Part III specifies the prerequisites that reactor facility workers must meet to be eligible for the personnel certification processes described in Part I.

1.3 Relevant legislation

The following provisions of the *Nuclear Safety and Control Act* (NSCA) and the regulations made under it are relevant to this document:

- a. NSCA, paragraphs 21(1)(i), 37(2)(b), 44(1)(k) and 44(1)(l)
- b. *General Nuclear Safety and Control Regulations*, paragraphs 12(1)(a) and 12(1)(b)
- c. *Class I Nuclear Facilities Regulations*, section 10, subsections 9(2), 9(3), 9(4), 11(1), 11(2), 12(1), 12(2), 13(1), 13(2) and 14(5), and paragraph 14(2)(e)

1.4 National and international standards

The key principles and elements used in developing this document are consistent with national and international standards. The following standards are relevant to this regulatory document:

- a. IAEA Nuclear Energy Series NG-T-2.8, *Systematic Approach to Training for Nuclear Facility Personnel: Processes, Methodology and Practices*
- b. IAEA Safety Standard Series NS-G-2.8, *Recruitment, Qualification and Training of Personnel for Nuclear Power Plants*
- c. IAEA TECDOC 525, *Guidebook on Training to Establish and Maintain the Qualification and Competence of Nuclear Power Plant Operations Personnel*
- d. IAEA TECDOC 1502, *Authorization of Nuclear Power Plant Control Room Personnel: Methods and Practices with Emphasis on the Use of Simulators*
- e. ISO/IEC 17000, *Conformity Assessment – Vocabulary and General Principles*
- f. ISO/IEC 17024, *Conformity Assessment – General Requirements for Bodies Operating Certification of Persons.*

Part I – Personnel Certification Scheme

Part I describes the regulatory and procedural devices that make up the CNSC personnel certification scheme relevant to reactor facility workers.

2. Background Information

The relevant legislation authorizes the Commission and designated officers (DO) to certify workers as qualified to carry out their duties, to renew the certification of certified workers, and to decertify certified workers following due process. The reactor facility workers certified by the CNSC are issued certificates as proof of certification specifying, among other information, a date of expiry. In accordance with regulations, certifications issued by the CNSC expire 5 years after their date of issuance or renewal. Consequently, authorized applicants must submit applications on behalf of the certified workers seeking the renewal of their certification(s) before the expiry date specified on each certificate.

3. Employment Stipulations

3.1 Permitted employment

The certificates issued by the CNSC to reactor facility workers permit the employment of the worker identified on the certificate:

- a. on a full-time, part-time, or temporary basis
- b. as an employee or a contractor
- c. by the specified licensee
- d. at the specified reactor facility or facilities
- e. in the specified designated position

Guidance

Certificate transferability – Unless otherwise indicated on the certificate, certifications granted by the CNSC to reactor facility workers are not transferable between reactor facilities and licensees; however, candidates and certified workers may be transferred between reactor facilities equipped with similar technologies in accordance with subsection 14.5.

Employee–employer relationship – The licensee is responsible for the competency of all workers employed at the reactor facility identified in the licence regardless of the contractual agreement binding the workers, including any certified worker, and the licensee, as employer.

Multiple certifications – Certified workers may be employed in more than one designated position as long as the worker holds a valid certificate for each designated position, meets the

employment and training requirements linked to each designated position, and can safely and competently perform the duties of each designated position.

3.2 Employment status

The licensee shall assign an employment status to each certified worker in accordance with the following categories:

- a. an active status is assigned to a worker who:
 - i. holds a valid certificate
 - ii. attends the scheduled continuing training
 - iii. meets the applicable minimum employment requirements
 - iv. continues to be able to perform the duties of the pertinent designated position safely and competently
- b. an inactive status is assigned to any certified worker who holds a valid certificate, but was formally removed from duty in accordance with subsection 20.3 or subsection 20.4
- c. an uncertified status is assigned to a worker whose certificate has expired
- d. a decertified status is assigned to a worker decertified by the CNSC

Guidance

Certificate validity – A valid certificate is a certificate duly issued by the Commission or a DO that has not yet expired.

End of employment – The CNSC will not decertify workers holding a valid certificate who retire or announce their retirement or who, for any other reason, cease to work in, or train for, a designated position. In such cases, subsection 20.3 on the management of prolonged unemployment applies until the certificate expires, unless the worker is reinstated to duty as per subsection 20.5 before the certificate expires.

Multiple certifications – When a worker holds multiple certifications, a distinct employment status is assigned to the worker in relation to each pertinent designated position.

3.3 Employment record

The licensee shall maintain, in accordance with subsection 21.2, a continuous and auditable employment record for each worker certified by the CNSC, including, at a minimum:

- a. the employment status assigned to the worker
- b. the number of complete shifts and hours of work performed in a designated position by the worker, specifying:
 - i. the pertinent designated position
 - ii. the date on which each complete shift and hour of work were performed

Guidance

Applicability – This subsection applies to any certified worker, whether an employee or a contractor, but only in relation to the reactor facility identified on the certificate(s).

4. Designated Positions

This regulatory document applies to the certification of the reactor facility workers employed or seeking employment in the following generic classes of designated positions:

- a. auxiliary systems operator (ASO)
- b. reactor operator (RO)
- c. shift supervisor
- d. senior health physicist (SHP)

Guidance

Management system – The generic classes of designated positions referenced throughout this regulatory document reflect the management systems implemented by licensees at the time of publication. However, nothing stated in this regulatory document should be construed as limiting the establishment of alternate management systems, including new positions.

4.1 Station-specific designated positions

The station-specific positions corresponding to the generic classes of designated positions are designated in the applicable licences.

Appendix A specifies which station-specific position(s) correspond to each generic class of designated position and which CNSC certification is required in each case.

4.2 Designated position staffing

The site-specific positions designated in reactor facility licences shall be staffed with workers certified by the CNSC as qualified to perform the duties of said designated positions.

4.3 Roles and responsibilities of certified workers

When in possession of a valid certificate, workers are deemed qualified to perform the duties of the pertinent site-specific positions listed in Appendix A in accordance with the licensee's management system.

5. General Provisions Pertinent to All Applications**5.1 Authorized applicant**

Applications made under the provisions of this regulatory document shall be signed by a signatory officially authorized by the pertinent licensee to represent said licensee.

Guidance

Authorized applicant – In the reactor facility context, the applicant is the licensee, who necessarily needs to be represented by an authorized signatory referred to as the authorized applicant.

5.2 Complete application

Authorized applicants shall ensure that the applications submitted to the CNSC are complete. Incomplete applications may be rejected by the CNSC without further analysis.

Guidance

Complete application – In accordance with regulations, the Commission or a DO may certify a worker or renew the certification of a worker only after receiving an application. CNSC staff cannot make informed recommendations to the Commission or a DO based on incomplete applications. An application is deemed complete when it contains all the required information and contains no errors.

Minor omissions and typographic errors – The submission of incomplete applications causes undue administrative burden and leads to processing delays. Nonetheless, applications deemed incomplete as a result of minor omissions or typographic errors will be processed once the authorized applicant has submitted a revised application or provided additional information to the satisfaction of the CNSC.

5.3 Basic information

Applications made under the provisions of this regulatory document shall contain the following information:

- a. the purpose of the application
- b. the legal name of the worker, including a first name, a surname, and a middle name or initial when possible
- c. the designated position in which the worker is or will be employed
- d. the reactor facility where the worker is or will be employed, including, where applicable, a specific reactor or group of reactors
- e. the corporate name of the licensee operating said reactor facility
- f. the effective date of the application
- g. the legal name, position, contact information, and signature of the authorized applicant
- h. a valid return mailing or email address

5.4 Transmission

An authorized applicant may submit any application made under the provisions of this regulatory document either in printed or electronic form.

Printed submissions must be delivered to the following address:

Canadian Nuclear Safety Commission
280 Slater Street
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9

Electronic submissions must be emailed to forms-formulaires@cnsccsn.gc.ca and include a complimentary copy (cc) to pcd-dap@cnsccsn.gc.ca.

6. Application for Certification

In addition to the general provisions specified in section 5, an application for certification shall meet the requirements specified in this section.

6.1 Worker competency declaration

In accordance with regulations, the application shall state that the worker:

- a. meets the applicable qualification requirements referred to in the licence
- b. has successfully completed the applicable training program and examination referred to in the licence
- c. is capable, in the opinion of the licensee, of performing the duties of the position

6.2 Personnel selection

The application shall describe how the applicable prerequisites of the personnel selection program described in section 14 were met, including, at a minimum:

- a. the worker's education or literacy level upon selection for initial training
- b. any education or literacy level equivalency recognized by the licensee
- c. any prior work experience required by the CNSC or the licensee
- d. any personnel selection interview undergone by the worker
- e. any personnel selection test administered to the worker, including any medical screening
- f. any exemption explicitly sanctioned in this regulatory document that was employed by the licensee

6.3 Worker qualification summary

The application shall provide a chronological summary of the qualifications achieved by the worker, covering the initial training components, the certification examinations, and all other personnel certification requirements successfully completed by the worker.

The worker qualification summary shall offer sufficient evidence that the worker meets all of the applicable qualifications specified in Part III. At a minimum, this summary shall include, as applicable depending on the designated position:

- a. the date of each summative learner evaluation marking the completion of each initial training component
- b. the date of each knowledge-based certification examination
- c. the date of the performance-based certification examination

- d. any remedial action required by CNSC staff as a result of a certification examination administered by CNSC staff
- e. the date of completion of any period of work under supervision, including the total number of supervised work hours
- f. the date of the management interview

Guidance

Effective dates – The dates referenced in the worker qualification summary are the dates on which the evaluations, examinations and interview were conducted, not the dates on which their grading was finalized.

6.4 Supporting documentation

The licensee is not required to append any supporting documentation to the application as proof of competency; however, personnel records shall be maintained in accordance with subsection 21.2 and made available for verification by the CNSC upon request.

6.5 Application schedule

The licensee may apply for the certification of a qualified worker at any time.

6.6 Effective date of certification

Unless the licensee requests a deferment, the effective date of the certification will be that of the certification decision made by the Commission or a DO.

6.7 Certification deferment

The licensee may request that the effective date of certification be delayed up to 60 calendar days from the effective date of application for certification.

Guidance

Limitation – In order to provide licensees with scheduling flexibility, the CNSC will consider any preference expressed by the authorized applicant regarding the effective date of certification as long as the preferred date falls within the aforementioned 60-day period. However, the CNSC is not obligated to comply with any request for certification deferment.

7. Application for Certification Renewal

In addition to the general provisions specified in section 5, an application for the renewal of a certification shall meet the requirements specified in this section.

7.1 Worker competency declaration

In accordance with regulations, the application shall state that the worker:

- a. has safely and competently performed the duties of the position for which the worker was certified
- b. continues to receive the applicable training referred to in the licence

- c. has successfully completed the applicable requalification tests referred to in the licence for renewing the certification
- d. is capable, in the opinion of the licensee, of performing the duties of the position

7.2 Worker requalification summary

The application shall provide a chronological summary of the requalification requirements met by the worker during the current certification period, covering the continuing training components, the requalification tests, and all other personnel certification requirements successfully completed by the worker.

The worker requalification summary shall offer sufficient evidence that the worker meets all of the applicable requalification requirements specified in Part III. At a minimum, this summary shall include, as applicable depending on the designated position:

- a. a confirmation that the worker attended continuing training and successfully underwent formal learner evaluations compliant with the requirements specified in section 15, including suitable update, refresher, simulator-based and nuclear emergency response training
- b. the dates of all knowledge-based requalification tests successfully completed
- c. the dates of all performance-based requalification tests successfully completed
- d. the total number of complete shifts and hours of shiftwork in the designated position performed by the worker over the current certification period
- e. any remedial action required by CNSC staff as a result of a requalification test administered by CNSC staff

Guidance

Effective dates – The dates referenced in the worker requalification summary are the dates on which the tests were conducted, not the dates on which their grading was finalized.

7.3 Supporting documentation

The licensee is not required to append any supporting documentation to the application as proof of competency; however, personnel records shall be maintained in accordance with subsection 21.2, and made available for verification by the CNSC upon request.

Guidance

Applicability – The supporting documentation referenced in this subsection encompasses any knowledge or performance-based requalification test that the worker completed during the current certification period, in either a lead or supporting role, and whether or not the worker successfully completed said test.

7.4 Application schedule

The licensee shall apply for the renewal of the certification of a requalified worker no later than the date of expiry specified on the certificate.

Guidance

Application deadline – The CNSC will accept any certification renewal application duly signed and dated before midnight on the day of the certificate expiry, as long as the application is

received by the CNSC before midnight on the same day for an electronic submission, or within a reasonable time frame for a printed application sent by mail or courier. When the licensee fails to meet this application deadline, section 8 applies instead of section 7.

Normal processing time – In order to avoid having to remove the worker from duty in accordance with sub-subsection 20.4.4 followed by a reinstatement as per subsection 20.5 and sub-subsection 20.6.4, the application should be made well in advance of the certificate expiry date, preferably allowing for a normal processing time of 60 calendar days.

Incomplete application – When a certification renewal application submitted before the deadline is found to be or remains incomplete after the certificate has expired, the application will be accepted, but the technical assessment will be paused until a revised application or additional information is submitted by the licensee to the satisfaction of the CNSC.

Prohibited employment – When the certificate expires while the certification renewal application is being processed by CNSC staff, the worker is considered no longer qualified to work in the pertinent designated position until the certification has been officially renewed by the CNSC.

7.5 Effective date of renewal

When the application is signed and dated by an authorized applicant no earlier than 90 calendar days before the certification expiry, the effective date of the certification renewal will be made to coincide with the date of expiry of the existing certification.

7.6 Early certification renewal

When the application is signed and dated by an authorized applicant earlier than 90 calendar days before the certification expiry, the effective date of the certification renewal will be that of the certification decision made by the Commission or a DO.

Guidance

Limitation – In order to provide licensees with scheduling flexibility, the CNSC allows the renewal of the certification of reactor facility workers before the end of the certificate validity period. This allowance is made because shortening the certification period effectively increases the requalification testing frequency. However, in order to ensure that the proof of worker competency provided at the time of application is relatively recent, and therefore valid, the CNSC will not postpone the effective date of any early certification renewal beyond the processing time actually incurred. Authorized applicants should therefore plan ahead and duly consider the time constraints specified in this section before submitting certification renewal applications.

Certificate expiry – In all cases, when the certificate expires before the application can be processed by CNSC staff and a renewed certificate issued by the CNSC, the effective date of the certification renewal will be made to coincide with the date of expiry of the existing certification. The certification expiry date is the latest certification renewal date regardless of any other consideration since the Commission or a DO may only renew an existing certification.

8. Application for Recertification Within 5 Years of a Certificate Expiry

In addition to the general provisions specified in section 5, an application for recertification submitted no later than 5 years following the expiry of a certificate shall meet the requirements specified in this section.

Guidance

Applicability – This section applies to the recertification of a worker for employment in the same designated position as the one identified on an expired certificate when the authorized applicant has failed to submit a certification renewal application before the certification renewal deadline specified in subsection 7.4.

8.1 Worker competency declaration

In accordance with regulations, the application shall state that the worker:

- a. meets the applicable qualification requirements referred to in the licence
- b. has successfully completed the applicable training program and examination referred to in the licence
- c. is capable, in the opinion of the licensee, of performing the duties of the position

Guidance

Important note – To satisfy the condition set by subsection 9(2) of the *Class I Nuclear Facilities Regulations*, the correct worker competency declaration in the context of an application for recertification is the same as the competency declaration required for a certification.

8.2 Worker requalification summary

The application shall provide a chronological summary of a suitable reinstatement process, specifying the effective date of completion of each step, including, at a minimum:

- a. the tailored training, including any knowledge and performance-based refresher and update training, completed by the worker
- b. the knowledge-based requalification test successfully completed by the worker
- c. the performance-based requalification test or series of tests successfully completed by the worker
- d. the work-under-supervision (WUS) hours completed by the worker
- e. the management interview

The applicable worker requalification requirements are specified in Part III.

Guidance

Notwithstanding the worker competency declaration required by the pertinent regulations, the “examination” referenced in subsection 8.1 is the suite of requalification tests specified in subsections 8.2 and 24.4. Neither the legislative basis nor the licence actually references a pertinent examination; rather, the applicable licences reference this regulatory document as an added source of specificity. Therefore, based on the graded approach, the CNSC considers it sufficient that a worker whose certificate expired less than 5 years ago be examined using

requalification tests in lieu of the full suite of certification examinations initially required at the time of certification.

8.3 Supporting documentation

The following supporting documentation shall be appended to the application:

- a. the individual training needs analysis (ITNA) or a summary of the ITNA
- b. the individual training plan (ITP) or a summary of the ITP
- c. the knowledge-based requalification test successfully completed by the worker, including the worker's answers and the grade obtained, in percentage
- d. the performance-based requalification test or series of tests successfully completed by the worker, including the graded candidate actions
- e. a suitable record, signed by an authorized licensee representative, of the WUS hours completed by the worker
- f. a recording, a transcript, or the minutes of the mandated management interview

8.4 Application schedule

The licensee may apply for the recertification of a worker in accordance with section 8 no later than 5 years after the date of expiry specified on the certificate.

Guidance

Application deadline – When the certificate has expired more than 5 years prior to the effective date of application for recertification, section 9 applies instead of section 8.

8.5 Effective date of certification

The effective date of the certification will be that of the certification decision made by the Commission or a DO.

9. Application for Recertification Following Decertification or Certificate Expiry After 5 Years

In addition to the general provisions specified in section 5, an application for the recertification of a worker following decertification by the CNSC, or following a certificate expiry that occurred more than 5 years prior to the effective date of the application for recertification, shall meet the requirements specified in this section.

Guidance

Applicability – This subsection applies to the recertification of a worker for employment in the same designated position as the one identified on a certificate in relation to which the worker was

previously decertified by the CNSC, or which expired more than 5 years prior to the effective date of the current application.

9.1 Worker competency declaration

The application shall state that the worker:

- a. meets the applicable qualification requirements referred to in the licence
- b. has successfully completed the applicable training program and examination referred to in the licence
- c. is capable, in the opinion of the licensee, of performing the duties of the position

Guidance

Important note – To satisfy the condition set by subsection 9(2) of the *Class I Nuclear Facilities Regulations*, the correct worker competency declaration in the context of an application for recertification is the same as the competency declaration required for a certification.

9.2 Recertification substantiation

The application shall present a substantiated argument in support of the recertification of the worker, explaining why the CNSC should recertify a worker previously decertified by the CNSC, or whose certificate expired more than 5 years ago, including:

- a. a description of the remedial actions taken by the licensee, including any remedial training, to ensure that any deficiency identified as part of the basis for the prior decertification has been adequately remedied or mitigated, as applicable
- b. a summary of a suitable reinstatement process and the effective date of completion of each step, including:
 - i. the tailored training, including any knowledge and performance-based refresher and update training, completed by the worker
 - ii. the knowledge-based certification examination successfully completed by the worker
 - iii. the performance-based certification examination successfully completed by the worker
 - iv. the WUS hours completed by the worker
 - v. the management interview
- c. a description of any relevant mitigating circumstances

The applicable worker requalification requirements are specified in Part III.

9.3 Supporting documentation

The following supporting documentation shall be appended to the application:

- a. the individual training needs analysis (ITNA) or a summary of the ITNA
- b. the individual training plan (ITP) or a summary of the ITP
- c. the knowledge-based certification examination successfully completed by the worker, including the worker's answers and the grade obtained, in percentage
- d. the performance-based certification examination successfully completed by the worker, including the graded candidate actions
- e. a suitable record, signed by an authorized licensee representative, of the WUS hours completed by the worker

- f. a recording, a transcript, or the minutes of the mandated management interview
- g. any other documentation deemed essential in support of the application

9.4 Application schedule

The licensee may apply for the recertification of a worker following decertification at any time after being informed of the Commission's or DO's decision to decertify the worker.

The licensee may apply for the recertification of a worker following certificate expiry in accordance with section 9 no earlier than 5 years after the effective date of expiry specified on the certificate of the worker.

9.5 Effective date of certification

The effective date of the certification will be that of the certification decision made by the Commission or a DO.

10. Application for Senior Health Physicist Examination or Requalification Testing

An authorized applicant may submit an application for the administration of a certification examination or requalification test to a worker seeking certification or the renewal of a certification for employment as senior health physicist (SHP) once the worker has met the pertinent prerequisites specified in Part III.

The application shall be submitted in writing in accordance with the general provisions of the personnel certification application processes specified in section 5, and shall state that the worker:

- a. has successfully completed the applicable training referenced in the licence, specifying the effective date of completion of the initial or continuing training referenced in section 25
- b. has successfully undergone the applicable management interview referenced in section 25, specifying the date of the interview

Guidance

Early notification – Given the time required for CNSC staff to prepare, conduct, and grade each examination or test, the licensee should notify the CNSC as early as possible in advance of the formal application for certification examination or requalification test.

Candidate availability – The licensee should specify, as part of any early notification and as part of the formal application, alternate dates when the worker will be qualified and available to take the certification examination or requalification test.

11. Refusal to Certify and Decertification

11.1 Background information

In accordance with the relevant legislation, the Commission or a DO may refuse to issue or renew a certification upon receiving an application for certification or the renewal of a certification, and may initiate the decertification of a certified worker on its own motion or upon request. Prior to making a final decision, the Commission or a DO will give prior notice of the proposed decision

to the licensee and the worker concerned, offering each party an opportunity to be heard, either in support of or against the proposed decision.

11.2 Licensee requests for decertification

The licensee may request the decertification of a certified worker employed at the reactor facility identified in the licence. All such requests shall be submitted in writing in accordance with subsection 5.4 and contain the following information:

- a. the purpose of the request
- b. the legal name of the worker, as shown on the most recent certificate issued to the worker
- c. the designated position for which the worker is to be decertified
- d. the reactor facility where the worker is employed, including, where applicable, a specific reactor or group of reactors
- e. the corporate name of the licensee operating said reactor facility
- f. a description of the basis for the request
- g. supporting documentation, as may exist, establishing a sufficient basis for decertification
- h. the effective date of the request
- i. the legal name, position, contact information and signature of an authorized licensee representative
- j. a valid return mailing or email address

11.3 Requesting an opportunity to be heard

A licensee or a worker who has received notice of a proposed decision may request an opportunity to be heard within 30 calendar days of the receipt of the notice. All such requests shall be submitted in writing in accordance with subsection 5.4.

11.4 Commission or designated officer decision

On completion of an opportunity to be heard, the licensee and the worker concerned will be notified in writing of the Commission or DO decision and the rationale for the decision.

12. Administrative Processes

12.1 Legal name change

The licensee shall promptly:

- a. inform the CNSC of any change in the legal name of any worker employed or training for employment in a designated position
- b. request that the CNSC issue a replacement certificate for any certified worker who has officially changed their legal name

Guidance

Purpose – The CNSC needs to know the legal identity of all workers employed or training for employment in a designated position in order to maintain accurate personnel certification records and issue certificates to the correct persons.

12.2 Replacement certificates

The licensee may request that the CNSC reissue a certificate on behalf of a certified worker if:

- a. the certificate has been lost
- b. some of the information shown on the certificate is no longer legible
- c. the legal name of the worker was officially changed, as mandated in subsection 12.1.

All requests for a replacement certificate shall be submitted in writing in accordance with subsection 5.4 and contain the following information:

- a. the purpose and the rationale for the request
- b. the legal name of the worker, as shown on the most recent certificate issued to the worker
- c. the new legal name that is to appear on the replacement certificate, as applicable
- d. the title of the designated position shown on the certificate
- e. the corporate name of the licensee employing the worker
- f. the legal name, position, contact information and signature of an authorized licensee representative
- g. the effective date of the request

Part II – Licensee Organizational and Physical Infrastructures

Part II describes the organizational and physical infrastructures that the licensee must implement to support the personnel certification scheme described in Part I and achieve the worker qualifications specified in Part III.

Subpart A – Organizational Infrastructure

13. Policies and Procedures

13.1 Training and qualifying workers for initial certification

The licensee shall establish and document effective policies and procedures to train and qualify the workers seeking certification for employment in designated positions.

13.2 Maintaining the qualification of certified workers

The licensee shall establish and document effective policies and procedures to train and maintain the qualification of the certified workers employed in designated positions.

14. Personnel Selection Program

The licensee shall implement and document a personnel selection program that ensures the selection of suitable candidates for entry in the initial training programs referenced in this regulatory document.

14.1 Personnel selection program requirements

As an integral part of the personnel selection program, at a minimum and for each designated position identified in the licence, the licensee:

- a. shall set a minimum prior education level or minimum literacy and numeracy levels commensurate with the duties of the designated position and consistent with the entry level of a suitable initial training program
- b. shall require that candidates selected on the basis of their prior education level provide a diploma or other official proof of successful completion of a suitable course of study issued by a recognized educational institution or learning provider
- c. may recognize equivalencies to any minimum education, literacy, or numeracy level set by the licensee
- d. shall use standardized tests and proven methods to assess whether or not candidates selected on the basis of a literacy or numeracy level, or a recognized equivalency, do in fact meet the applicable minimum standards
- e. shall determine whether or not prior work experience may be desirable or essential and, when deemed essential, develop plans and procedures to ensure candidates gain relevant work experience prior to their entry in a suitable initial training program
- f. shall identify attributes and aptitudes deemed essential to safely and competently perform the duties of the designated position, including integrity, leadership, and resilience, as may be pertinent, and select candidates accordingly
- g. may use standardized tests and proven methods, or require a medical assessment performed by a licensed physician, to assess whether or not candidates have any permanent, physical or

mental limitation that would prevent them from performing the duties of the pertinent designated position safely and competently

Guidance

Prior education – The licensee should set personnel selection criteria based on a considered rationale, and avoid setting prescriptive requirements for the sake of expediency, including specific education prerequisites, if suitable candidates may thereby be unduly excluded. The CNSC recognizes that modern learners may acquire acceptable levels of prior knowledge and literacy through various methods and avenues, including distance learning and homeschooling, and from jurisdictions other than provincial authorities, depending on individual circumstances.

Work experience – In the context of the personnel selection program, relevant work experience means any employment in a role or position of an operational or technical nature providing:

- a. the candidate with:
 - i. meaningful exposure to the organization and the daily operation of a reactor facility in some way relevant to the duties of the pertinent designated position
 - ii. an opportunity to develop transferable knowledge and skills (K&S) and safety-related attributes that will eventually be valuable to the successful candidate once employed in a designated position
- b. the management team with an opportunity to evaluate the prospective candidate against the pertinent personnel selection criteria, in particular any essential safety-related attributes, including integrity, leadership and resilience, as applicable

14.2 Personnel selection criteria

14.2.1 Basic prerequisites

Candidates selected for entry in any initial training program referenced in this regulatory document shall:

- a. have demonstrated literacy and numeracy levels commensurate with the duties of the pertinent designated position
- b. have provided sufficient proof of any prior education level required by the CNSC or the licensee
- c. have gained any prior work experience required by the CNSC or the licensee
- d. possess all the safety-related attributes and aptitudes deemed essential by the licensee
- e. meet all other applicable position-specific selection criteria set by the licensee

14.2.2 Supplementary prerequisites for shift supervisors and senior health physicists

In addition to meeting the applicable basic prerequisites, shift supervisor and senior health physicist (SHP) candidates shall, to the licensee's knowledge:

- a. possess known leadership skills or potential
- b. have consistently demonstrated a high level of integrity

14.3 Selection of reactor operators for shift supervisor training

A worker certified or previously certified for employment as reactor operator (RO) at the reactor facility identified in the licence may be selected for entry in an initial training program for shift supervisor candidates in accordance with the requirements specified in this subsection.

14.3.1 Performance as reactor operator

Prior to being selected for shift supervisor training, the worker must:

- a. have performed the duties of an RO safely and competently
- b. be known to possess the safety-related attributes and aptitudes required of a shift supervisor

14.3.2 Personnel selection exemption

The licensee may, if the worker has been regularly employed as a certified RO for at least 4 calendar quarters, exempt the worker from any education level or work experience normally required of shift supervisor candidates.

Guidance

Regulatory intent – Since the worker is to be exempted from prerequisites considered essential by the licensee for other candidates, the worker is to have consistently demonstrated shift supervisor potential over a meaningful observation period.

Regular employment – “Regularly employed” means that the worker, at a minimum, met the pertinent quarterly minimum shift requirement; however, the required 4 calendar quarters need not be consecutive.

14.3.3 Notification of selection for shift supervisor training

The licensee shall notify the CNSC within a reasonable time frame when a worker referred to in this subsection enters an initial training program for shift supervisor candidates. This communication shall include:

- a. the full legal name of the worker
- b. a confirmation that the worker performed the duties of an RO safely and competently
- c. a confirmation that the worker possesses the safety-related attributes and aptitudes required of a shift supervisor
- d. a summary of any exemption explicitly sanctioned in sub-subsection 14.3.2 and employed as part of the selection of the worker, including the start and end dates of the observation period(s) adding to 4 calendar quarters in total

Guidance

In accordance with subsection 6.2, the application for certification includes a summary of any exemption(s) employed as part of the selection of the worker for shift supervisor training, in addition to the notification specified in this sub-subsection.

14.4 Advancement to senior shift supervisor

Any certified shift supervisor who, as a member of the minimum staff complement (MSC), exercises authority over any number of certified shift supervisors shall, prior to being employed in such a senior shift supervisor position, have been selected and trained by the licensee for the express purpose by means of a documented process meeting the requirements specified in this subsection.

The licensee shall not allow any worker to act as senior shift supervisor who is not duly qualified to exercise authority over other certified shift supervisors in accordance with the aforementioned process.

Guidance

Applicability – This subsection applies when the management system implemented at the reactor facility requires the presence of at least one senior shift supervisor having authority over at least one shift supervisor as part of the MSC.

Special circumstances – The CNSC recognizes that, at reactor facilities employing senior shift supervisors, the role and responsibilities of all shift supervisors may entail making safety-significant or otherwise time-sensitive decisions when the senior shift supervisor on duty is indisposed or unavailable. Nothing in this regulatory document should be construed as preventing any certified shift supervisor acting as a member of the MSC from making operational or safety-critical decisions normally delegated to the senior shift supervisor as the situation dictates.

14.4.1 Minimum experience as shift supervisor prior to advancement

The worker must have safely and competently performed the duties of a shift supervisor at the reactor facility identified in the licence for a minimum number of complete shifts and a minimum number of hours of shiftwork acceptable to the CNSC.

Guidance

Compliance scheme – Appendix B specifies the minimum number of complete shifts and hours of shiftwork acceptable to the CNSC for the pertinent reactor facilities in service at the time of publication of the current version of this regulatory document.

14.4.2 Supplemental training

The worker must have successfully completed training based on a training system, including some on-the-job training (OJT), covering the K&S and safety-related attributes required to safely and competently perform the duties of the senior shift supervisor, as defined by the licensee's management system.

14.4.3 Work under supervision

The worker must have performed the duties of the senior shift supervisor under the supervision of a qualified senior shift supervisor for a number of complete shifts that the licensee considers necessary to confirm that the worker can perform said duties competently and safely.

14.4.4 Notification of advancement to senior shift supervisor

The licensee shall notify the CNSC within a reasonable time frame when a worker certified as shift supervisor has obtained a senior shift supervisor qualification. This communication shall include:

- a. the full legal name of the worker
- b. a summary, showing the effective date of completion in each case, of the requirements successfully met by the worker as part of the advancement process specified in this section

14.5 Personnel transfer

The licensee shall implement and document an effective personnel transfer process compliant with the requirements and guidance specified in this subsection.

Guidance

Applicability – This section applies to the case of a worker who will be seeking certification for employment in a designated position at the reactor facility identified in the licence (the gaining reactor facility) after being transferred from another reactor facility of an equal or comparable design (the ceding reactor facility). When a worker is transferred between reactor facilities differing significantly in design or concept of operation, the worker should be hired and trained as any other candidate in accordance with the established personnel selection process and by means of the full, applicable initial training program.

14.5.1 Personnel transfer process

As an integral part of the personnel transfer process, the licensee of the gaining reactor facility:

- a. shall request, from the licensee of the ceding reactor facility:
 - i. the training and qualification records and, if applicable, the certification examination history of the worker, including sufficient proof of any certification examination successfully completed by the worker
 - ii. confirmation that the worker performed their duties in a safe and competent manner, be it in a designated position or not
 - iii. confirmation that the worker is trustworthy
- b. shall ensure that the worker meets all of the applicable personnel selection criteria in effect at the gaining reactor facility prior to the worker's entering one of the initial training programs referenced in this regulatory document
- c. may administer a single or a series of standardized general knowledge test(s) based on proven methods to identify any gaps in the general knowledge of the worker
- d. may use the results of the aforementioned general knowledge test(s) as part of the basis for the development of an individual training needs analysis (ITNA) and an individual training plan (ITP), on a case-by-case basis
- e. may administer a general knowledge certification examination to the worker in order to ascertain that the worker possesses adequate general knowledge
- f. may employ one or both potential exemptions explicitly sanctioned in this subsection

Guidance

Best practice – The CNSC recognizes that the gaining reactor facility licensee cannot be held accountable for a refusal, on the part of the ceding reactor facility licensee, to share personal information related to the worker, and will therefore not fault the licensee if the ceding facility refuses to transmit the information referenced under paragraph 14.5.1.a. Nevertheless, the gaining reactor facility licensee should ascertain, to the fullest extent possible, the suitability of the worker as a candidate for the applicable initial training program.

14.5.2 Initial training

Except for the potential exemption explicitly sanctioned in sub-subsection 14.5.3, the worker shall successfully complete the same initial training that is administered to all workers seeking certification for employment in the pertinent designated position at the gaining reactor facility.

14.5.3 General knowledge training exemption

The licensee is not obligated to administer additional general knowledge training to the worker if the worker has previously successfully completed general knowledge training that:

- a. is equivalent to the general knowledge training administered to all workers seeking employment in the same designated position at the gaining reactor facility
- b. was administered in accordance with the applicable requirements specified in this and complementary regulatory documents
- c. is, in all other respects, acceptable to the gaining reactor facility licensee

Guidance

Limitation – The general knowledge training is the only component of any initial training program specified in this regulatory document from which the worker may be exempted.

SHP candidates – The licensee may exempt SHP candidates meeting the exemption criteria specified in this sub-subsection from the applicable general training program. However, such candidates shall successfully complete tailored training covering, at a minimum, the relevant station-specific knowledge.

14.5.4 Certification examinations

Except for the potential exemption explicitly sanctioned in sub-subsection 14.5.5, the worker shall successfully complete the same certification examinations as those administered to all workers seeking certification for employment in the pertinent designated position at the gaining reactor facility.

14.5.5 General knowledge examination exemption

The licensee is not obligated to administer an additional general knowledge certification examination to the transferred worker if the worker previously received a passing grade on a general knowledge examination that:

- a. is equivalent to the general knowledge examination administered to all workers seeking employment in the same designated position at the gaining reactor facility

- b. was administered by qualified examiners in accordance with the conditions set in the gaining reactor facility licence or accompanying document, including any detailed requirements specified in documents referenced in the licence or accompanying document
- c. is, in all other respects, acceptable to the gaining reactor facility licensee

Guidance

Limitation – The general knowledge certification examination is the only personnel certification examination from which the transferred worker may be exempted. Furthermore, SHP candidates are not eligible for the exemption specified in this sub-subsection, since CNSC staff administer SHP certification examinations and requalification tests covering both the general and station-specific knowledge.

14.5.6 Notification of personnel transfer

The licensee shall notify the CNSC within a reasonable time frame when a worker referred to in this subsection enters an initial training program referenced in this regulatory document. This communication shall include:

- a. the full legal name of the worker
- b. a summary of any exemption(s) explicitly sanctioned in subsection 14.5 and employed as part of the selection of the worker, including, as applicable:
 - i. the start and end dates of the general training referenced as basis for the exemption and the licensee and reactor facility responsible for the associated general training program
 - ii. the date on which the general certification examination referenced as basis for the exemption was administered and the licensee and reactor facility responsible for its administration

14.5.7 Added information upon application for certification

At the time of application for certification, the worker shall meet all of the personnel certification requirements applicable to any worker seeking certification for employment in the pertinent designated position at the reactor facility identified in the licence.

In addition to the requirements specified in subsection 6.2 and the notification specified in this subsection, the application for certification shall include a summary of any ITNA, ITP and certification examination employed as part of the transfer of the worker.

Guidance

Exemption basis – The potential exemptions referenced in this section assume an adequate degree of equivalency between the general training and the general knowledge examination successfully completed by the candidate and those administered at the gaining reactor facility. The CNSC is not obligated to certify any worker previously granted an exemption by the licensee if the CNSC is not satisfied that a sufficient degree of equivalency did in fact exist when the exemption was granted. The licensee should consult CNSC staff when in doubt.

Licensee discretion – The potential exemptions referenced in this section are not mandatory. The gaining reactor facility licensee remains free to require that the transferred worker successfully complete additional general training and an additional general knowledge examination, regardless

of any general training or certification examination previously successfully completed by the transferred worker.

15. Training Programs

15.1 Initial training programs

The licensee shall implement and document initial training programs specifically designed to prepare workers for employment in each designated position identified in the licence, and to qualify the said workers for certification by the CNSC in accordance with the applicable worker qualifications specified in Part III.

15.2 Continuing training programs

The licensee shall implement and document continuing training programs specifically designed to maintain the competency of workers employed in each designated position identified in the licence, and to requalify the said workers prior to the renewal of their certification by the CNSC in accordance with the applicable worker requalification requirements specified in Part III.

Guidance

Purpose – The purpose of the continuing training programs is to ensure that certified workers:

- a. retain the essential K&S and safety-related attributes acquired during their initial training
- b. acquire new K&S and safety-related attributes as necessary to deal successfully with the relevant procedural and technical changes implemented over time

15.2.1 Update training

The pertinent continuing training programs shall include suitable update training, including formal knowledge and performance-based evaluations, covering any relevant technical or procedural changes implemented at the reactor facility identified in the licence, as well as the relevant lessons learned by the industry over time, including, but not limited to:

- a. changes to reactor facility systems and subsystems
- b. changes to licensee and station-specific policies, standards, and procedures
- c. amendments to, or exemptions from, regulatory requirements
- d. amendments to the licence or to documents referenced in the licence
- e. station-specific and industry operational experience and operating events

The licensee shall deliver the knowledge update training referenced in this regulatory document promptly following the occurrence of the initiating change or event using effective instructional methods, including suitable simulator-based training whenever pertinent.

Guidance

Regulatory expectation – In order to ensure that certified workers can perform their duties safely and competently at all times, update training is to be delivered in a timely manner. Certified workers should attend update training as soon as feasible depending on circumstances and the safety significance of the change(s). Safety-critical changes should be communicated to

operations personnel during turnovers if update training cannot be delivered to the shift crew beforehand.

15.2.2 Refresher training

The pertinent continuing training programs shall incorporate suitable refresher training, including formal knowledge and performance-based evaluations, covering the essential K&S and safety-related attributes that certified workers acquired during their initial training and which must be periodically reviewed and applied to ensure adequate retention.

The licensee shall deliver the knowledge refresher training referenced in this regulatory document on a regular basis and according to a training cycle not exceeding 5 years using effective instructional methods, including suitable simulator-based training whenever pertinent.

Guidance

Best practice – Allowing for individual circumstances, certified workers should attend sufficient refresher training to review all the applicable K&S and safety-related attributes during each 5-year certification period preceding a renewal of their certification.

15.2.3 Simulator-based continuing training for operations personnel

The continuing training programs for operations personnel shall include suitable simulator-based training designed to ensure that operations personnel maintain their qualification by applying their K&S and safety-related attributes through recurrent performance-based training covering varied simulated scenarios under normal, abnormal and, to the extent possible, emergency conditions.

At a minimum, the continuing simulator-based training for operations personnel shall include:

- a. simulator-based exercises covering the normal reactor manoeuvres and plant evolutions infrequently performed by certified workers while on duty
- b. simulator-based exercises covering varied scenarios:
 - i. challenging the diagnostic and decision-making abilities of certified workers
 - ii. ensuring that certified workers remain proficient in selecting and executing the correct operational procedures under abnormal and emergency conditions
- c. exercises and drills ensuring that certified workers are ready to respond to accidents and emergencies

Guidance

Best practice – The simulator-based continuing training should in particular cover those situations requiring that safety-significant and time-sensitive decisions be made and implemented promptly in order to prevent harm to workers, the public or the environment.

15.2.4 Nuclear emergency response training

The licensee shall conduct, on a periodic basis, nuclear emergency response training to ensure that certified workers are adequately prepared to respond to credible beyond-design-basis accidents and manage nuclear emergencies in accordance with the established emergency operating procedures and severe accident management guidelines.

Guidance

Instructional strategies and methods – Nuclear emergency response training should focus on the roles and responsibilities relevant to certified workers, and may be delivered through any effective means, from classroom (tabletop) exercises to the participation of certified workers in full-scale nuclear emergency response exercises.

Complementary regulatory documents – Further requirements and guidance pertinent to the personnel involved in accident management and in nuclear emergency preparedness and response can be found in the relevant complementary regulatory documents listed as “Additional Information” in the last section of this regulatory document.

15.3 Training system for reactor facilities

The initial and continuing training programs referenced in this regulatory document shall be consistent with a training system for reactor facilities acceptable to the CNSC.

When the licensee contracts out, in whole or in part, any aspect of the training referenced in this regulatory document, the licensee shall ensure that the requirements and guidance specified in this and any relevant complementary regulatory document are complied with by the contracted party or parties.

Guidance

Instructional strategies and methods – In implementing and administering the initial and continuing training referenced in this regulatory document, the licensee is free to employ any effectual instructional strategies and any combination of recognized instructional methods, including self-paced learning, remote learning, and e-learning.

Complementary regulatory document – Further requirements and guidance pertaining to personnel training, including training systems, can be found in the relevant complementary regulatory documents listed as “Additional Information” in the last section of this regulatory document.

Training program samples – Appendix D contains examples of training programs initially implemented at CANada Deuterium Uranium (CANDU) reactor facilities and found acceptable by the CNSC. Notwithstanding this added guidance, a suitable training program is based on a reactor facility training system, as mandated by the CNSC.

15.4 Formal learner evaluations

All training programs and tailored training referenced in this regulatory document shall include formal learner evaluations, either knowledge-based or performance-based as appropriate, designed to assess the progress of each learner during the course of said training.

The licensee shall administer all such formal learner evaluations in accordance with a documented process specifying:

- a. the number and scope of the formative and summative evaluations deemed necessary to monitor candidate progress in relation to pertinent training segments and milestones

- b. the requirements and procedures applicable to the design, development, conduct and grading of the evaluations
- c. the qualification requirements for the personnel tasked with designing, developing, conducting, and grading the evaluations

All formal learner evaluations shall be administered either by qualified trainers or by qualified examiners as part of a documented instructional strategy.

Guidance

Purpose – The purpose of the formal learner evaluations differs from that of the certification examinations and requalification tests in that the former provide timely measures of learner progression throughout training, while the latter serve as formal proof of worker competency for the purpose of seeking certification by the CNSC. The results of the learner evaluations can also be used to provide learners with feedback, and to help managers and trainers determine an appropriate time, on a group or individual basis, when the examiners should administer the personnel certification examinations and the requalification tests required by the CNSC.

15.5 Trainer qualifications

The licensee shall ensure that the personnel tasked with administering the training and formal learner evaluations referenced in this regulatory document are duly qualified to administer training and formal learner evaluations to the workers certified or seeking certification by the CNSC.

16. Certification Examination and Requalification Testing

16.1 Separation of the training and examination functions

The licensee shall ensure that, to the greatest extent possible, adequate separation and an arm's-length relationship are maintained between the trainers delivering the training referenced in this regulatory document and the examiners administering certification examinations and requalification tests on behalf of the CNSC. At a minimum:

- a. no knowledge or performance-based certification examination or requalification test administered in accordance with the requirements specified in this regulatory document shall be designed, developed, conducted, or graded, in whole or in part, by an examiner acting as trainer to any of the candidates undergoing the examination or test
- b. no trainer or examiner shall benefit, financially or otherwise, from the success rate of the candidates undergoing any formal learner evaluation, certification examination, or requalification test referenced in this regulatory document.

Guidance

Purpose – The purpose of maintaining sufficient separation between trainers and examiners is to ensure that the primary proof of competency required by the CNSC at the time of certification or certification renewal, namely the results of the certification examinations or requalification tests, was obtained by qualified examiners independently of the pertinent trainers. In the personnel certification context, the examiners' opinion of worker competency must be an autonomous validation of the trainers' opinion on the matter since the examiners are tasked with representing the certifying body rather than the employer. This separation is a fundamental aspect of best

practice for certifying bodies. The Commission or DO requires satisfactory proof of competency in order to form a sensible opinion of worker competency prior to making any personnel certification decision.

Best practice – Ideally, the training and examination personnel should be members of distinct staffs, led by different managers; however, the CNSC recognizes that this level of separation is neither essential nor always feasible.

16.2 Certification examinations

The licensee shall ensure that the knowledge and performance-based certification examinations referenced in this regulatory document are designed, developed, conducted, and graded by qualified examiners in accordance with the applicable CNSC requirements specified or referenced in the licence or any accompanying documentation.

16.3 Requalification testing

The licensee shall ensure that the knowledge and performance-based requalification tests referenced in this regulatory document are designed, developed, conducted, and graded by qualified examiners in accordance with the applicable CNSC requirements specified or referenced in the licence or any accompanying documentation.

16.4 Security of certification examinations and requalification tests

The licensee shall implement and document effective policies and procedures to control access to, and the use of, the formal learner evaluations, certification examinations and requalification tests referenced in this regulatory document.

The associated security measures shall meet the following minimum requirements:

- a. Only personnel with a valid need to know shall have access to the pertinent formal learner evaluations, certification examinations and requalification tests, as well as any associated documentation and materials providing a direct clue as to their content.
- b. Trainers shall not have access to, or prior knowledge of, the specific content of any certification examination or requalification test administered to their learners.
- c. Answers to modified essay question (MEQ) examinations and tests shall be protected from unauthorized access.
- d. Answer keys to multiple choice question (MCQ) examinations and tests shall be protected from unauthorized access.
- e. Any repository, physical or virtual, containing MEQ or MCQ examinations and test questions shall be protected from unauthorized access.
- f. In order to discharge their duties, CNSC staff participating in compliance verification activities shall be exempt from any security measure established by the licensee in accordance with the requirements specified in this subsection.

Guidance

CNSC staff access – CNSC staff will take appropriate precautions consistent with the security standards applicable to federal employees and the security measures specified in this subsection. In addition, CNSC staff will respect the pertinent licensee procedures to the fullest extent possible. However, no CNSC inspector or any other member of an inspection team may be denied

access to any information required by CNSC staff members to discharge their duties under the NSCA.

16.5 Examiner qualifications

The licensee shall ensure that the personnel tasked with administering the certification examinations and requalification tests referenced in this regulatory document have successfully completed suitable training and are duly qualified to administer certification examinations and requalification tests to the workers certified or seeking certification by the CNSC.

17. Work Under Supervision

The licensee shall establish and document, for each pertinent designated position identified in the licence, effective procedures for the administration of the work under supervision (WUS) referenced in this regulatory document.

All mandatory WUS periods shall meet the following objectives:

- a. WUS shall provide the worker being evaluated with a meaningful opportunity to demonstrate a functional level of competency and the ability to stand solo shifts as lead operator or shift supervisor
- b. WUS shall provide operations managers with a sufficient observation period to confirm that the worker being evaluated can be trusted to stand solo shifts as lead operator or shift supervisor and can perform the pertinent duties safely and competently

When implemented as part of an initial training program, WUS shall not begin until the responsibility for the learner's performance has been transferred from the training authority to the operations authority.

Guidance

Supervising authority – Given that WUS primarily serves a performance evaluation function rather than a training function, WUS periods are supervised by certified operations personnel under the authority of the operations management team. When attending an initial training program, the learner should have acquired a functional level of competency prior to the start of the WUS period.

On-the-job training – Notwithstanding the primary purpose of the mandated WUS, the licensee may conduct OJT and mentorship during any WUS period, notably as an integral part of an initial training program.

18. Management Interviews

The licensee shall establish and document effective procedures for preparing and conducting the various management interviews referenced in this regulatory document.

Each mandatory management interview shall serve an evaluation function and:

- a. be conducted orally by a minimum of one manager authorized to represent the licensee and to conduct the interview

- b. provide the worker being evaluated with a meaningful opportunity to demonstrate an adequate level of competency
- c. provide at least one member of the operations management team with a meaningful opportunity to make a final determination of worker competency
- d. be recorded in writing or via any other retrievable medium, the record of which shall be retained and made available to the CNSC upon request

Guidance

Purpose – The purpose of the management interview is to ensure that the licensee and the operations management team make a final determination of adequate worker competency and take ownership of each candidate individually, prior to their presentation for CNSC certification or their reinstatement to duty following a removal for cause.

19. Administrative Policies and Procedures Applicable to Workers in Training

The policies and procedures specified in this section apply to any worker, whether certified or not, who is attending one of the initial training programs referenced in this regulatory document, in the context of, and in relation to, said training.

19.1 Reintegration of a worker in training following a prolonged training interruption

The licensee shall establish and document an effective process to manage the case of any worker reintegrating an initial training program after a prolonged training interruption. As an integral part of this process, the licensee shall:

- a. determine the need for, and perform as necessary, a formal learner evaluation, including knowledge and performance-based testing as warranted, to assess the K&S retention of the worker and to identify any K&S gap that the worker may have developed during the period of absence
- b. determine the need for tailored training based on an individual training needs analysis (ITNA), considering any K&S forgotten by the worker and any changes or updates to the essential K&S and safety-related attributes that occurred during the period of absence
- c. formulate and implement an individual training plan (ITP) as may be necessary
- d. ensure that the worker, at a minimum, successfully completes any training and formal learner evaluation(s) missed during the period of absence
- e. determine a suitable point of re-entry into the pertinent initial training program

At a minimum, any worker who is absent from an initial training program for a period of 6 months or more shall undergo a formal reintegration process meeting the requirements specified in this subsection.

Guidance

Best practice – The licensee should ensure, on a case-by-case basis, that all workers who absent themselves from initial training to any significant extent are evaluated in order to ensure adequate

K&S retention prior to their reintegration into an initial training program. However, when the absence is shorter than 6 months, formal reintegration is at the licensee's discretion.

20. Administrative Policies and Procedures Applicable to Certified Workers

The policies and procedures specified in this section apply to all certified workers in the context of, and in relation to, their employment in the pertinent designated position(s).

20.1 Fitness for duty

The licensee shall implement and document effective fitness-for-duty policies and procedures providing the CNSC with reasonable assurance that certified workers are free of any physical or mental impairment that could hinder their ability to perform the duties of the pertinent designated position(s) safely and competently.

The fitness-for-duty policies and procedures applicable to certified workers shall be implemented consistently with the requirements and guidance specified in this and complementary regulatory documents regarding fitness for duty, including those related to the management of worker fatigue and the management of alcohol and drug use.

Guidance

Complementary regulatory documents – Further requirements and guidance pertaining to the management of worker fatigue and the management of alcohol and drug use, including testing, can be found in the relevant complementary regulatory documents listed as “Additional Information” in the last section of this regulatory document.

20.2 Minimum employment of certified workers

The licensee shall ensure that certified workers are employed in the designated position(s) specified on their certificate(s) to the extent necessary to maintain an adequate competency level throughout the full duration of their certification.

20.2.1 Minimum shift requirement for operations personnel

Certified shift workers shall perform the duties of the pertinent designated position(s) for a minimum number acceptable to the CNSC of complete shifts per calendar quarter amounting to a minimum number acceptable to the CNSC of hours of shiftwork per calendar quarter.

Each certified shift worker shall perform the mandated minimum employment as a member of the minimum staff complement, as opposed to in any back-up or supernumerary capacity, and, to the fullest extent possible, in relation to a fuelled and operating reactor or group of reactors.

Guidance

Purpose – The purpose of the minimum employment requirement is to ensure that certified workers performing shiftwork are exposed to the duties of the pertinent designated position at a sufficient frequency to maintain an adequate competency level. This minimum employment is primarily aimed at those routine tasks that are neither safety-significant nor time-sensitive, and that may therefore be performed while on duty without negatively impacting nuclear safety.

Safety-significant or time-sensitive K&S should be systematically covered during continuing training.

Minimum requirement – The licensee is not obligated to ensure that every single shift worked by certified shift workers meets the requirements and guidance specified in this subsection, as long as each certified shift worker is sufficiently employed so as to meet the applicable minimum employment requirement on a quarterly basis.

Compliance scheme – Appendix B specifies the minimum shift requirements acceptable to the CNSC for the pertinent reactor facilities in service at the time of publication of the current version of this regulatory document.

Complete shift – A complete shift means a minimum of 4 consecutive hours of work in a designated position as an operator or shift supervisor that is preceded by a formal turnover of the responsibilities for the shift with an outgoing counterpart and that is concluded by an equal turnover with an incoming counterpart.

Normal shift duration – The CNSC acknowledges that the licensee may implement, either as the norm or to manage work schedules on an individual basis, varied but equally effective shift rotations and durations, including, but not limited to, a normal shift duration of 12 hours.

Minimum shift duration – Considering the known concerns and existing limits related to worker fatigue, the CNSC will not define a minimum shift duration other than the aforementioned minimum duration of 4 consecutive hours. This minimum duration is specified merely to ensure that each complete shift recorded for the purpose of meeting a minimum shift requirement provides meaningful exposure to the duties of the pertinent designated position.

Reasonable accommodation – In order to provide the licensee with sufficient flexibility to manage individual circumstances, including, but not limited to, workers suffering from chronic illnesses or pain, certified shift workers are free to perform complete shifts of any acceptable minimum duration as long as the applicable minimum number of complete shifts and total hours of shiftwork are met on a quarterly basis.

Senior shift supervisors – Once duly qualified, senior shift supervisors are permitted to perform the duties of any applicable site-specific shift supervisor position listed in Appendix A, and may therefore stand shifts in either or both the shift supervisor and the senior shift supervisor positions interchangeably in order to meet an applicable quarterly minimum shift requirement.

20.2.2 Minimum shift requirement deferment

When a certified shift worker fails to meet, during any given calendar quarter, an applicable minimum shift requirement, the omitted number of complete shifts and hours of shiftwork shall be performed in the following calendar quarter, in addition to the minimum shift requirement strictly applicable to said calendar quarter.

20.2.3 Minimum employment of senior health physicists

The licensee shall ensure that workers certified for employment as an SHP regularly perform the duties of an SHP throughout the full duration of their certification.

20.3 Management of prolonged unemployment

Any certified worker shall be formally removed from the duties of the pertinent designated position and assigned an inactive employment status who, for a period lasting 6 consecutive months or more, regardless of the rationale, is or will be unable to:

- a. attend the scheduled continuing training
- b. meet an applicable quarterly minimum shift requirement

Guidance

Applicability – This subsection applies to any certified worker who meets one or both of the prolonged unemployment criteria regardless of the circumstances. Relevant circumstances encompass, but are not limited to, any competing work assignment, including a temporary or permanent reassignment inside or outside the reactor facility, and any prolonged leave of absence, including sabbatical, medical, parental, and maternity leave. In addition, any worker holding a valid certificate who ceases to attend continuing training or meet the applicable minimum employment requirement, be it voluntarily or not, including due to a planned retirement, should likewise be formally removed from duty in accordance with this subsection and may be reinstated to duty in accordance with the baseline reinstatement process specified in subsection 20.5, as the situation later dictates.

20.4 Removal from duty for cause

Any certified worker who meets any one of the criteria specified in this subsection shall be formally removed from the duties of the pertinent designated position for cause and assigned either an inactive or uncertified employment status as applicable.

20.4.1 Failure to meet a minimum employment requirement

The worker has failed to meet an applicable quarterly minimum shift requirement for 2 consecutive calendar quarters.

Guidance

Applicability – This criterion applies to a certified shift worker who was expected to meet an applicable minimum shift requirement and has already failed to meet said requirement for 2 consecutive calendar quarters. Workers who are unable to perform sufficient shiftwork due to a prolonged absence or a competing work assignment should be managed under the prolonged unemployment provisions specified in subsection 20.3.

20.4.2 Requalification test failure

The worker has failed a requalification test, be it in a lead or supporting role.

20.4.3 Inability to work safely and competently

The worker was the subject of a verified positive alcohol or drug test administered in accordance with the fitness-for-duty program mandated by the CNSC, or is otherwise deemed unfit, by the

licensee, to perform the duties of a designated position safely and competently for any reason, including, but not limited to:

- a. a medical or physical condition, be it permanent or temporary
- b. a mental health condition, be it permanent or temporary
- c. inadequate performance while on duty, including any action or decision that puts at risk the health and safety of workers, the public or the environment
- d. a demonstrated unwillingness or failure to take the necessary precautions to protect the health and safety of workers, the public or the environment
- e. a demonstrated lack of integrity or trustworthiness

Guidance

Applicability – In regard to any medical, physical, or mental health condition, the removal from duty criterion applies to the case of a certified worker who must be removed from duty by the licensee, with or without the worker’s consent, because the resulting physical, physiological, or mental impediment interferes with the worker’s ability to perform the duties of the pertinent designated position safely and competently, regardless of the expected duration of the condition.

20.4.4 Certificate expiry

The certificate of the worker has expired.

20.4.5 Proposed decision not to certify or to decertify

The worker was identified by the CNSC as the worker concerned in a proposed decision not to certify, or a proposed decision to decertify, while a final decision by the Commission or a DO remains pending.

Guidance

Rationale for removal – In accordance with section 11, both the worker and the licensee have 30 calendar days to request an opportunity to be heard. When, in addition to this minimum time frame, an opportunity to be heard is requested, the final decision by the Commission or a DO may be significantly delayed. Since the worker remains certified throughout the whole of the proceedings, while the Commission or a DO has reason to decertify or refuse to certify the worker, the worker is to be removed from the duties of the pertinent designated position until the Commission or a DO has reached a final decision.

20.5 Baseline reinstatement process

No certified worker who has been formally removed from the duties of a designated position shall be allowed to perform said duties until the worker has successfully undergone a suitable baseline reinstatement process compliant with the requirements specified in this subsection.

Guidance

Applicability – The baseline reinstatement process applies to all certified workers removed from duty, regardless of the rationale. The remediation process specified in subsection 20.6 is in

addition to the baseline reinstatement process but applies only to certified workers removed from duty for cause.

20.5.1 Update training

The worker must have completed suitable update training covering any relevant technical or operational changes implemented, and any relevant lessons learned, while the worker was formally removed from the duties of the designated position, including, but not limited to:

- a. changes to reactor facility systems and subsystems
- b. changes to licensee and station-specific policies, standards, and procedures
- c. amendments to, or exemptions from, regulatory requirements
- d. amendments to the licence or to documents referenced in the licence
- e. station-specific and industry operational experience and operating events

20.5.2 Refresher training

The worker must have successfully completed suitable refresher training commensurate with the duration of the period of absence or removal from duty of the worker.

At a minimum, this refresher training shall encompass any scheduled refresher training that the worker failed to attend while the worker was formally removed from the duty.

20.5.3 Simulator-based training

For operations personnel, the worker must have successfully completed suitable simulator-based training covering a number and variety of scenarios commensurate with the duration of the period of absence or removal from duty of the worker.

At a minimum, this simulator-based training shall challenge the diagnostic and decision-making skills of the worker and encompass any scheduled simulator-based training that the worker failed to attend during the period of absence or removal from duty.

20.5.4 Work under supervision

For operations personnel, the worker must have successfully performed the duties of the pertinent designated position under the supervision of a qualified worker certified for employment in the same designated position, and for a number of complete shifts deemed sufficient by the licensee to confirm that the worker can perform said duties competently and safely.

20.5.5 Management interview

When removed from duty for cause, the worker must have successfully undergone a formal management interview.

Guidance

Applicability – The management interview is not mandatory for workers being reinstated to duty after a period of prolonged unemployment.

20.6 Remediation following removal from duty for cause

In addition to the baseline reinstatement process specified in subsection 20.5, no certified worker who has been removed from duty for cause based on one of the criteria defined in subsection 20.4 shall be allowed to perform the duties of the pertinent designated position until the worker has successfully undergone suitable remediation consistent with the applicable cause for the removal, as further specified in this subsection.

20.6.1 Failure to meet a minimum employment requirement

The licensee may reinstate a worker to the duties of the pertinent designated position following a failure to meet a minimum employment requirement, if:

- a. the circumstances that prevented the worker from performing the duties of the pertinent designated position no longer exist
- b. the worker has performed, under the supervision of a qualified worker certified for employment in the pertinent designated position, a number of complete shifts and hours of shiftwork no less than the minimum number of complete shifts and hours of shiftwork that the worker failed to complete in the quarter preceding the removal from duty

20.6.2 Requalification test failure

The licensee may reinstate a worker to the duties of the pertinent designated position following a requalification test failure once the worker has successfully completed a remedial requalification test equivalent to the failed requalification test.

This remedial requalification test shall be equivalent in all respects, but must not be the same as the failed requalification test or any other remedial requalification test the candidate may have failed as part of the reinstatement process. Furthermore, any restrictions set in complementary documents regarding the allowed topic overlap between requalification tests shall apply.

20.6.3 Inability to work safely and competently

The licensee may reinstate a worker to the duties of the pertinent designated position following a removal from duty due to an inability to work safely and competently if the basis for the removal from duty has been adequately remedied or mitigated or no longer exists.

20.6.4 Certificate expiry

The licensee may reinstate a worker to the duties of the pertinent designated position following a certificate expiry if and when officially informed of the Commission's or DO's decision to recertify the worker.

Guidance

When the Commission or DO intends not to recertify the worker, a proposed decision not to certify will be made, in which case sub-subsection 20.4.5 applies.

20.6.5 Proposed decision not to certify or to decertify

The licensee may reinstate a worker to the duties of the pertinent designated position who was the subject of a proposed decision not to certify, or a proposed decision to decertify, if and when officially informed of the Commission's or DO's decision to certify, or not to decertify, the worker.

Guidance

When the Commission's or DO's final decision is to not certify or to decertify the worker, the worker is no longer certified by the CNSC as qualified to perform the duties of the pertinent regulated position, and the staffing restriction set in subsection 4.2 applies.

20.7 Notification of change in employment status**20.7.1 Notification of removal from duty**

The licensee shall promptly inform the CNSC of any certified worker removed from the duties of a designated position, be it due to a prolonged period of unemployment or a removal for cause, specifying:

- a. the full legal name of the worker
- b. the pertinent designated position
- c. the resulting employment status assigned to the worker as per subsection 3.2
- d. the basis for the removal from duty as per subsection 20.3 or 20.4, as applicable

20.7.2 Notification of reinstatement to duty

The licensee shall promptly inform the CNSC of any certified worker reinstated to the duties of a designated position, to include:

- a. the full legal name of the worker
- b. the pertinent designated position
- c. the resulting employment status assigned to the worker as per subsection 3.2
- d. the basis for the prior removal from duty and a confirmation that said basis no longer exists or has been adequately remedied or mitigated, as applicable
- e. a summary of the baseline reinstatement process successfully completed by the worker
- f. when following a removal for cause, a summary of any remediation action(s) taken to satisfy the applicable requirements specified in subsection 20.6

Guidance

Applicability – Items 20.7.2.e and 20.7.2.f are not mandatory following a recertification, since the CNSC is made aware of the particulars of the case by means of the recertification process.

21. Information Management

The licensee shall implement and document effective information management policies and procedures ensuring:

- a. the retention and ready retrieval of the corporate documentation and proof-of-competency records related to personnel certification
- b. the safeguard and control of sensitive information pertaining to personnel certification
- c. the unrestricted access, by authorized CNSC staff, to the corporate documentation and personnel records specified in this section

21.1 Corporate documentation

21.1.1 Roles and responsibilities

The licensee shall document, retain, and make available to the CNSC upon request, the roles and responsibilities of:

- a. certified workers
- b. all personnel, including management, involved in the training and qualification of workers seeking or holding a certification, including trainers, examiners, and managers delegated with relevant approval authorities

21.1.2 Operational procedures

The licensee shall retain, and make available to the CNSC upon request, a copy of the latest version of the licensee and station-specific policies, procedures and technical diagrams referenced by certified workers to perform the duties of the designated positions safely and competently, including those related to:

- a. operating policies and principles
- b. worker performance expectations
- c. radiation protection
- d. normal and abnormal operations
- e. abnormal incidents
- f. power reduction actions
- g. severe accident management

21.1.3 Training and qualifying governance

For each designated position referenced in the licence, the licensee shall document, retain, and make available to the CNSC upon request, the policies, standards, and procedures for training and qualifying the workers seeking a certification, and for training and maintaining the qualification of the workers holding a certification, including the procedures for:

- a. administering the initial and continuing training

- b. preparing and administering the formal learner evaluations administered as part of the initial and continuing training
- c. preparing and administering certification examinations and requalification tests
- d. managing work under supervision (WUS) periods
- e. preparing and administering management interviews
- f. maintaining comprehensive and accurate personnel records

21.1.4 Trainer and examiner qualifications

The licensee shall document, retain, and make available to the CNSC upon request, a record of the qualifications of the trainers and examiners referenced in this regulatory document.

21.2 Personnel records

For each worker certified or seeking certification for employment in a designated position, the licensee shall retain, and make available to the CNSC upon request, adequate personnel records for a retention period equal to the duration of the employment of the worker, be it as an employee or a contractor, plus 5 years after the worker ceases to be employed in any capacity.

At a minimum, said personnel records shall encompass:

- a. Education or literacy level – The name and address of any educational institution or learning provider from which the worker obtained an accreditation, including any diploma, degree or certificate, and a copy of any diploma, degree or certificate required by the licensee’s personnel selection program.
- b. Prior work experience – Comprehensive records of any employment period(s) required by the licensee’s personnel selection program, or as part of the mandated plant familiarization training, including, in each case, the name of the employer, the address of the work site, and the effective start and end dates.
- c. Personnel selection interviews and tests – Comprehensive records of any personnel selection interview or test, including the effective date and results in each case, administered as part of the licensee’s personnel selection program.
- d. Personnel transfer – Comprehensive records of any information required or collected as part of a personnel transfer.
- e. Advancement – Comprehensive records of any information required or collected as part an advancement to a shift supervisor or senior shift supervisor position.
- f. Training – Comprehensive records of the initial training and continuing training successfully completed by the worker, including the start and end dates of each distinct training period or milestone.
- g. Formal learner evaluations – Comprehensive records of the formal learner evaluations administered to the worker as part of their initial or continuing training, including, in each case, the dates on which the evaluations were conducted, the results, and the full legal name(s) of the evaluator(s).
- h. Work under supervision – Comprehensive records of any WUS performed by the worker, including, in each case, the associated requirement being met, the date of each shift worked under supervision, and the full legal name of, and the CNSC certification held by, the certified worker who supervised the worker.
- i. Management interviews – Comprehensive records of the management interviews undergone by the worker, including, in each case, the date of the interview, the full legal name(s) and position(s) of the interviewer(s), and a verbatim or summary description of the questions and answers exchanged during the interview.

- j. Certification examinations – The certification examination records referenced in the licence or any accompanying documentation, or any complementary regulatory document referenced in this regulatory document, the licence or any accompanying documentation.
- k. Requalification tests – The requalification testing records referenced in the licence or any accompanying licensing documentation, or any complementary regulatory document referenced in this regulatory document, the licence or any accompanying licensing documentation.
- l. Employment records – The employment records specified in subsection 3.3.
- m. Fitness for duty – Any information collected regarding the worker’s fitness for duty, except for any sensitive or privileged information protected by privacy laws.
- n. Removals and reinstatements – Comprehensive records of all removals from, and reinstatements to, the duties of a designated position, including, in each case, the effective date of removal and the basis for the removal and, when applicable, the effective date of reinstatement and the actions taken to reinstate the worker.

Guidance

Adequacy – Adequate personnel records are accurate, comprehensive, and readily retrievable, and provide auditors and inspectors with reasonable assurance that the documentation preserved as proof of competency is genuine.

Subpart B – Physical Infrastructure

The licensee shall ensure that the reactor facility is equipped or associated with the physical infrastructure necessary to administer the knowledge and performance-based training, certification examinations and requalification tests specified in this regulatory document, including, at a minimum, the facilities specified in subpart B.

22. Knowledge-Based Examination and Testing Facilities

The licensee shall ensure that examiners have access to adequate facilities allowing for the administration of the pertinent knowledge-based certification examinations and requalification tests in compliance with the applicable CNSC requirements referenced in the licence or any accompanying documentation, including the required security measures.

Guidance

Adequate facility – The knowledge-based examination and testing facilities referenced in this section do not have to be spaces entirely dedicated to examination and testing. Any room may be used that provides an adequate examination and testing environment, including sufficient heating, lighting and ventilation, and is temporarily or permanently arranged in such a manner as to ensure the security of any certification examination or requalification test conducted within.

23. Performance-Based Examination and Testing Facilities

The licensee shall ensure that examiners have access to a full-scope simulator, or an alternate simulator acceptable to the CNSC, that permits the administration of the pertinent performance-based certification examinations and requalification tests in compliance with the applicable CNSC requirements referenced in the licence or any accompanying documentation, including the required security measures. All performance-based certification examinations and requalification tests referenced in this regulatory document shall be administered in simulator facilities or using simulation systems acceptable to the CNSC.

23.1 Simulation capabilities

The simulator shall be capable of simulating, realistically and in real time, all significant plant manoeuvres and transients that may occur under normal and abnormal operating conditions, including:

- a. reactor start-up and shutdown
- b. major plant upsets and accident conditions
- c. all significant failures of systems and associated subsystems and equipment, and the consequences of such failures
- d. the system and equipment responses to operator actions

For conditions and failures that may vary in magnitude, such as pipe breaks, loss of inventory, loss of flow, loss of pressure and loss of vacuum, the simulator shall have adjustable rates to simulate all possible degrees of severity of a condition or failure that affect system responses or operator actions.

Guidance

Simulation should be autonomous once the simulated scenario has been initiated, requiring minimum intervention from the simulator operator or other personnel, except to control the evolution of the simulated scenario, including the introduction of scripted malfunctions and the potential need for pausing and resuming the simulation.

23.2 Physical layout

To the fullest extent possible, the simulator shall replicate the operating and monitoring systems and equipment available to certified workers in the main control room, as well as the spatial relationships linking these systems and equipment.

In cases where the CNSC has accepted the use of a simulator other than a full-scope simulator, either to complement or as an alternative to the full-scope simulator, the alternate simulator shall meet the requirements specified in this section to the fullest extent possible, within the physical restrictions or functional limitations inherent to the alternate simulator.

23.3 Simulator operating room

The simulator operating room shall be shielded from the main control room replica in such a manner as to prevent the candidate(s) who are being evaluated from seeing or hearing any data being recorded, any input entered in the simulator, or any communication between the simulator operator and the examiner(s) and other examination team members.

Guidance

Adequate facility – The simulator facility should allow for the monitoring of the actions and communications of the candidate(s) from the simulator operating room without interfering with the conduct of any certification examination or requalification test.

23.4 Communication systems and equipment

The simulator shall be equipped with functional replicates of the communication or warning system(s) or equipment used by certified workers in the main control room of the simulated reactor facility, including, as applicable:

- a. telephones or other two-way, internal communication system
- b. a radiation emergency warning system, including any visual or audible alarm
- c. a fire emergency warning system, including any visual or audible alarm
- d. a public address system

23.5 Data-recording systems and equipment

In order to facilitate the conduct and grading of the performance-based certification examinations and requalification tests referenced in this regulatory document, the simulator shall be equipped with adequate data-recording systems and equipment meeting the minimum requirements specified in this subsection.

23.5.1 Recording of operator actions

The simulator shall allow for the recording, retrieval, and printing, in chronological order, along with the time of occurrence, of:

- a. all malfunctions initiated by the simulator operator
- b. all the operator actions performed by the candidate(s) via the simulated control panels and instrumentation

23.5.2 Recording of system parameters

The simulator shall allow for:

- a. the recording, retrieval, and printing of all the system parameter values relevant to:
 - i. the evaluation of the operator actions performed by the candidate(s)
 - ii. the verification of the simulator fidelity
- b. the graphical representation and printing of the variation of said system parameter values in relation to time, based on an adequate sampling frequency, and for a minimum recording period of 2 hours

23.5.3 Audiovisual recording system

The simulator shall be equipped with an audiovisual recording system allowing for:

- a. recording and replaying the actions performed by each candidate being evaluated
- b. recording and replaying all vocal communications, including telephone exchanges, between the candidate(s) being evaluated and the other members of the operating team
- c. the unequivocal identification of the voice of each candidate being evaluated
- d. the identification of the operating controls, instruments, and references used by the candidate(s) being evaluated
- e. the overlay of the time, real or simulated, on the audiovisual recordings

Guidance

Purpose – In context, the primary purpose of the audiovisual recording system is to provide the examination team with added information at the time of grading, in the event that some operator actions and communications are not observed during the evaluation, or some of the observations made by the examiner(s) during the evaluation are contradictory or equivocal.

Capability – When cameras are installed to meet the requirements specified in this subsection, some of the cameras should be capable of remote operation, allowing an operator located in the simulator operating room to zoom the frame in and out and pan the viewing angle in all 3 dimensions, thereby allowing the operator, using a sufficient number of cameras, to follow the movements of the candidate(s) throughout the simulator and identify the instrumentation, operational procedures and technical drawings used by the candidate(s).

23.5.4 Control of audiovisual data

The licensee shall establish and document effective policies and procedures to control the access to, and the use of, the audiovisual data collected during the design, development and conduct of certification examinations and requalification tests.

Part III – Worker Qualifications

Part III specifies the prerequisites that reactor facility workers must meet to be eligible for the personnel certification processes described in Part I. These prerequisites apply to 2 distinct groups of certified workers: operations personnel and senior health physicists.

Subpart C – Operations Personnel

24. Operations Personnel Certification

The requirements specified in this section pertain to workers employed or seeking employment in one of the following generic classes of designated positions:

- a. auxiliary systems operator (ASO)
- b. reactor operator (RO)
- c. shift supervisor

24.1 Core qualifications for operations personnel

Any worker referred to in this section shall meet, at the time of application for certification, the core qualifications for operations personnel specified in this subsection.

24.1.1 Personnel selection

The worker must have met, prior to the start of their initial training, the basic prerequisites specified in sub-subsection 14.2.1.

24.1.2 General knowledge

The worker must have successfully completed general training based on a training system and must consequently possess the fundamental knowledge, including the applied sciences and engineering principles, relevant to the design and operation of the reactor(s) and associated systems, subsystems, and equipment installed in the reactor facility identified in the licence.

24.1.3 Plant familiarization

The worker must have successfully completed, prior to the start of the station-specific training specified in sub-subsection 24.1.4, plant familiarization training based on a training system and must consequently possess, at a minimum, a basic understanding of:

- a. the physical layout of the reactor facility identified in the licence, including the location and size of the major systems, subsystems, and equipment
- b. the management system and organizational infrastructure necessary to operate said reactor facility under normal, abnormal, and emergency conditions, including the mandate, roles and responsibilities of the key personnel and groups of personnel

24.1.4 Station-specific knowledge

The worker must have successfully completed station-specific training based on a training system and must consequently possess the detailed knowledge necessary to safely and competently

operate, under normal, abnormal, and emergency conditions, the reactor(s) and associated systems, subsystems, and equipment installed in the reactor facility identified in the licence.

Guidance

Clarification – The knowledge referenced in this sub-subsection is the detailed station-specific knowledge that, for ASO candidates, is required of a certified ASO, or, for RO and shift supervisor candidates, is required of a certified RO.

24.1.5 Nuclear emergency management

The worker must possess adequate knowledge of nuclear emergency response and the management of beyond-design-basis accidents, including the roles and responsibilities of certified workers regarding emergency operating procedures and severe accident management.

24.1.6 On-the-job training

The worker must have successfully completed on-the-job training (OJT) based on a training system covering, at a minimum, the relevant knowledge and skills (K&S) and safety-related attributes acquired or reinforced most effectively through OJT.

24.1.7 Simulator-based training

The worker must have successfully completed simulator-based training based on a training system covering, at a minimum, the relevant K&S and safety-related attributes acquired or reinforced most effectively through simulated scenarios.

24.1.8 Knowledge-based general certification examination

The worker must have successfully completed a knowledge-based examination providing sufficient evidence that the worker possesses the general knowledge necessary to perform the duties of the pertinent designated position safely and competently.

24.1.9 Knowledge-based station-specific certification examination

The worker must have successfully completed a knowledge-based examination providing sufficient evidence that the worker possesses the station-specific knowledge necessary to perform the duties of the pertinent designated position safely and competently.

24.1.10 Performance-based certification examination

The worker must have successfully completed, within 2 years of the application for certification, a performance-based certification examination conducted in a full-scope simulator or approved alternative providing sufficient evidence that the worker can perform the duties of the pertinent designated position safely and competently.

24.1.11 Work under supervision

The worker must have successfully performed a minimum number of hours of work under supervision (WUS) acceptable to the CNSC, in the pertinent designated position and under the supervision of a qualified worker certified to work in the pertinent designated position.

Guidance

Compliance scheme – Appendix B specifies the minimum number of WUS hours acceptable to the CNSC for the pertinent reactor facilities in service at the time of publication of the current version of this regulatory document.

24.1.12 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker is capable, in the opinion of the licensee, of performing the duties of the pertinent designated position safely and competently.

The management interview shall be conducted after all the other requirements specified in subsection 24.1 have been met.

24.2 Supplementary qualifications for shift supervisors

In addition to the core qualifications for operations personnel specified in subsection 24.1, a worker seeking certification for employment as shift supervisor shall meet, at the time of application for certification, the supplementary requirements specified in this subsection.

24.2.1 Supplementary personnel selection criteria

The worker must have met the supplementary prerequisites specified in sub-subsection 14.2.2.

24.2.2 Supplementary station-specific knowledge

The worker must have successfully completed supplementary station-specific training based on a training system and must consequently possess the supplementary knowledge specifically required of shift supervisors concerning the design and operation, under normal, abnormal, and emergency conditions, of the reactor(s) and associated systems, subsystems and equipment installed in the reactor facility identified in the licence.

Guidance

Clarification – The supplementary station-specific training for shift supervisors covers any supplementary station-specific knowledge that is required of a certified shift supervisor, in addition to the baseline station-specific knowledge required of a certified RO.

24.2.3 Supplementary knowledge-based station-specific certification examination

The worker must have successfully completed a knowledge-based examination providing sufficient evidence that the worker possesses the supplementary station-specific knowledge specifically required of shift supervisors to perform their duties safely and competently.

24.3 Requalification of operations personnel

Any worker referred to in this section seeking the renewal of their certification shall meet, at the time of application for certification renewal, the requirements specified in this subsection.

24.3.1 Continuing training

The certified worker must have successfully completed, within the current certification period, suitable continuing training meeting the requirements specified in subsection 15.2.

24.3.2 Knowledge-based requalification testing

The certified worker must have successfully completed, within 2 years of the application for certification renewal, a knowledge-based requalification test or series of tests providing sufficient evidence that the worker has retained the knowledge necessary to perform the duties of the pertinent designated position safely and competently.

24.3.3 Performance-based requalification testing

The certified worker must have successfully completed, within 2 years of the application for certification renewal, and in a lead role, a performance-based requalification test or series of tests conducted in a full-scope simulator or approved alternative providing sufficient evidence that the worker can perform the duties of the pertinent designated position safely and competently.

24.3.4 Minimum employment of operations personnel

The certified worker must have been sufficiently employed in the pertinent designated position to maintain an adequate competency level.

Guidance

Minimum employment – The CNSC does not prescribe a specific number of hours in relation to the minimum employment referred to in this sub-subsection. Notwithstanding, the licensee should ensure that, to the fullest extent possible, every certified shift worker is sufficiently exposed to the duties of the designated position by standing solo or supervised shifts on a regular or periodic basis, throughout the certification period.

Important note – The licensee should note that the pertinent regulations do not allow the CNSC or a DO to renew a certification unless the certified worker has “safely and competently performed the duties” of the pertinent designated position.

24.4 Qualifying for recertification within 5 years of a certificate expiry

Any worker referred to in this section seeking a recertification within 5 years of the expiry of a prior certification for the same position shall meet, at the time of application for recertification, the requirements specified in this subsection.

24.4.1 Tailored training

The worker must have successfully completed tailored training comprising knowledge and performance-based refresher and update training based on a documented individual training needs analysis (ITNA) and a documented individual training plan (ITP).

At a minimum, this tailored training shall cover any scheduled refresher training and update training, including any simulator-based training, that the worker missed during the interim period between the certificate expiry and the application for recertification.

24.4.2 Knowledge-based requalification testing

The certified worker must have successfully completed, within 2 years of the application for recertification, a knowledge-based requalification test or series of tests providing sufficient evidence that the worker has retained the knowledge necessary to perform the duties of the pertinent designated position safely and competently.

24.4.3 Performance-based requalification testing

The certified worker must have successfully completed, within 2 years of the application for recertification, and in a lead role, a comprehensive performance-based requalification test conducted in a full-scope simulator or approved alternative providing sufficient evidence that the worker can perform the duties of the pertinent designated position safely and competently.

24.4.4 Work under supervision

The worker must have successfully performed the duties of the pertinent designated position under the supervision of a qualified worker certified for employment in the same designated position, and for a number of complete shifts deemed sufficient by the licensee to confirm that the worker can perform the duties of the pertinent designated position safely and competently.

24.4.5 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker is capable, in the opinion of the licensee, of performing the duties of the pertinent designated position safely and competently.

The management interview shall be conducted after all other requirements previously specified in subsection 24.4 have been met.

24.5 Qualifying for recertification following decertification or certificate expiry after 5 years

Any worker referred to in this section seeking a recertification following decertification by the CNSC, or following the expiry of a certificate that occurred more than 5 years before the date of application for recertification, shall meet, at the time of application for recertification, the requirements specified in this subsection.

24.5.1 Decertification basis remediation

When the worker is seeking recertification following decertification, any deficiency identified as part of the basis provided by the CNSC for the decertification of the worker shall no longer exist or shall have been remedied by the licensee to the satisfaction of the CNSC.

Guidance

Depending on the basis for the decertification, remediation may involve any means or method used to rectify or remedy the cause of the decertification, including, but not limited to, administrative measures, remedial training, rehabilitation, or therapy.

24.5.2 Tailored training

The worker must have successfully completed tailored training comprising knowledge and performance-based refresher and update training based on a documented individual training needs analysis (ITNA) and a documented individual training plan (ITP).

At a minimum, the tailored training referenced in this subsection shall cover any scheduled refresher training and update training, including any simulator-based training, that the worker missed during the interim period between the decertification or certificate expiry and the application for recertification.

24.5.3 Knowledge-based station-specific certification examination

The worker must have successfully completed, within 2 years of the application for recertification, a station-specific knowledge examination providing sufficient evidence that the worker possesses the station-specific knowledge necessary to perform the duties of the pertinent designated position safely and competently.

When the worker is seeking certification as a shift supervisor, the licensee shall administer both baseline and supplementary station-specific examinations.

24.5.4 Performance-based certification examination

The worker must have successfully completed, within 2 years of the application for recertification, a performance-based certification examination conducted in a full-scope simulator or approved alternative providing sufficient evidence that the worker can perform the duties of the pertinent designated position safely and competently.

24.5.5 Work under supervision

The worker must have successfully performed the duties of the pertinent designated position under the supervision of a qualified worker certified for employment in the same designated position, and for a number of complete shifts deemed sufficient by the licensee to confirm that the worker can perform the duties of the pertinent designated position safely and competently.

24.5.6 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker is capable, in the opinion of the licensee, of performing the duties of the pertinent designated position safely and competently.

The management interview shall be conducted after all other requirements specified in subsection 24.5 have been met.

Guidance

Schedule – The management interview referenced throughout section 24 is the last activity conducted prior to any application for certification or recertification, as it is intended as the final worker competency evaluation.

Effective dates – The 2-year validity period applicable to the knowledge and performance-based certification examination and requalification test results referenced throughout section 24 starts on the date the examination or test is conducted, not the date on which the grading is finalized.

Subpart D – Senior Health Physicists

25. Senior Health Physicist Certification

The requirements specified in this section pertain to workers employed or seeking employment as senior health physicist (SHP).

25.1 Qualifications for senior health physicists

A worker seeking certification for employment as an SHP shall meet, at the time of application for certification, the requirements specified in this subsection.

25.1.1 Personnel selection

The worker must have met, prior to the start of their initial training, the basic and supplementary prerequisites specified in sub-subsections 14.2.1 and 14.2.2 respectively.

25.1.2 Prior education

The worker shall:

- a. hold a degree in health physics granted by a recognized university, or
- b. hold a baccalaureate in engineering or science granted by a recognized university, and have successfully completed a suitable series of courses offered by a recognized educational institution or learning provider covering current radiation protection principles and methods

25.1.3 Prior work experience

The worker shall possess, at a minimum, 4 years of relevant experience, including 2 years as a health physicist or an equivalent position at a reactor facility.

25.1.4 Initial training

The worker must have successfully completed initial training based on a training system covering the general and station-specific knowledge, skills and safety-related attributes required to safely and competently perform the duties of an SHP employed at the reactor facility identified in the licence.

25.1.5 Radiation protection expertise

The worker must, in consequence of the education, work experience, and initial training previously specified in subsection 25.1, possess knowledge, to an extent commensurate with the duties of an SHP, of radiation theory, including radiation hazards, and of radiation protection theory and practices, including the radiation protection procedures relevant to the operation of the reactor facility identified in the licence under normal, abnormal, and emergency conditions.

25.1.6 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker

is capable, in the opinion of the licensee, of performing the duties of an SHP safely and competently.

The management interview shall be conducted after the worker has successfully completed the initial training referenced in sub-subsection 25.1.4, and before the certification examination specified in sub-subsection 25.1.7.

25.1.7 Certification examination

The worker must have successfully completed a knowledge-based examination administered by CNSC staff.

Guidance

Knowledge areas – Appendix C provides a summary of the key knowledge areas and topics sampled by CNSC staff during the SHP certification examinations and requalification tests.

25.2 Requalification of senior health physicists

A worker seeking the renewal of a certification for employment as an SHP shall meet, at the time of application for certification renewal, the requirements specified in this subsection.

25.2.1 Continuing training

The worker must have successfully completed refresher and update training based on a training system covering the knowledge, skills and safety-related attributes required to safely and competently perform the duties of an SHP employed at the reactor facility identified in the licence.

25.2.2 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker is capable, in the opinion of the licensee, of performing the duties of an SHP safely and competently.

The management interview shall be conducted after the worker has successfully completed the continuing training referenced in sub-subsection 25.2.1, and before the requalification test specified in sub-subsection 25.2.3.

25.2.3 Requalification testing

The worker must have successfully completed a knowledge-based requalification test administered by CNSC staff.

Guidance

Knowledge areas – Appendix C provides a summary of the key knowledge areas and topics sampled by CNSC staff during the SHP certification examinations and requalification tests.

25.3 Qualifying for recertification following decertification or certificate expiry

A worker seeking certification for employment as an SHP following decertification by the CNSC, or following the expiry of the certificate, shall meet, at the time of application for recertification, the requirements specified in this subsection.

25.3.1 Decertification basis remediation

When the worker is seeking certification following decertification, any deficiency identified as part of the basis provided by the CNSC for the decertification of the worker shall no longer exist or shall have been remedied by the licensee to the satisfaction of the CNSC.

Guidance

Depending on the basis for the decertification, remediation may involve any means or method used to rectify or remedy the cause of the decertification, including, but not limited to, administrative measures, remedial training, rehabilitation, or therapy.

25.3.2 Tailored training

The worker must have successfully completed tailored training, comprising knowledge and performance-based refresher and update training, based on a documented individual training needs analysis (ITNA) and a documented individual training plan (ITP).

At a minimum, the tailored training referenced in this subsection shall cover any scheduled knowledge refresher and knowledge update training that the worker missed during the interim period between decertification or the certificate expiry and the application for certification.

25.3.3 Management interview

The worker must have successfully undergone a formal management interview conducted by a manager authorized by the licensee to represent the licensee, who thereby verified that the worker is capable, in the opinion of the licensee, of performing the duties of an SHP safely and competently.

The management interview shall be conducted after the worker has successfully completed the tailored training referenced in sub-subsection 25.3.2, and before the certification examination specified in sub-subsection 25.3.4.

25.3.4 Certification examination

The worker must have successfully completed a knowledge-based examination administered by CNSC staff.

Appendix A : Station-Specific Designated Positions

This appendix specifies which station-specific position(s) correspond(s) to each generic class of designated position referenced in this regulatory document for the pertinent reactor facility in operation at the time of publication of the current version of this regulatory document.

A.1 Station-Specific Positions Requiring an Auxiliary Systems Operator (ASO) Certification

CANDU reactor facilities					
Facility	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
ASO position	Unit 0 Control Room Operator	Unit 0 Control Room Operator	None	None	None

A.2 Station-Specific Positions Requiring a Reactor Operator (RO) Certification

CANDU reactor facilities					
Facility	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
RO position	Authorized Nuclear Operator	Authorized Nuclear Operator	None	Authorized Nuclear Operator	Control Room Operator

A.3 Station-Specific Positions Requiring a Shift Supervisor Certification

CANDU reactor facilities					
Facility	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
Shift Supervisor position	Control Room Shift Supervisor	Control Room Shift Supervisor	None	Control Room Shift Supervisor	Shift Supervisor
Senior Shift Supervisor position	Shift Manager	Shift Manager	None	Shift Manager	None

A.4 Station-Specific Positions Requiring a Senior Health Physicist (SHP) Certification

CANDU reactor facilities					
Facility	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
SHP position	Authorized Health Physicist	Responsible Health Physicist	Responsible technique de radioprotection	Responsible Health Physicist	Senior Health Physicist

Appendix B : Compliance Schemes Acceptable to the CNSC

This appendix specifies schemes acceptable to the CNSC that the licensee must implement at the specified reactor facilities to be compliant with the referenced requirements for the pertinent reactor facilities in service at the time of publication of the current version of this regulatory document.

Mandatory personnel certification schemes for CANDU reactor facilities

Reference	Description	Requirement(s)
Sub-subsection 24.1.11	Minimum number of hours of work under supervision (WUS) required for the certification of operations personnel.	The worker shall have successfully performed 360 hours of WUS in the pertinent designated position, under the supervision of a qualified worker certified to work in said designated position.
Sub-subsection 14.4.1	Minimum experience as shift supervisor prior to advancement to a senior shift supervisor position.	The worker shall have safely and competently performed the duties of a shift supervisor at the reactor facility identified in the licence for a minimum of 80 complete shifts amounting to a minimum of 960 hours of shiftwork prior to being selected for advancement to the senior shift supervisor position.
Sub-subsection 20.2.1	Minimum shift requirements for operations personnel.	<p>Any worker certified for employment as ASO shall perform the duties of an ASO for a minimum of 4 complete shifts per calendar quarter amounting to a minimum of 48 hours of shiftwork per calendar quarter.</p> <p>Any worker certified for employment as RO shall perform the duties of an RO for a minimum of 4 complete shifts per calendar quarter amounting to a minimum of 48 hours of shiftwork per calendar quarter.</p> <p>Any worker certified for employment as shift supervisor, but not qualified as senior shift supervisor, shall perform the duties of a shift supervisor for a minimum of 4 complete shifts per calendar quarter amounting to a minimum of 48 hours of shiftwork per calendar quarter.</p> <p>Any worker certified for employment as shift supervisor who is duly qualified as senior shift supervisor shall perform the duties of a shift supervisor or senior shift supervisor for a minimum of 4 complete shifts per calendar quarter amounting to a minimum of 48 hours of shiftwork per calendar quarter.</p>

Appendix C : Senior Health Physicist Examination and Testing Topics

The certification examinations and requalification tests administered by CNSC staff to workers seeking certification or the renewal of a certification for employment as senior health physicist cover topics divided into 3 parts, each covering a specific knowledge area, as exemplified in this appendix.

C.1 Regulations and Reactor Operating Licence

The relevant topics include, but are not limited to:

- a. the relevant provisions of the NSCA
- b. the relevant regulations made pursuant to the NSCA, namely the:
 - i. *General Nuclear Safety and Control Regulations*
 - ii. *Radiation Protection Regulations*
 - iii. *Class I Nuclear Facilities Regulations*
 - iv. *Nuclear Substances and Radiation Devices Regulations*
 - v. *Packaging and Transport of Nuclear Substances Regulations*
- c. the reactor facility licence and the documentation referenced in the licence

C.2 Radiation Protection

The relevant topics include, but are not limited to:

- a. safety culture
- b. reactor facility design, operation, and maintenance
- c. the relevant licensee and station-specific policies, standards, and procedures
- d. the radiation protection principles, methods and practices related to the operation of the reactor facility identified in licence
- e. the relevant Canadian, international and industry standards and conventions

C.3 Roles and Responsibilities

The relevant topics include, but are not limited to:

- a. the responsibilities and authority of the senior health physicist
- b. the responsibilities and authority of the personnel who interact with the senior health physicist

Appendix D : Station-Specific Training Samples

This appendix contains examples of station-specific knowledge areas covered by station-specific training programs initially implemented at CANDU reactor facilities and found acceptable by the CNSC. These examples are included as additional guidance to newly licensed reactor facility operators trying to establish suitable training programs. Notwithstanding this added guidance, a suitable training program is based on a reactor facility training system found acceptable by the CNSC.

D.1 Station-Specific Training for Reactor Operators

The relevant training areas may include:

- a. design and operation of reactor facility systems
- b. integrated operation of reactor facility systems, including, where applicable, interfaces between the systems of a reactor unit and those of other reactor units and common and auxiliary systems
- c. expected response of reactor facility systems and units to abnormal and accident conditions
- d. technical bases for emergency operating procedures
- e. diagnosis of equipment failures and assessment of abnormal plant conditions
- f. phenomena that may significantly affect reactor core reactivity and neutron flux shape
- g. reactor fuelling, fuelling limitations, fuel handling and storage, and irradiated fuel cooling
- h. configuration of systems and equipment isolation required for maintenance activities
- i. safety culture
- j. principles of nuclear safety and their application
- k. the operating licence and the documents referenced in the operating licence
- l. situations that may result in the violation of the conditions of the operating licence and the operating policies and principles (OPP)
- m. administrative procedures related to reactor facility operation and maintenance
- n. the responsibilities and authority of a reactor operator, and of the other members of the reactor facility personnel who interface with the reactor operator

D.2 Supplementary Station-Specific Training for Control Room Shift Supervisors

The relevant training areas may include, in addition to those relevant to station-specific training for reactor operators:

- a. reactor physics, principles of reactor operation and fuelling strategies
- b. phenomena that may significantly affect reactor core reactivity and neutron flux shape
- c. properties of irradiated fuel, principles of fuel cooling and physics of fuel failures
- d. operating constraints and limits associated with reactor fuelling and irradiated fuel cooling
- e. reactor safety, heat transfer mechanisms and fluid mechanics
- f. primary and back-up heat sinks
- g. conventional and radiation hazards to reactor facility personnel and to the public, including hazards from postulated accident conditions
- h. handling of conventional and radiation emergencies
- i. handling of an intruder or of a terrorist attack
- j. design requirements of safety-related equipment and systems
- k. design features and limitations of reactor facility equipment and systems
- l. chemical control of systems
- m. diagnosis of equipment failures and assessment of abnormal plant conditions
- n. expected response of reactor facility systems and units to abnormal and accident conditions

- o. operating strategies
- p. reactor facility safety analyses, including major assumptions in the reactor facility accident analyses and technical bases for emergency operating procedures
- q. configuration of systems and equipment isolation required for maintenance activities
- r. design and operation of reactor facility systems for which the reactor operators do not have direct operational control, including common systems and fuel handling systems
- s. the licensee's policies, standards, and procedures
- t. the operating licence and the documents referenced in the operating licence
- u. situations that may result in the violation of the conditions of the operating licence and the OPP
- v. requirements pertaining to reactor facility operation in federal and provincial acts and regulations, and any relevant standards and codes
- w. responsibilities and authority of the control room shift supervisor, of the plant shift supervisor, and of other members of the reactor facility personnel who report to, or interface with, the control room shift supervisor and the plant shift supervisor
- x. qualification requirements of the members of the reactor facility personnel who report to the control room shift supervisor and the plant shift supervisor

D.3 Station-Specific Training for Senior Health Physicists

The relevant training areas may include:

- a. the relevant provisions of the NSCA
- b. the regulations made pursuant to the NSCA, including the:
 - i. *General Nuclear Safety and Control Regulations*
 - ii. *Radiation Protection Regulations*
 - iii. *Class I Nuclear Facilities Regulations*
 - iv. *Nuclear Substances and Radiation Devices Regulations*
 - v. *Packaging and Transport of Nuclear Substances Regulations*
- c. safety culture
- d. the responsibilities and authority of the senior health physicist
- e. the responsibilities and authority of the members of the reactor facility personnel who interact with the senior health physicist
- f. the responsibilities and authority of the members of external organizations who interact with the senior health physicist, notably in the nuclear emergency management context
- g. the operating licence and the documents referenced in the operating licence
- h. the licensee and reactor facility policies, standards, and procedures
- i. reactor facility design, operation, and maintenance

Glossary

For definitions of terms used in this document, see [REGDOC-3.6, *Glossary of CNSC Terminology*](#), which includes terms and definitions used in the [Nuclear Safety and Control Act](#) and the regulations made under it, and in CNSC regulatory documents and other publications. REGDOC-3.6 is provided for reference and information.

The following definitions are either new or are modified versions of terms already defined current definition for that term. Following public consultation, the final terms and definitions will be submitted for inclusion in the next version of REGDOC-3.6, *Glossary of CNSC Terminology*.

(new)

candidate

In the context of an application for certification, including a recertification or the renewal of a certification, the worker seeking certification and whose candidature is assessed by the CNSC; in the context of a certification examination or requalification test, the worker whose knowledge or performance is evaluated.

(new)

certificate

A printed proof of certification by the CNSC issued to each certified worker and signed by a Commission member or a designated officer acting on behalf of the Commission.

(modified)

certification

Attestation from the Commission, or from a designated officer authorized by the Commission, certifying that a person is qualified to carry out licensed activities on behalf of the licensee, including the duties of a designated position.

(new)

certified shift worker

A certified worker who performs shiftwork, normally in the main control room, as an integral part of the duties of the designated position, as opposed to certified workers whose duties are generally performed during normal working hours.

(new)

certifying body

The legal entity or association empowered or authorized to certify workers and to stipulate requirements for the certification of workers in relation to a given occupation or job; for the purpose of this regulatory document, the CNSC is the certifying body.

(new)

complete shift

A shift worked in a designated position as a member of the minimum staff complement consisting of a minimum of 4 consecutive hours, which is preceded by a formal turnover of the responsibilities for the shift with an outgoing counterpart and concluded by an equal turnover with an incoming counterpart.

(new)

designated position

A position of direct and immediate impact on nuclear safety that has been designated in a licence in relation to a personnel certification scheme or an alternate authorization process, and which must therefore be staffed with workers duly certified or authorized by the CNSC.

(modified)

full-scope simulator

A simulator that can perform detailed modelling of the response, under normal, abnormal, and design-basis accident conditions, of the reactor or group of reactors and associated systems and subsystems installed in a reactor facility. A full-scope simulator is equipped with a replica of the main control room instrumentation and allows users to monitor and operate in real time the simulated systems and subsystems in an environment duplicating the physical and functional characteristics of the instrumentation normally available to operations personnel.

(new)

individual training needs analysis

A systematic process whereby the training needs of a single worker are determined by identifying any gap in the knowledge, skills, and safety-related attributes required of the worker to safely and competently perform their duties.

(new)

individual training plan

The learning strategy, including learning objectives and learner evaluation(s), resulting from an individual training needs analysis, and serving as basis for the training of an individual learner, as opposed to a group of learners.

(new)

knowledge-based (learner evaluation, certification examination, requalification test)

Said of an evaluation designed to measure the retention of job-related knowledge by means of an oral or written question-and-answer methodology.

(modified)

learner evaluation (see also trainee evaluation)

The assessment of progress made by participants during an instructional program (formative evaluation) and of their achievement at the end of the program (summative evaluation).

(new)

performance-based (learner evaluation, certification examination, requalification test)

Said of an evaluation of job-related knowledge, skills and safety-related attributes based on the direct observation of the performance of a job-related task or series of tasks.

(new)

senior shift supervisor

A certified shift supervisor who exercises authority over any number of shift supervisors as an integral part of the management system and minimum staff complement; for example, shift managers employed at multi-unit CANDU reactor facilities are considered senior shift supervisors.

(new)

simulator fidelity

The degree to which a simulator replicates the physical aspect and behaviour of the simulated object.

(new)

tailored training

Training that is tailored to meet the specific training needs of an individual learner based on an individual training needs analysis (ITNA) and an individual training plan (ITP), as opposed to an established training program.

(new)

worker competency

Inferred ability of a worker or workforce to safely and competently perform the duties of their employment based on demonstrated knowledge, skills, and safety-related attributes.

Abbreviations

Abbreviation	Meaning
ASO	auxiliary systems operator
CANDU	CANada Deuterium Uranium
CNSC	Canadian Nuclear Safety Commission
DO	designated officer
ITP	individual training plan
K&S	knowledge and skills
MCQ	multiple choice question
MEQ	modified essay question
MSC	minimum staff complement
NSCA	Nuclear Safety and Control Act
OJT	on-the-job training
OPP	operating policies and principles
RO	reactor operator
SHP	senior health physicist
ITNA	individual training needs analysis
WUS	work under supervision

Additional Information

This document must be read in conjunction with complementary CNSC regulatory documents in the human performance management series and other safety and control areas. The documents listed in this section are the complementary regulatory documents relevant to the current version of REGDOC-2.2.3, Volume III.

1. REGDOC-2.1.1, *Management System*
2. REGDOC-2.1.2, *Safety Culture*
3. REGDOC-2.2.1, *Human Factors*
4. REGDOC-2.2.2, *Personnel Training*
5. REGDOC-2.2.4, *Fitness for Duty: Managing Worker Fatigue*
6. REGDOC-2.2.4, *Fitness for Duty, Volume II: Managing Alcohol and Drug Use*
7. REGDOC-2.2.5, *Minimum Staff Complement*
8. REGDOC-2.3.2, *Accident Management*
9. REGDOC-2.10.1, *Nuclear Emergency Preparedness and Response*
10. REGDOC-3.1.1, *Reporting Requirements for Nuclear Power Plants*

CNSC Regulatory Document Series

Facilities and activities within the nuclear sector in Canada are regulated by the CNSC. In addition to the *Nuclear Safety and Control Act* and associated regulations, these facilities and activities may also be required to comply with other regulatory instruments such as regulatory documents or standards.

CNSC regulatory documents are classified under the following categories and series:

1.0 Regulated facilities and activities

- Series
- 1.1 Reactor facilities
 - 1.2 Class IB facilities
 - 1.3 Uranium mines and mills
 - 1.4 Class II facilities
 - 1.5 Certification of prescribed equipment
 - 1.6 Nuclear substances and radiation devices

2.0 Safety and control areas

- Series
- 2.1 Management system
 - 2.2 Human performance management
 - 2.3 Operating performance
 - 2.4 Safety analysis
 - 2.5 Physical design
 - 2.6 Fitness for service
 - 2.7 Radiation protection
 - 2.8 Conventional health and safety
 - 2.9 Environmental protection
 - 2.10 Emergency management and fire protection
 - 2.11 Waste management
 - 2.12 Security
 - 2.13 Safeguards and non-proliferation
 - 2.14 Packaging and transport

3.0 Other regulatory areas

- Series
- 3.1 Reporting requirements
 - 3.2 Public and Indigenous engagement
 - 3.3 Financial guarantees
 - 3.4 Commission proceedings
 - 3.5 CNSC processes and practices
 - 3.6 Glossary of CNSC terminology

Note: The regulatory document series may be adjusted periodically by the CNSC. Each regulatory document series listed above may contain multiple regulatory documents. Visit the CNSC's website for the latest [list of regulatory documents](#).



Gestion de la performance humaine **Accréditation du personnel, tome III :** **Accréditation des personnes qui travaillent dans des installations dotées de réacteurs**

REGDOC-2.2.3, Version 2

Juin 2023



Accréditation du personnel, tome III : Accréditation des personnes qui travaillent dans des installations dotées de réacteurs

Document d'application de la réglementation REGDOC-2.2.3, version 2

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Also available in English under the title: Personnel Certification, Volume III: Certification of Reactor Facility Workers

Disponibilité du document

Les personnes intéressées peuvent consulter le document sur le [site Web de la CCSN](#). Pour obtenir un exemplaire du document, en français ou en anglais, veuillez communiquer avec la :

Commission canadienne de sûreté nucléaire
280, rue Slater
C.P. 1046, Succursale B
Ottawa (Ontario) K1P 5S9
Canada

Tél. : 613 995-5894 ou 1 800 668-5284 (au Canada seulement)

Télécopieur : 613 995-5086

Courriel : cnsccnsn@nsc-ccsn.gc.ca

Site Web : suretenucleaire.gc.ca

Facebook : [facebook.com/Commissioncanadiennesuretenucleaire](https://www.facebook.com/Commissioncanadiennesuretenucleaire)

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Préface

Ce document d'application de la réglementation (REGDOC) fait partie de la série de documents d'application de la réglementation de la CCSN intitulée « Gestion de la performance humaine » qui porte sur la performance humaine, la formation du personnel et l'accréditation du personnel. La liste complète des séries de REGDOC figure à la fin du présent document; elle peut également être consultée sur le [site Web de la CCSN](#).

Le REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des personnes qui travaillent dans des installations dotées de réacteurs*, version 2, précise les exigences détaillées et fournit l'orientation relatives à l'accréditation des travailleurs dans les installations dotées de réacteurs en exploitation au Canada.

Ce document est la deuxième version du REGDOC-2.2.3, *Accréditation du personnel, tome III : Accréditation des personnes qui travaillent dans des centrales nucléaires*, publié en septembre 2019. Un document montrant les modifications apportées à la première version est disponible, sur demande, auprès de la CCSN.

Documents d'application de la réglementation complémentaires

Les exigences et l'orientation documentées dans le présent REGDOC s'ajoutent aux exigences et aux orientations générales applicables aux travailleurs des installations dotées de réacteurs. Les travailleurs accrédités par la CCSN ou qui tentent de l'être ne sont donc pas exemptés des exigences applicables précisées dans d'autres REGDOC.

En particulier, ce document doit être lu conjointement avec les REGDOC complémentaires relevant du domaine de sûreté et de réglementation (DSR) « Gestion de la performance humaine » et des autres DSR cités en référence dans le permis ou dans les documents qui l'accompagnent, selon le cas. Une liste complète des REGDOC complémentaires pertinents figure à la dernière section de ce document, à titre de renseignement supplémentaire.

Approche réglementaire

Pour en savoir plus sur la mise en œuvre des documents d'application de la réglementation et sur l'approche graduelle, consultez le REGDOC-3.5.3, *Principes fondamentaux de réglementation*.

Le terme « doit » est employé pour exprimer une exigence à laquelle le titulaire ou le demandeur de permis doit se conformer; le terme « devrait » dénote une orientation ou une mesure conseillée; le terme « pourrait » exprime une option ou une mesure conseillée ou acceptable dans les limites de ce document d'application de la réglementation; et le terme « peut » exprime une possibilité ou une capacité.

Aucun élément du présent document ne doit être interprété comme libérant le titulaire de permis des autres exigences pertinentes. Le titulaire de permis a la responsabilité de prendre connaissance de tous les règlements et de toutes les conditions de permis applicables et d'y adhérer.

Table des matières

1.	Introduction.....	11
1.1	Objectif.....	11
1.2	Portée.....	11
1.3	Dispositions législatives pertinentes.....	11
1.4	Normes nationales et internationales.....	12
	Partie I - Plan d'accréditation du personnel.....	13
2.	Contexte	13
3.	Dispositions en matière d'emploi.....	13
3.1	Emploi autorisé.....	13
3.2	Statut relatif à l'emploi.....	14
3.3	Dossier d'emploi	14
4.	Postes désignés.....	15
4.1	Postes désignés propres à la centrale.....	15
4.2	Dotation des postes désignés	15
4.3	Rôles et responsabilités des travailleurs accrédités	15
5.	Dispositions générales applicables à l'ensemble des demandes	16
5.1	Demandeur autorisé.....	16
5.2	Demande complète	16
5.3	Renseignements généraux	16
5.4	Transmission	17
6.	Demande d'accréditation	17
6.1	Déclaration de compétence du travailleur	17
6.2	Sélection du personnel.....	17
6.3	Sommaire des qualifications des travailleurs	17
6.4	Documents à l'appui.....	18
6.5	Calendrier d'une demande.....	18
6.6	Date d'entrée en vigueur de l'accréditation.....	18
6.7	Report de l'accréditation	18
7.	Demande de renouvellement de l'accréditation	19
7.1	Déclaration de compétence du travailleur	19
7.2	Résumé de la requalification du travailleur.....	19
7.3	Documents à l'appui.....	19
7.4	Calendrier d'une demande.....	20
7.5	Date d'entrée en vigueur du renouvellement.....	20
7.6	Renouvellement anticipé de l'accréditation	20

8.	Demande de récupération de l'accréditation dans les cinq ans suivant l'expiration d'un certificat	21
8.1	Déclaration de compétence du travailleur	21
8.2	Résumé de la requalification des travailleurs	22
8.3	Documents à l'appui.....	22
8.4	Calendrier d'une demande.....	22
8.5	Date d'entrée en vigueur de l'accréditation.....	23
9.	Demande de récupération de l'accréditation à la suite du retrait de l'accréditation ou d'une expiration du certificat après cinq ans	23
9.1	Déclaration de compétence du travailleur	23
9.2	Justification de la récupération de l'accréditation	23
9.3	Documents à l'appui.....	24
9.4	Calendrier d'une demande.....	24
9.5	Date d'entrée en vigueur de l'accréditation.....	24
10.	Demande d'examen ou de test de requalification pour un spécialiste principal en radioprotection.....	24
11.	Refus d'accréditation et retrait de l'accréditation.....	25
11.1	Renseignements généraux	25
11.2	Demandes de retrait de l'accréditation par un titulaire de permis	25
11.3	Demande relative à la possibilité d'être entendu.....	26
11.4	Décision de la Commission ou du fonctionnaire désigné.....	26
12.	Processus administratifs.....	26
12.1	Changement de nom légal	26
12.2	Certificats de remplacement	26
Partie II - Infrastructures organisationnelles et physiques du titulaire de permis.....		28
Sous-partie A - Infrastructure organisationnelle.....		28
13.	Politiques et procédures	28
13.1	Formation et qualification des travailleurs pour l'accréditation initiale.....	28
13.2	Maintien de la qualification des travailleurs accrédités.....	28
14.	Programme de sélection du personnel	28
14.1	Exigences du programme de sélection du personnel.....	28
14.2	Critères de sélection du personnel	29
14.2.1	Conditions préalables de base	29
14.2.2	Conditions préalables supplémentaires pour les chefs de quart et les spécialistes principaux en radioprotection.....	30
14.3	Sélection d'opérateurs de réacteur admissibles à une formation de chefs de quart.....	30
14.3.1	Rendement à titre d'opérateur de réacteur.....	30

14.3.2	Exemption relative au processus de sélection du personnel.....	30
14.3.3	Avis de sélection du candidat au poste de chef de quart	30
14.4	Promotion au poste de chef de quart principal	31
14.4.1	Expérience minimale d'un chef de quart avant une promotion.....	31
14.4.2	Formation supplémentaire.....	32
14.4.3	Travail sous supervision.....	32
14.4.4	Avis de promotion d'un travailleur à titre de chef de quart principal	32
14.5	Transfert de personnel	32
14.5.1	Processus de transfert de personnel.....	33
14.5.2	Formation initiale	33
14.5.3	Exemption relative à la formation portant sur les connaissances générales	34
14.5.4	Examens d'accréditation	34
14.5.5	Exemption de l'examen d'accréditation portant sur les connaissances générales.....	34
14.5.6	Avis de transfert de personnel	35
14.5.7	Informations supplémentaires lors de la demande d'accréditation.....	35
15.	Programmes de formation	36
15.1	Programmes de formation initiale	36
15.2	Programmes de formation continue.....	36
15.2.1	Formation de recyclage	36
15.2.2	Formation de révision.....	37
15.2.3	Formation continue sur simulateur pour le personnel d'exploitation.....	37
15.2.4	Formation sur l'intervention en cas d'urgence nucléaire	38
15.3	Système de formation pour les installations dotées de réacteurs.....	38
15.4	Évaluations formelles de l'apprenant	39
15.5	Qualifications des formateurs.....	39
16.	Examen d'accréditation et test de requalification	40
16.1	Séparation des fonctions de formation et d'examen.....	40
16.2	Examens d'accréditation	40
16.3	Tests de requalification.....	40
16.4	Mesures de sécurité associées à l'administration d'examens d'accréditation et de tests de requalification.....	41
16.5	Qualifications des examinateurs.....	41
17.	Travail sous supervision.....	41
18.	Entrevues de la direction.....	42
19.	Politiques et procédures administratives applicables aux travailleurs en formation	43
19.1	Réintégration d'un travailleur en formation suite à une interruption prolongée de la formation	43

20.	Politiques et procédures administratives applicables aux travailleurs accrédités	43
20.1	Aptitude au travail	44
20.2	Occupation minimale des travailleurs accrédités	44
20.2.1	Exigence minimale de quart de travail pour le personnel d'exploitation	44
20.2.2	Report de l'exigence relative au nombre minimal de quarts de travail	45
20.2.3	Occupation minimale des spécialistes principaux en radioprotection	46
20.3	Gestion d'une période prolongée de non-emploi	46
20.4	Retrait des fonctions pour un motif valable.....	46
20.4.1	Non-respect d'une exigence en matière d'occupation minimale.....	46
20.4.2	Échec au test de requalification.....	47
20.4.3	Incapacité à travailler avec compétence et en toute sécurité	47
20.4.4	Expiration d'un certificat.....	47
20.4.5	Décision proposée de ne pas accréditer un travailleur ou de lui retirer son accréditation	47
20.5	Processus de réintégration de base	48
20.5.1	Formation de recyclage	48
20.5.2	Formation de révision.....	48
20.5.3	Formation sur simulateur.....	48
20.5.4	Travail sous supervision	49
20.5.5	Entrevue de la direction.....	49
20.6	Mesures correctives à la suite d'un retrait pour motif valable.....	49
20.6.1	Non-respect d'une exigence en matière d'occupation minimale.....	49
20.6.2	Échec au test de requalification.....	49
20.6.3	Incapacité à travailler avec compétence et en toute sécurité	50
20.6.4	Expiration d'un certificat.....	50
20.6.5	Décision proposée de ne pas accréditer un travailleur ou de lui retirer son accréditation	50
20.7	Avis de changement de statut d'emploi.....	50
20.7.1	Avis de retrait des fonctions	50
20.7.2	Avis de réintégration dans les fonctions.....	50
21.	Gestion de l'information.....	51
21.1	Documents organisationnels.....	51
21.1.1	Rôles et responsabilités	51
21.1.2	Procédures opérationnelles.....	51
21.1.3	Gouvernance en matière de formation et de qualification.....	52
21.1.4	Qualifications des formateurs et des examinateurs	52
21.2	Dossiers du personnel.....	52

Sous-partie B - Infrastructure physique.....	54
22. Installations pour la tenue des examens et des tests portant sur les connaissances	54
23. Installations pour la tenue des examens et des tests portant sur les habiletés.....	54
23.1 Capacités de simulation	54
23.2 Aménagement physique	55
23.3 Salle des opérations du simulateur	55
23.4 Systèmes et équipement de communication	55
23.5 Systèmes et équipement d'enregistrement de données.....	55
23.5.1 Enregistrement des interventions de l'opérateur	56
23.5.2 Enregistrement des paramètres des systèmes	56
23.5.3 Système d'enregistrement audiovisuel	56
23.5.4 Contrôle des données audiovisuelles.....	57
Partie III - Qualifications des travailleurs.....	57
Sous-partie C - Personnel d'exploitation.....	57
24. Accréditation du personnel d'exploitation	57
24.1 Qualifications de base pour le personnel d'exploitation	57
24.1.1 Sélection du personnel.....	57
24.1.2 Connaissances générales	57
24.1.3 Familiarisation avec la centrale	58
24.1.4 Connaissances propres à la centrale	58
24.1.5 Gestion des urgences nucléaires	58
24.1.6 Formation en cours d'emploi.....	58
24.1.7 Formation sur simulateur.....	58
24.1.8 Examen d'accréditation portant sur les connaissances générales.....	58
24.1.9 Examen d'accréditation portant sur les connaissances propres à la centrale.....	59
24.1.10 Examen d'accréditation basé sur les habiletés	59
24.1.11 Travail sous supervision	59
24.1.12 Entrevue de la direction.....	59
24.2 Qualifications supplémentaires relatives au poste de chef de quart	59
24.2.1 Critères supplémentaires de sélection du personnel	59
24.2.2 Connaissances supplémentaires propres à la centrale	59
24.2.3 Examen d'accréditation supplémentaire des connaissances propres à la centrale.	60
24.3 Requalification du personnel d'exploitation.....	60
24.3.1 Formation continue.....	60
24.3.2 Tests de requalification portant sur les connaissances	60
24.3.3 Tests de requalification portant sur les habiletés.....	60

24.3.4	Durée minimale d'emploi du personnel d'exploitation.....	60
24.4	Qualification pour la récupération de l'accréditation dans les cinq ans suivant l'expiration d'un certificat	61
24.4.1	Formation personnalisée.....	61
24.4.2	Tests de requalification portant sur les connaissances	61
24.4.3	Tests de requalification portant sur les habiletés.....	61
24.4.4	Travail sous supervision	62
24.4.5	Entrevue de la direction.....	62
24.5	Qualification pour la récupération de l'accréditation à la suite d'un retrait de l'accréditation ou de l'expiration d'un certificat après cinq ans.....	62
24.5.1	Mesures correctives en réponse au retrait de l'accréditation.....	62
24.5.2	Formation personnalisée.....	62
24.5.3	Examen d'accréditation portant sur les connaissances propres à la centrale.....	63
24.5.4	Examen d'accréditation portant sur les habiletés	63
24.5.5	Travail sous supervision	63
24.5.6	Entrevue de la direction.....	63
Sous-partie D - Spécialistes principaux en radioprotection.....		64
25.	Accréditation des spécialistes principaux en radioprotection.....	64
25.1	Qualifications des spécialistes principaux en radioprotection.....	64
25.1.1	Sélection du personnel.....	64
25.1.2	Scolarité antérieure.....	64
25.1.3	Expérience professionnelle antérieure.....	64
25.1.4	Formation initiale	64
25.1.5	Expertise en radioprotection.....	64
25.1.6	Entrevue de la direction.....	65
25.1.7	Examen d'accréditation	65
25.2	Requalification des spécialistes principaux en radioprotection.....	65
25.2.1	Formation continue.....	65
25.2.2	Entrevue de la direction.....	65
25.2.3	Tests de requalification.....	65
25.3	Qualification pour la récupération de l'accréditation après un retrait de l'accréditation ou l'expiration du certificat	66
25.3.1	Mesures correctives en réponse au retrait de l'accréditation.....	66
25.3.2	Formation personnalisée.....	66
25.3.3	Entrevue de la direction.....	66
25.3.4	Examen d'accréditation	67
Annexe A: Postes désignés propres à la centrale		68

A.1	Postes propres à la centrale nécessitant une accréditation d'opérateur de système auxiliaire (OSA)	68
A.2	Postes propres à la centrale nécessitant une accréditation d'opérateur de réacteur (OR)...	68
A.3	Postes propres à la centrale nécessitant une accréditation de chef de quart	68
A.4	Postes propres à la centrale nécessitant une accréditation de spécialiste principal en radioprotection (SPR).....	69
Annexe B : Programmes de conformité acceptables pour la CCSN.....		70
Annexe C : Sujets des examens et des tests pour le poste de spécialiste principal en radioprotection		71
C.1	→ Règlements et permis d'exploitation d'un réacteur de puissance	71
C.2	→ Radioprotection	71
C.3	→ Rôles et responsabilités	71
Annexe D : Exemples de formation propre à la centrale		72
D.1	→ Formation propre à la centrale pour les opérateurs de réacteur	72
D.2	→ Formation supplémentaire propre à la centrale pour les chefs de quart de la salle de commande	72
D.3	→ Formation propre à la centrale pour les spécialistes principaux en radioprotection	73

Accréditation des personnes qui travaillent dans des installations dotées de réacteurs

1. Introduction

La Commission canadienne de sûreté nucléaire (CCSN) exige que les travailleurs des installations dotées de réacteurs qui occupent certains postes directement liés à la sûreté nucléaire soient accrédités par la CCSN comme étant qualifiés pour exercer les fonctions de leur poste. Aux fins du présent document d'application de la réglementation (REGDOC), ces postes sont appelés « postes désignés ».

1.1 Objectif

Le présent REGDOC a pour but de préciser les exigences détaillées et de fournir une orientation applicable à l'accréditation des travailleurs dans les installations dotées de réacteurs qui occupent ou souhaitent occuper des postes désignés.

1.2 Portée

Lorsqu'il est mentionné dans un permis, le présent REGDOC s'applique :

- a. à tous les travailleurs qui tentent d'obtenir une accréditation de la CCSN, ou qui souhaitent maintenir ou renouveler une telle accréditation, en vue d'occuper l'un des postes désignés indiqués dans le permis;
- b. au titulaire de permis qui exploite l'installation dotée de réacteurs mentionnée dans le permis;
- c. au personnel mentionné dans le présent REGDOC et participant à la formation et l'évaluation, ou aux examens d'accréditation et aux tests de requalification des travailleurs occupant ou souhaitant occuper des postes désignés dans l'installation dotée de réacteurs mentionnée dans le permis.

Le présent REGDOC comprend les trois parties suivantes :

- a. La Partie I décrit les mécanismes de réglementation et de procédure qui composent le plan d'accréditation du personnel de la CCSN applicable aux travailleurs des installations dotées de réacteurs.
- b. La Partie II décrit les infrastructures organisationnelles et physiques que le titulaire de permis doit mettre en place à l'appui du programme d'accréditation du personnel décrit à la Partie I et pour obtenir les qualifications des travailleurs précisées à la Partie III.
- c. La Partie III précise les conditions préalables que les travailleurs des installations dotées de réacteurs doivent satisfaire pour être admissibles aux processus d'accréditation du personnel précisés à la Partie I.

1.3 Dispositions législatives pertinentes

Les dispositions de la *Loi sur la sûreté et la réglementation nucléaires* (LSRN) et des règlements connexes qui s'appliquent au présent document sont les suivantes :

- a. LSRN, alinéas 21(1)i), 37(2)b), 44(1)k) et 44(1)l)
- b. *Règlement général sur la sûreté et la réglementation nucléaires* (RGSRN), alinéas 12(1)a) et 12(1)b)

- c. *Règlement sur les installations nucléaires de catégorie I*, article 10, paragraphes 9(2), 9(3), 9(4), 11(1), 11(2), 12(1), 12(2), 13(1), 13(2) et 14(5), et alinéa 14(2)e

1.4 Normes nationales et internationales

Les principes et les éléments clés utilisés dans l'élaboration du présent document sont conformes aux normes nationales et internationales. Les normes suivantes s'appliquent au présent REGDOC:

- a. Collection Énergie nucléaire de l'AIEA, NGT2.8, *Systematic Approach to Training for Nuclear Facility Personnel: Processes, Methodology and Practices*
- b. Collection Normes de sûreté de l'AIEA, NS-G-2.8, *Recruitment, Qualification and Training of Personnel for Nuclear Power Plants*
- c. AIEA, TECDOC 525, *Guidebook on training to establish and maintain the qualification and competence of NPP operations personnel*
- d. AIEA, TECDOC 1502, *Authorization of Nuclear Power Plant Control Room Personnel : Methods and Practices with Emphasis on the Use of Simulators*
- e. Norme internationale ISO/CEI 17000, *Évaluation de la conformité – Vocabulaire et principes généraux*
- f. Norme internationale ISO/CEI 17024, *Évaluation de la conformité – Exigences générales pour les organismes d'accréditation procédant à l'accréditation de personnes*

Partie I – Plan d'accréditation du personnel

La Partie I décrit les mécanismes de réglementation et de procédure qui composent le plan d'accréditation du personnel de la CCSN applicable aux travailleurs des installations dotées de réacteurs.

2. Contexte

La législation pertinente autorise la Commission et ses fonctionnaires désignés (FD) à délivrer aux travailleurs des accréditations attestant de leur qualification pour l'exercice de leurs fonctions, à renouveler ces accréditations ou à les retirer conformément à la procédure établie. Les travailleurs des installations dotées de réacteurs auxquels la CCSN a accordé une ou des accréditations reçoivent un certificat d'accréditation sur lequel est indiquée, notamment, une date d'expiration. Conformément à la réglementation, les accréditations accordées par la CCSN expirent cinq (5) ans après leur date de délivrance ou de renouvellement. Par conséquent, les demandeurs autorisés doivent soumettre des demandes au nom des travailleurs accrédités pour le renouvellement du ou des certificats de ces derniers avant la date d'expiration indiquée sur chaque certificat.

3. Dispositions en matière d'emploi

3.1 Emploi autorisé

Les certificats délivrés par la CCSN aux travailleurs d'une installation dotée de réacteurs permettent au travailleur dont le nom apparaît sur le certificat de travailler :

- a. à temps plein, à temps partiel ou à titre temporaire;
- b. en tant qu'employé ou en tant qu'entrepreneur;
- c. auprès du titulaire de permis mentionné;
- d. à l'installation dotée de réacteurs mentionnée;
- e. pour le poste désigné mentionné.

Orientation

Transférabilité du certificat – Sauf indication contraire sur le certificat, les certificats délivrés par la CCSN aux travailleurs des installations dotées de réacteurs ne sont pas transférables ni entre installations ni entre titulaires de permis. Cependant, les candidats et les travailleurs accrédités peuvent travailler à d'autres installations dotées de réacteurs équipées de technologies similaires, conformément à ce qui est indiqué à la sous-section 14.5.

Relation employé/employeur – Le titulaire de permis demeure responsable de la compétence de tous les travailleurs employés à l'installation dotée de réacteurs qu'il est autorisé à exploiter, quel que soit l'accord contractuel liant les travailleurs, y compris tout travailleur accrédité, et le titulaire de permis, en tant qu'employeur.

Accréditations multiples – Les travailleurs accrédités peuvent occuper plusieurs postes désignés, sous réserve que, pour chacun d'entre eux, il soit titulaire d'un certificat valide, qu'il satisfasse

aux exigences minimales d'emploi et de formation continue applicables et qu'il puisse, avec compétence et en toute sécurité, exercer les fonctions correspondantes.

3.2 Statut relatif à l'emploi

Le titulaire de permis doit attribuer un statut relatif à l'emploi pour chaque travailleur accrédité, conformément aux catégories ci-après :

- a. Un statut d'accréditation active est attribué à un travailleur qui :
 - i. détient un certificat valide;
 - ii. assiste à la formation continue prescrite;
 - iii. répond aux exigences minimales d'emploi applicables;
 - iv. continue d'être en mesure d'exercer les fonctions pertinentes du poste désigné avec compétence et en toute sécurité.
- b. Un statut d'accréditation inactive est attribué à tout travailleur accrédité qui détient un certificat valide, mais qui a été officiellement retiré de ses fonctions, conformément à ce qui est indiqué à la sous-section 20.3 ou 20.4.
- c. Un statut sans accréditation est attribué à un travailleur dont le certificat a expiré.
- d. Un statut d'accréditation retirée est attribué à un travailleur dont l'accréditation a été retirée par la CCSN.

Orientation

Validité du certificat – Le certificat valide est celui qui a été dûment délivré par la Commission ou un fonctionnaire désigné et qui n'est pas expiré.

Fin de l'emploi – La CCSN ne retirera pas l'accréditation des travailleurs titulaires d'un certificat valide qui prennent leur retraite ou annoncent leur retraite ou, pour toute autre raison, cessent de travailler ou de suivre de la formation pour un poste désigné. Dans de tels cas, les critères de gestion d'une période prolongée d'absence et de retrait des fonctions précisés à la sous-section 20.3 s'appliquent jusqu'à l'expiration du certificat, à moins que le travailleur ne soit réintégré dans ses fonctions, conformément à la sous-section 20.5, avant l'expiration de son certificat.

Accréditations multiples – Lorsqu'un travailleur détient plusieurs accréditations, un statut distinct lui est attribué pour chaque poste désigné pertinent.

3.3 Dossier d'emploi

Conformément à la sous-section 21.2, le titulaire de permis doit conserver, pour chaque travailleur accrédité par la CCSN, un dossier d'emploi continu et vérifiable comprenant, au minimum :

- a. le statut relatif à l'emploi attribué au travailleur;
- b. le nombre de quarts complets et d'heures de travail effectués dans un poste désigné par le travailleur, en précisant :
 - i. le poste désigné pertinent;
 - ii. la date à laquelle chaque quart de travail complet et chaque heure de travail ont été effectués.

Orientation

Applicabilité – Cette sous-section s’applique à tout travailleur accrédité, qu’il s’agisse d’un employé ou d’un entrepreneur, mais uniquement en rapport avec l’installation dotée de réacteurs indiquée sur le ou les certificats.

4. Postes désignés

Le présent REGDOC s’applique à l’accréditation des travailleurs dans les installations dotées de réacteurs qui occupent, ou souhaitent occuper, des postes désignés dans les catégories génériques suivantes :

- a. opérateur de systèmes auxiliaires (OSA)
- b. opérateur de réacteur (OR)
- c. chef de quart
- d. spécialiste principal en radioprotection (SPR)

Orientation

Système de gestion – Les catégories génériques de postes désignés indiquées dans l’ensemble du présent document reflètent les systèmes de gestion mis en œuvre par les titulaires de permis au moment de la publication. Cependant, rien dans ce document ne doit être interprété comme limitant la mise en place d’autres systèmes de gestion, y compris de nouveaux postes.

4.1 Postes désignés propres à la centrale

Les postes désignés propres à la centrale correspondant aux catégories génériques de postes désignés sont indiqués dans les permis applicables.

L’Annexe A précise quels postes désignés propres à la centrale correspondent à chaque classe générique de poste désigné et quelle accréditation de la CCSN est requise dans chaque cas.

4.2 Dotation des postes désignés

Les postes propres à la centrale mentionnés dans les permis d’installations dotées de réacteurs doivent être pourvus par des travailleurs accrédités par la CCSN comme étant qualifiés pour exercer les fonctions desdits postes désignés.

4.3 Rôles et responsabilités des travailleurs accrédités

Les travailleurs détenant un certificat d’accréditation valide sont réputés être qualifiés pour exercer avec compétence et en toute sécurité les fonctions des postes désignés pertinents propres

à la centrale, lesquels sont énumérés à l'Annexe A, et ce, conformément au système de gestion établi du titulaire de permis.

5. Dispositions générales applicables à l'ensemble des demandes

5.1 Demandeur autorisé

Les demandes effectuées en vertu des dispositions du présent REGDOC doivent être signées par un signataire officiellement autorisé par le titulaire de permis concerné à représenter ce dernier.

Orientation

Demander autorisé – Dans le contexte d'une installation dotée de réacteurs, le demandeur est le titulaire de permis qui doit nécessairement être représenté par un signataire autorisé appelé demandeur autorisé.

5.2 Demande complète

Les demandeurs autorisés doivent s'assurer que les demandes soumises à la CCSN sont complètes. Les demandes incomplètes peuvent être rejetées par la CCSN sans autre analyse.

Orientation

Demande complète – Conformément aux exigences réglementaires, la Commission ou un FD ne peut accréditer un travailleur, ou renouveler l'accréditation d'un travailleur qu'après avoir reçu une demande. Le personnel de la CCSN ne peut pas faire de recommandations éclairées à la Commission ou à un FD sur la base de demandes incomplètes. Une demande est réputée complète lorsqu'elle contient tous les renseignements requis et ne comporte aucune erreur.

Omissions mineures et erreurs typographiques – La soumission de demandes incomplètes entraîne un fardeau administratif excessif et cause des retards de traitement. Néanmoins, les demandes jugées incomplètes en raison d'omissions et d'erreurs typographiques mineures seront traitées une fois que le demandeur autorisé aura soumis une demande révisée ou aura fourni des renseignements supplémentaires, à la satisfaction de la CCSN.

5.3 Renseignements généraux

Les demandes faites aux termes des dispositions du présent REGDOC doivent contenir les informations suivantes :

- a. l'objet de la demande;
- b. le nom légal du travailleur, incluant son prénom, son nom de famille et, le cas échéant un deuxième prénom ou une initiale;
- c. le poste désigné qu'occupe ou qu'occupera le travailleur;
- d. l'installation dotée de réacteurs où le travailleur travaille ou travaillera, en indiquant, le cas échéant, un réacteur ou un groupe de réacteurs précis;
- e. la raison sociale du titulaire de permis exploitant ladite installation dotée de réacteurs;
- f. la date d'entrée en vigueur de la demande;
- g. le nom légal, le poste, les coordonnées et la signature du demandeur autorisé;
- h. une adresse postale ou un courriel de retour valide.

5.4 Transmission

Un demandeur autorisé peut soumettre toute demande faite en vertu des dispositions du présent REGDOC au format papier ou électronique.

Les soumissions en format papier doivent être transmises à l'adresse suivante :

Commission canadienne de sûreté nucléaire
280, rue Slater
C.P. 1046, Succursale B
Ottawa (Ontario) K1P 5S9

Les soumissions électroniques doivent être envoyées par courriel à forms-formulaires@cnsccsn.gc.ca avec une copie conforme à pcd-dap@cnsccsn.gc.ca.

6. Demande d'accréditation

Outre les dispositions générales précisées à la section 5, une demande d'accréditation doit satisfaire aux exigences précisées à la présente section.

6.1 Déclaration de compétence du travailleur

Conformément aux exigences réglementaires, la demande doit mentionner que le travailleur :

- a. satisfait aux exigences de qualification prévues dans le permis;
- b. a réussi le programme de formation et l'examen applicables prévus dans le permis;
- c. est capable, de l'avis du titulaire de permis, d'exercer les fonctions du poste.

6.2 Sélection du personnel

La demande doit décrire comment les conditions préalables applicables du programme de sélection du personnel décrit dans la section 14 ont été satisfaites, y compris, au minimum :

- a. le niveau d'instruction ou de littératie du travailleur lors de sa sélection pour la formation initiale;
- b. toute équivalence de niveau d'instruction ou de littératie reconnue par le titulaire de permis;
- c. toute expérience professionnelle antérieure requise par la CCSN ou par le titulaire de permis;
- d. toute entrevue de sélection du personnel passée par le travailleur;
- e. tout test de sélection du personnel passé par le travailleur, notamment tout examen médical;
- f. toute dérogation explicitement autorisée dans le présent REGDOC utilisée par le titulaire du permis.

6.3 Sommaire des qualifications des travailleurs

La demande doit fournir un résumé chronologique des qualifications obtenues par le travailleur couvrant les volets de la formation initiale, les examens d'accréditation et toutes les autres exigences d'accréditation du personnel franchies avec succès par le travailleur.

Le résumé des qualifications du travailleur doit fournir des preuves suffisantes que celui-ci possède toutes les qualifications applicables précisées dans la Partie III. Au minimum, ce résumé doit indiquer ce qui suit, selon le cas, en fonction du poste désigné :

- a. la date de chaque évaluation sommative de l'apprenant indiquant l'achèvement de chaque volet de la formation initiale;
- b. la date de chaque examen d'accréditation portant sur les connaissances;
- c. la date de l'examen d'accréditation basé sur les habiletés;
- d. toute mesure corrective requise par le personnel de la CCSN à la suite d'un examen d'accréditation que le personnel de la CCSN a fait passer;
- e. la date d'achèvement de toute période de travail effectué sous supervision (TSS), y compris le nombre total d'heures de TSS;
- f. la date de l'entrevue avec la direction.

Orientation

Dates d'entrée en vigueur – Les dates mentionnées dans le résumé des qualifications du travailleur sont les dates auxquelles les évaluations, les examens et les entrevues ont eu lieu, et non les dates auxquelles il a reçu sa note.

6.4 Documents à l'appui

Le titulaire de permis n'est pas tenu de joindre à la demande des documents à l'appui comme preuve de compétence. Cependant, des dossiers du personnel doivent être tenus à jour conformément à la sous-section 21.2 et mis à la disposition de la CCSN, sur demande, à des fins de vérification.

6.5 Calendrier d'une demande

Le titulaire de permis peut présenter à tout moment une demande d'accréditation pour un travailleur qualifié.

6.6 Date d'entrée en vigueur de l'accréditation

À moins que le titulaire de permis ne demande un report, la date d'entrée en vigueur de l'accréditation sera celle de la décision en matière d'accréditation prise par la Commission ou un FD.

6.7 Report de l'accréditation

Le titulaire de permis peut demander que la date d'entrée en vigueur de l'accréditation soit retardée jusqu'à 60 jours civils à compter de la date d'entrée en vigueur de la demande d'accréditation.

Orientation

Restriction – Afin d'offrir aux titulaires de permis une certaine souplesse en matière de calendrier, la CCSN tiendra compte de toute préférence exprimée par le demandeur autorisé concernant la date d'entrée en vigueur de l'accréditation, dans la mesure où la date de prédilection tombe dans la période de 60 jours indiquée. Néanmoins, la CCSN n'est pas tenue de se conformer à toute demande de report d'accréditation.

7. Demande de renouvellement de l'accréditation

Outre les dispositions générales précisées à la section 5, une demande de renouvellement de l'accréditation doit satisfaire aux exigences précisées à la présente section.

7.1 Déclaration de compétence du travailleur

Conformément aux exigences réglementaires, la demande doit mentionner que le travailleur :

- a. a exercé, avec compétence et en toute sécurité, les fonctions du poste pour lequel il a été accrédité;
- b. continue de recevoir la formation applicable prévue dans le permis;
- c. a réussi les tests de requalification applicables prévus dans le permis pour le renouvellement de l'accréditation;
- d. est capable, de l'avis du titulaire de permis, d'exercer les fonctions du poste.

7.2 Résumé de la requalification du travailleur

La demande doit fournir un résumé chronologique des exigences de requalification satisfaites par le travailleur pendant la période d'accréditation en cours indiquant les volets de la formation continue, les tests de requalification et toutes les autres étapes d'accréditation du personnel franchies avec succès par le travailleur.

Ce résumé chronologique doit fournir des preuves suffisantes que le travailleur satisfait à toutes les exigences de requalifications applicables précisées dans la Partie III. Au minimum, ce résumé doit indiquer ce qui suit, selon le cas, en fonction du poste désigné :

- a. la confirmation que le travailleur a suivi une formation continue et a réussi les évaluations officielles de l'apprenant conformes aux exigences précisées à la section 15, y compris une formation appropriée de recyclage, de révision, sur simulateur et d'intervention en cas d'urgence nucléaire;
- b. les dates de tous les tests de requalification portant sur les connaissances passés avec succès;
- c. les dates de tous les tests de requalification basés sur les habiletés passés avec succès;
- d. le nombre total de quarts de travail complets et d'heures de travail par quart effectués par le travailleur dans le poste désigné au cours de la période d'accréditation en vigueur;
- e. toute mesure corrective requise par le personnel de la CCSN découlant d'un test de requalification administré par le personnel de la CCSN.

Orientation

Dates d'entrée en vigueur – Les dates mentionnées dans le résumé de la requalification du travailleur sont les dates auxquelles les examens ont eu lieu, et non les dates auxquelles les notes sont reçues.

7.3 Documents à l'appui

Le titulaire de permis n'est pas tenu de joindre à la demande des documents à l'appui comme preuve de compétence. Cependant, des dossiers du personnel doivent être tenus à jour conformément à la sous-section 21.2 et mis à la disposition de la CCSN, sur demande, à des fins de vérification.

Orientation

Applicabilité – Les documents à l'appui mentionnés dans cette sous-section incluent tous les tests de requalification, quel que soit le type, passés par le travailleur pendant la période d'accréditation en vigueur, que ce soit dans un rôle de direction ou de soutien, et que le travailleur ait réussi ou non ledit test.

7.4 Calendrier d'une demande

Le titulaire de permis doit présenter la demande de renouvellement de l'accréditation d'un travailleur ayant obtenu sa requalification, au plus tard à la date d'expiration indiquée sur le certificat.

Orientation

Date limite de présentation d'une demande – La CCSN acceptera toute demande de renouvellement de l'accréditation, dûment signée et datée avant minuit le jour de l'expiration du certificat, à condition que la demande soit reçue par la CCSN avant minuit le même jour pour une soumission par voie électronique, ou dans un délai raisonnable pour une demande imprimée envoyée par la poste ou par un service de messagerie. Lorsque le titulaire de permis ne respecte pas ce délai, la section 8s s'applique en lieu et place de la section 7.

Délai de traitement normal – Afin d'éviter de devoir retirer le travailleur de ses fonctions conformément à la sous-section 20.4.4, puis de le réintégrer conformément à la sous-section 20.5 et à la sous-section 20.6.4, la demande doit être soumise bien avant la date d'expiration du certificat, de préférence en prévoyant un délai de traitement normal de 60 jours civils.

Demande incomplète – Lorsqu'une demande de renouvellement de l'accréditation, soumise avant la date limite, s'avère incomplète ou demeure incomplète après l'expiration du certificat, la demande sera acceptée, mais l'évaluation technique sera suspendue, jusqu'à ce qu'une demande révisée ou des renseignements supplémentaires soient soumis par le titulaire de permis à la satisfaction de la CCSN.

Emploi interdit – Lorsque l'accréditation expire pendant que la demande de renouvellement est en cours de traitement par le personnel de la CCSN, le travailleur est considéré comme n'étant plus qualifié pour occuper le poste désigné pertinent tant que l'accréditation n'a pas été officiellement renouvelée par la CCSN.

7.5 Date d'entrée en vigueur du renouvellement

Lorsque la demande est signée et datée par un demandeur autorisé au plus tôt 90 jours civils avant l'expiration de la certification, la date d'entrée en vigueur du renouvellement de l'accréditation coïncidera avec la date d'expiration de l'accréditation existante.

7.6 Renouvellement anticipé de l'accréditation

Lorsque la demande est signée et datée par un demandeur autorisé au plus tôt 90 jours civils avant l'expiration de la certification, la date d'entrée en vigueur du renouvellement de l'accréditation coïncidera avec la date d'expiration de l'accréditation existante.

Orientation

Restriction – Afin d’offrir aux titulaires de permis une certaine flexibilité en matière de calendrier, la CCSN autorise le renouvellement de l’accréditation des travailleurs d’une installation dotée de réacteurs avant la fin de la période de validité du certificat. Cette tolérance est accordée parce que le raccourcissement de la période d’accréditation augmente la fréquence des tests de requalification. Cependant, afin de s’assurer que la preuve de la compétence du travailleur fournie au moment de la demande est relativement récente et donc valide, la CCSN ne reportera pas la date d’entrée en vigueur d’un renouvellement anticipé de l’accréditation au-delà du temps de traitement effectivement encouru. Les demandeurs autorisés doivent donc prévoir les contraintes de temps indiquées dans cette section et en tenir compte avant de soumettre des demandes de renouvellement de l’accréditation.

Expiration du certificat – Dans tous les cas, lorsque le certificat expire avant que la demande puisse être traitée par le personnel de la CCSN et qu’un certificat renouvelé soit émis par la CCSN, la date d’entrée en vigueur du renouvellement de l’accréditation coïncidera avec la date d’expiration de l’accréditation existante. La date d’expiration de l’accréditation est la dernière date de renouvellement, indépendamment de toute autre considération, étant donné que la Commission ou un FD peut seulement renouveler une accréditation existante.

8. Demande de récupération de l’accréditation dans les cinq ans suivant l’expiration d’un certificat

Outre les dispositions générales précisées à la section 5, une demande de récupération de l’accréditation présentée au plus tard cinq (5) ans après l’expiration d’un certificat doit satisfaire aux exigences de la présente section.

Orientation

Applicabilité – Cette section s’applique à la récupération de l’accréditation d’un travailleur qui occupera le même poste désigné que celui indiqué sur un certificat expiré, lorsque le demandeur autorisé n’a pas soumis une demande de renouvellement de l’accréditation avant la date limite de renouvellement précisée à la sous-section 7.4.

8.1 Déclaration de compétence du travailleur

Conformément aux exigences réglementaires, la demande doit mentionner que le travailleur :

- a. satisfait aux exigences de qualification prévues dans le permis;
- b. a réussi le programme de formation et l’examen applicables prévus dans le permis;
- c. est capable, de l’avis du titulaire de permis, d’exercer les fonctions du poste.

Orientation

Remarque importante – Pour satisfaire à la condition établie au paragraphe 9(2) du *Règlement sur les installations nucléaires de catégorie I*, la déclaration de compétence du travailleur qui convient dans le contexte d’une demande de récupération de l’accréditation est la même que celle requise pour une accréditation initiale.

8.2 Résumé de la requalification des travailleurs

La demande doit fournir un résumé chronologique d'un processus approprié de réintégration, incluant la date d'achèvement de chaque étape, notamment :

- a. la formation personnalisée, y compris toute formation de révision et de recyclage portant sur les connaissances et sur les habiletés, suivie par le travailleur;
- b. le test de requalification portant sur les connaissances réussi par le travailleur;
- c. le test ou la série de tests de requalification basé sur les habiletés réussis par le travailleur;
- d. les heures de TSS effectuées par le travailleur;
- e. l'entrevue de la direction.

Les exigences applicables en matière de requalification des travailleurs sont précisées à la Partie III.

Orientation

Nonobstant la déclaration de compétence du travailleur requise par les règlements pertinents, l'« examen » auquel il est fait référence dans la sous-section 8.1 est la série de tests de requalification indiqués dans les sous-sections 8.2 et 24.4. Ni le fondement législatif ni le permis ne font réellement référence à un examen pertinent; les permis applicables font plutôt référence à ce REGDOC en tant que source supplémentaire de spécificité. Par conséquent, selon l'approche graduelle, la CCSN considère suffisant qu'un travailleur dont le certificat a expiré il y a moins de 5 ans soit évalué au moyen de tests de requalification plutôt que de le soumettre à la série complète d'examen d'accréditation requis au moment de l'accréditation initiale.

8.3 Documents à l'appui

Les documents à l'appui suivants doivent être joints à la demande :

- a. l'analyse des besoins en matière de formation individuelle ou un résumé de ladite analyse;
- b. le plan de formation individuel (PFI) ou un résumé dudit PFI;
- c. le test de requalification portant sur les connaissances réussi par le travailleur, incluant ses réponses et la note (en pourcentage) obtenue;
- d. le test ou la série de tests de requalification basés sur les habiletés réussis par le travailleur, y compris les actions notées du candidat;
- e. un document approprié, signé par un représentant autorisé du titulaire de permis, qui indique les heures de TSS effectuées par le travailleur;
- f. un enregistrement, une transcription ou le procès-verbal de l'entrevue de la direction prescrite.

8.4 Calendrier d'une demande

Le titulaire de permis peut demander la récupération de l'accréditation d'un travailleur conformément à la section 8 au plus tard cinq (5) ans après la date d'expiration indiquée sur le certificat.

Orientation

Date limite de présentation de la demande – Lorsque le certificat a expiré plus de 5 ans avant la date d'entrée en vigueur de la demande de récupération de l'accréditation, la section 9 s'applique au lieu de la section 8.

8.5 Date d'entrée en vigueur de l'accréditation

La date d'entrée en vigueur de l'accréditation sera celle de la décision d'accréditation prise par la Commission ou un FD.

9. Demande de récupération de l'accréditation à la suite du retrait de l'accréditation ou d'une expiration du certificat après cinq ans

Outre les dispositions générales précisées à la section 5, une demande de récupération de l'accréditation d'un travailleur à la suite du retrait de l'accréditation par la CCSN, ou à la suite d'une expiration de certificat survenue plus de cinq (5) ans avant la date d'entrée en vigueur de la demande de récupération de l'accréditation, doit satisfaire aux exigences de la présente section.

Orientation

Applicabilité – Cette sous-section s'applique à la récupération de l'accréditation d'un travailleur qui occupera le même poste désigné que celui mentionné sur un certificat pour lequel l'accréditation du travailleur a déjà été retirée par la CCSN, ou qui a expiré plus de cinq (5) ans avant la date d'entrée en vigueur de la demande en cours.

9.1 Déclaration de compétence du travailleur

La demande doit mentionner que le travailleur :

- a. satisfait aux exigences de qualification prévues dans le permis;
- b. a réussi le programme de formation et l'examen applicables prévus dans le permis;
- c. est capable, de l'avis du titulaire de permis, d'exercer les fonctions du poste.

Orientation

Remarque importante – Pour satisfaire à la condition établie au paragraphe 9(2) du *Règlement sur les installations nucléaires de catégorie I*, la déclaration de compétence du travailleur qui convient dans le contexte d'une demande de récupération de l'accréditation est la même que celle requise pour une accréditation initiale.

9.2 Justification de la récupération de l'accréditation

La demande doit comporter un argument étayé à l'appui de la récupération de l'accréditation du travailleur, expliquant pourquoi la CCSN devrait accréditer de nouveau un travailleur à qui elle avait précédemment retiré l'accréditation, ou dont le certificat a expiré il y a plus de cinq (5) ans, y compris :

- a. une description des mesures correctives prises par le titulaire de permis, notamment en matière de formation de rattrapage, pour s'assurer que toute lacune dont on avait déterminé

- qu'elle constituait un des éléments du motif ayant mené au retrait de l'accréditation a été, le cas échéant, corrigée ou atténuée de manière adéquate;
- b. un résumé d'un processus de réintégration approprié et la date d'achèvement de chacune de ces étapes, incluant :
 - i. la formation personnalisée, y compris toute formation de révision et de recyclage portant sur les connaissances et sur les habiletés, suivie par le travailleur;
 - ii. l'examen d'accréditation portant sur les connaissances, réussi par le travailleur;
 - iii. l'examen d'accréditation basé sur les habiletés réussi par le travailleur;
 - iv. les heures de TSS effectuées par le travailleur;
 - v. l'entrevue de la direction.
 - c. une description de toute circonstance atténuante pertinente.

Les exigences applicables en matière de requalification des travailleurs sont précisées à la Partie III.

9.3 Documents à l'appui

Les documents à l'appui suivants doivent être joints à la demande :

- a. l'analyse des besoins en matière de formation individuelle ou un résumé de ladite analyse;
- b. le plan de formation individuel (PFI) ou un résumé dudit PFI;
- c. l'examen d'accréditation portant sur les connaissances réussi par le travailleur, incluant ses réponses et la note (en pourcentage) obtenue;
- d. l'examen d'accréditation basé sur les habiletés réussi par le travailleur, y compris les actions notées du candidat;
- e. un document approprié, signé par un représentant autorisé du titulaire de permis, qui indique les heures de TSS effectuées par le travailleur;
- f. un enregistrement, une transcription ou le procès-verbal de l'entrevue de la direction prescrite.
- g. tout autre document jugé essentiel à l'appui de la demande.

9.4 Calendrier d'une demande

Après qu'un titulaire de permis ait été informé de la décision de la Commission ou du FD de retirer l'accréditation d'un travailleur, le titulaire de permis peut demander à tout moment une nouvelle accréditation pour le travailleur.

Le titulaire de permis peut demander l'obtention d'une nouvelle accréditation pour un travailleur après l'expiration du certificat conformément à la section 9 au plus tôt cinq (5) ans après la date d'expiration effective indiquée sur le certificat du travailleur.

9.5 Date d'entrée en vigueur de l'accréditation

La date d'entrée en vigueur de l'accréditation sera celle de la décision d'accréditation prise par la Commission ou un FD.

10. Demande d'examen ou de test de requalification pour un spécialiste principal en radioprotection

Le demandeur autorisé peut demander à la CCSN de faire passer un examen d'accréditation ou un test de requalification à un travailleur qui souhaite obtenir une accréditation ou un renouvellement

de son accréditation pour un poste de spécialiste principal en radioprotection (SPR), une fois que le travailleur a satisfait aux conditions préalables pertinentes précisées à la Partie III.

La demande doit être soumise par écrit, conformément aux dispositions générales des processus de demande d'accréditation du personnel précisées à la section 5, et doit indiquer :

- a. que le travailleur « a suivi avec succès la formation applicable mentionnée dans le permis », en précisant la date de fin de la formation initiale ou de la formation continue mentionnée à la section 25;
- b. que le travailleur a réussi l'entrevue avec la direction prescrite à la section 25, en précisant la date à laquelle s'est déroulée l'entrevue.

Orientation

Notification rapide – Compte tenu du temps nécessaire au personnel de la CCSN pour préparer, faire passer et noter chaque examen ou chaque test, le titulaire de permis devrait aviser la CCSN le plus tôt possible avant la demande officielle d'examen d'accréditation ou de test de requalification.

Disponibilité des candidats – Le titulaire de permis devrait préciser, dans sa notification préalable et dans sa demande officielle, d'autres dates possibles auxquelles le travailleur sera qualifié et disponible pour passer l'examen d'accréditation ou le test de requalification.

11. Refus d'accréditation et retrait de l'accréditation

11.1 Renseignements généraux

Conformément à la législation applicable, à la réception d'une demande d'accréditation ou de renouvellement d'accréditation, la Commission ou un fonctionnaire désigné peut refuser d'accorder ou de renouveler l'accréditation, et peut entreprendre de retirer de sa propre initiative, ou sur demande, l'accréditation d'un travailleur accrédité. Avant de prendre une décision finale, la Commission ou son fonctionnaire désigné avertira d'abord le titulaire de permis et le travailleur concerné relativement à la décision proposée et leur donnera la possibilité d'être entendus en faveur ou en défaveur de celle-ci.

11.2 Demandes de retrait de l'accréditation par un titulaire de permis

Le titulaire de permis peut demander le retrait de l'accréditation d'un travailleur accrédité qui travaille à une installation dotée de réacteurs indiquée dans le permis. Toute demande de ce type doit être soumise par écrit conformément à la section 5.4 et contenir les renseignements suivants :

- a. l'objet de la demande;
- b. le nom légal de son titulaire, tel qu'il figure sur le plus récent certificat délivré au titulaire;
- c. le poste désigné pour lequel l'accréditation doit être retirée au travailleur;
- d. l'installation dotée de réacteurs où le candidat travaille, en indiquant, le cas échéant, un réacteur ou un groupe de réacteurs précis;
- e. la raison sociale du titulaire de permis exploitant ladite installation dotée de réacteurs;
- f. la raison dictant la demande;
- g. les documents à l'appui, s'il existe, établissant une justification suffisante pour un retrait;
- h. la date d'entrée en vigueur de la demande;

- i. le nom légal, le poste, les coordonnées et la signature d'un représentant autorisé du titulaire de permis;
- j. une adresse postale ou un courriel de retour valide.

11.3 Demande relative à la possibilité d'être entendu

Un titulaire de permis ou un travailleur ayant reçu un avis de décision proposée peut demander d'être entendu dans les 30 jours civils suivant la réception de cet avis. Toute demande de ce type doit être soumise par écrit conformément à la sous-section 5.4.

11.4 Décision de la Commission ou du fonctionnaire désigné

À l'issue d'une possibilité d'être entendu, le titulaire de permis et le travailleur concerné seront avisés, par écrit, de la décision de la Commission ou du FD, et de la justification de cette décision.

12. Processus administratifs

12.1 Changement de nom légal

Le titulaire de permis doit, dans les meilleurs délais :

- a. informer la CCSN de tout changement de nom légal de tout travailleur occupant un poste désigné ou en formation pour occuper un tel poste;
- b. demander à la CCSN de délivrer un certificat de remplacement, pour tout travailleur accrédité qui a officiellement changé de nom légal.

Orientation

Objectif – La CCSN doit connaître l'identité légale de tous les travailleurs occupant un poste désigné ou en formation pour occuper un tel poste, afin de tenir à jour des dossiers exacts des accréditations du personnel et de délivrer des certificats aux bonnes personnes.

12.2 Certificats de remplacement

Le titulaire de permis peut demander à la CCSN de délivrer à nouveau un certificat au nom d'un travailleur accrédité si :

- a. le certificat a été perdu;
- b. certains des renseignements figurant sur le certificat ne sont plus lisibles;
- c. le nom légal de la personne a été officiellement modifié, comme le prescrit la sous-section 12.1.

Toute demande de remplacement de certificat doit être soumise par écrit conformément à la sous-section 5.4 et contenir les renseignements suivants :

- a. l'objet et la justification de la demande;
- b. le nom légal de son titulaire, tel qu'il figure sur le plus récent certificat délivré au titulaire;
- c. le nouveau nom légal qui doit figurer sur le certificat de remplacement, le cas échéant;
- d. le titre de poste désigné apparaissant sur le certificat;
- e. la désignation sociale du titulaire de permis qui emploie le travailleur;

- f. le nom légal, le poste, les coordonnées et la signature d'un représentant autorisé du titulaire de permis;
- g. la date d'entrée en vigueur de la demande.

Partie II – Infrastructures organisationnelles et physiques du titulaire de permis

La Partie II décrit les infrastructures organisationnelles et physiques que le titulaire de permis doit mettre en place à l'appui du programme d'accréditation du personnel décrit à la Partie I et pour obtenir les qualifications des travailleurs précisées à la Partie III.

Sous-partie A – Infrastructure organisationnelle

13. Politiques et procédures

13.1 Formation et qualification des travailleurs pour l'accréditation initiale

Le titulaire de permis doit établir et documenter des politiques et des procédures efficaces pour former et qualifier les travailleurs qui souhaitent obtenir une accréditation pour occuper un poste désigné.

13.2 Maintien de la qualification des travailleurs accrédités

Le titulaire de permis doit établir et documenter des politiques et des procédures efficaces pour former et maintenir la qualification des travailleurs accrédités occupant des postes désignés.

14. Programme de sélection du personnel

Le titulaire de permis doit mettre en œuvre et documenter un programme de sélection du personnel garantissant la sélection de candidats appropriés pour la participation aux programmes de formation initiale cités en référence dans le présent REGDOC.

14.1 Exigences du programme de sélection du personnel

En tant que partie intégrante du programme de sélection du personnel et, pour chaque poste désigné figurant au permis, le titulaire de permis :

- a. doit fixer un niveau minimal de scolarité, ou des niveaux minimaux de littératie et de numératie, proportionnels aux fonctions du poste désigné et compatibles avec le niveau d'entrée dans un programme de formation initiale approprié;
- b. doit exiger que les candidats sélectionnés sur la base de leur scolarité fournissent un diplôme ou une autre preuve officielle de leur réussite dans un programme d'études approprié, délivré par un établissement d'enseignement ou par un organisme de formation reconnu;
- c. peut reconnaître des équivalences à tout niveau minimal de scolarité, de littératie ou de numératie qu'il a fixé;
- d. doit utiliser des épreuves normalisées et des méthodes éprouvées pour évaluer si oui ou non les candidats sélectionnés sur la base d'un niveau de littératie ou de numératie, ou d'une équivalence reconnue, satisfont réellement aux normes minimales applicables;
- e. doit déterminer si une expérience de travail antérieure peut être souhaitable ou essentielle et, lorsqu'elle est jugée essentielle, élaborer des plans et des procédures pour s'assurer que les candidats acquièrent une expérience de travail pertinente avant leur participation à un programme de formation initiale approprié;
- f. doit déterminer les qualités et les aptitudes jugées essentielles pour exécuter, avec compétence et en toute sécurité, les fonctions du poste désigné, y compris l'intégrité, le leadership et la résilience, selon le cas, et sélectionner les candidats en conséquence;

- g. peut utiliser des épreuves normalisées et des méthodes éprouvées, ou exiger une évaluation médicale effectuée par un médecin agréé, pour évaluer si le candidat possède ou non une limitation permanente, physique ou mentale qui l'empêcherait d'exercer les fonctions du poste désigné pertinent, avec compétence et en toute sécurité

Orientation

Scolarité antérieure – Le titulaire de permis devrait établir des critères de sélection du personnel sur la base d'une justification réfléchie et éviter de fixer des exigences normatives simplement par facilité, notamment des conditions préalables particulières en matière de formation, si des candidats appropriés peuvent ainsi être indûment exclus. La CCSN est consciente du fait que les apprenants modernes peuvent acquérir des niveaux acceptables de connaissances préalables et de littératie par diverses méthodes et en empruntant diverses voies, en fonction de leur situation individuelle, notamment au moyen de l'apprentissage à distance et de l'enseignement à domicile, et auprès d'autorités compétentes autres que les autorités provinciales.

Expérience professionnelle – Dans le cadre du programme de sélection du personnel, une expérience professionnelle pertinente désigne tout emploi dans un rôle ou un poste de nature opérationnelle ou technique offrant au candidat et à l'équipe de direction les éléments ci-après :

- a. Pour le candidat :
 - i. une exposition notable à l'organisation et au fonctionnement quotidien d'une installation dotée de réacteurs, qui s'applique d'une manière ou d'une autre aux fonctions du poste désigné visé;
 - ii. une occasion d'acquérir des connaissances et des compétences transférables et des attributs liés à la sûreté qui lui seront éventuellement utiles s'il est retenu, lorsqu'il occupera un poste désigné;
- b. Pour l'équipe de direction : une occasion d'évaluer le candidat potentiel par rapport aux critères pertinents de sélection du personnel, en particulier tous attributs essentiels liés à la sûreté, y compris l'intégrité, le leadership et la résilience, le cas échéant

14.2 Critères de sélection du personnel

14.2.1 Conditions préalables de base

Les candidats sélectionnés pour participer à tout programme de formation initiale indiqué dans le présent REGDOC doivent :

- a. avoir démontré des niveaux de littératie et de numératie correspondant aux fonctions du poste désigné pertinent;
- b. avoir fourni une preuve suffisante de tout niveau de formation préalable requis par la CCSN ou le titulaire de permis;
- c. avoir acquis toute expérience professionnelle antérieure requise par la CCSN ou par le titulaire de permis;
- d. posséder toutes les aptitudes et tous les attributs liés à la sûreté jugés essentiels par le titulaire de permis;
- e. satisfaire à tous les autres critères de sélection applicables au poste, établis par le titulaire de permis.

14.2.2 Conditions préalables supplémentaires pour les chefs de quart et les spécialistes principaux en radioprotection

Outre la satisfaction aux conditions préalables de base applicables, les candidats à un poste de chef de quart et de spécialiste principal en radioprotection (SPR) doivent, à la connaissance du titulaire de permis :

- a. posséder des compétences ou un potentiel démontrés en matière de leadership;
- b. avoir fait preuve, de façon constante, d'un haut degré d'intégrité.

14.3 Sélection d'opérateurs de réacteur admissibles à une formation de chefs de quart

Un travailleur accrédité ou précédemment accrédité pour un poste d'opérateur de réacteur (OR) à l'installation dotée de réacteurs mentionnée dans le permis peut être sélectionné pour participer à un programme de formation initiale prévue pour les candidats au poste de chef de quart, conformément aux exigences précisées dans cette sous-section.

14.3.1 Rendement à titre d'opérateur de réacteur

Avant d'être sélectionné pour cette formation, le travailleur doit :

- a. avoir exercé les fonctions d'OR accrédité avec compétence et en toute sécurité;
- b. être reconnu pour posséder les attributs liés à la sûreté et les aptitudes requises d'un chef de quart.

14.3.2 Exemption relative au processus de sélection du personnel

Le titulaire de permis peut, si le travailleur a été régulièrement employé à titre d'OR accrédité pendant au moins quatre (4) trimestres civils, exempter celui-ci de toute exigence en matière de niveau d'études ou d'expérience professionnelle préalable normalement requise pour les chefs de quart.

Orientation

Intention réglementaire – Étant donné que le travailleur doit être exempté des préalables jugés essentiels par le titulaire de permis pour les autres candidats, le travailleur doit avoir démontré de façon constante sa capacité à titre de chef de quart, laquelle a été observée pendant une période utile.

Emploi régulier – L'expression « régulièrement employé » signifie que le travailleur a, au minimum, satisfait à l'exigence de quart de travail trimestriel minimale pertinente; cependant, il n'est pas nécessaire que les quatre (4) trimestres civils se suivent.

14.3.3 Avis de sélection du candidat au poste de chef de quart

Le titulaire de permis doit aviser la CCSN dans un délai raisonnable lorsqu'un travailleur visé par la présente sous-section participe à un programme de formation initiale pour les candidats au poste de chef de quart. Cette communication doit inclure :

- a. le nom légal complet du travailleur;

- b. une confirmation que le travailleur s'est acquitté des fonctions d'OR en toute sécurité et avec compétence;
- c. une confirmation que le travailleur possède les attributs liés à la sûreté et les aptitudes requises d'un chef de quart;
- d. un résumé de toute exemption explicitement autorisée dans la sous-sous-section 14.3.2 et utilisée dans le cadre de la sélection du travailleur, y compris les dates de début et de fin de la ou des périodes d'observation totalisant quatre (4) trimestres civils au total.

Orientation

Conformément à la sous-section 6.2, la demande d'accréditation comprend un résumé de toute exemption utilisée dans le cadre de la sélection du travailleur pour la formation de chef de quart, en plus de la notification précisée dans cette sous-sous-section.

14.4 Promotion au poste de chef de quart principal

Tout chef de quart accrédité qui, en tant que membre de l'effectif minimal, exerce une autorité sur un certain nombre de chefs de quart accrédités doit, avant d'être employé à un poste de chef de quart principal, avoir été sélectionné et formé par le titulaire de permis dans ce but précis au moyen d'un processus documenté répondant aux exigences précisées dans la présente sous-section.

Le titulaire de permis ne doit pas permettre à un travailleur d'agir comme chef de quart principal s'il n'est pas dûment qualifié pour exercer son autorité sur d'autres chefs de quart accrédités, conformément au processus susmentionné.

Orientation

Applicabilité – Cette sous-section s'applique lorsque le système de gestion mis en place à l'installation dotée de réacteurs requiert, dans le cadre de l'effectif minimal, la présence d'au moins un chef de quart accrédité principal ayant autorité sur au moins un autre chef de quart accrédité.

Circonstances spéciales – La CCSN reconnaît que, dans les installations dotées de réacteurs qui emploient des chefs de quart principaux, le rôle et les responsabilités de tous les chefs de quart peuvent comprendre la prise de décisions importantes pour la sûreté ou urgentes pour d'autres raisons, lorsque le chef de quart principal de service est indisposé ou n'est pas disponible. Aucune disposition du REGDOC ne devrait être interprétée comme empêchant tout chef de quart accrédité agissant en tant que membre de l'effectif minimal, de prendre, lorsque la situation l'exige, des décisions opérationnelles ou essentielles sur le plan de la sûreté, faisant normalement partie des attributions d'un chef de quart principal.

14.4.1 Expérience minimale d'un chef de quart avant une promotion

Le travailleur doit avoir exercé, avec compétence et en toute sécurité, les fonctions de chef de quart à l'installation dotée de réacteurs mentionnée au permis pendant un nombre minimal de quarts de travail complets acceptable pour la CCSN dont la durée représente un nombre minimal d'heures de travail par quart acceptable pour la CCSN.

Orientation

Programme de conformité – L'annexe B précise les nombres minimaux de quarts complets et d'heures de travail par quart acceptables par la CCSN pour les installations dotées de réacteurs concernées et en service au moment de la publication de la version actuelle du présent REGDOC.

14.4.2 Formation supplémentaire

Le travailleur doit avoir suivi avec succès une formation fondée sur un système de formation, y compris une formation en cours d'emploi (FCE), traitant des connaissances, des compétences et des attributs liés à la sûreté requis pour exécuter, avec compétence et en toute sécurité, les fonctions de chef de quart principal, telles que définies dans le système de gestion du titulaire de permis.

14.4.3 Travail sous supervision

Le travailleur doit avoir exercé les fonctions de chef de quart principal sous la supervision d'un chef de quart principal qualifié pendant un nombre de quarts de travail complets que le titulaire de permis juge nécessaire pour confirmer que le travailleur peut exercer lesdites fonctions, avec compétence et en toute sécurité.

14.4.4 Avis de promotion d'un travailleur à titre de chef de quart principal

Le titulaire de permis doit aviser la CCSN dans un délai raisonnable lorsqu'un travailleur accrédité comme chef de quart a obtenu une promotion à titre de chef de quart principal. Cette communication doit inclure :

- a. le nom légal complet du travailleur;
- b. un résumé indiquant la date réelle d'achèvement, dans chaque cas, des exigences que le travailleur a réussi à satisfaire dans le cadre du processus de promotion précisé dans la présente section.

14.5 Transfert de personnel

Le titulaire de permis doit mettre en œuvre et documenter un processus efficace de transfert de personnel conforme aux exigences et à l'orientation précisées dans la présente sous-section.

Orientation

Applicabilité – Cette sous-section s'applique au cas d'un travailleur souhaitant obtenir une accréditation pour occuper un poste désigné à l'installation dotée de réacteurs mentionnée au permis (l'installation dotée de réacteurs de destination) après avoir été transféré d'une autre installation dotée de réacteurs, de même conception ou de conception comparable (l'installation dotée de réacteurs d'origine). Lorsqu'un travailleur est transféré entre des installations dotées de réacteurs dont la conception ou le concept d'exploitation diffèrent considérablement, il devrait être embauché et formé comme tout autre candidat, conformément au processus de sélection du personnel établi, en participant au programme complet de formation initiale.

14.5.1 Processus de transfert de personnel

En tant que partie intégrante du processus de transfert de personnel, le titulaire de permis de l'installation dotée de réacteurs de destination :

- a. doit obtenir du titulaire de permis de l'installation dotée de réacteurs d'origine :
 - i. les dossiers de formation et de qualification et, le cas échéant, l'historique des examens d'accréditation du travailleur, y compris une preuve suffisante de tout examen d'accréditation passé avec succès par le travailleur;
 - ii. la confirmation que le travailleur s'est acquitté de ses fonctions avec compétence et en toute sécurité, que ce soit dans un poste désigné ou non;
 - iii. la confirmation que le travailleur est digne de confiance;
- b. doit s'assurer que le travailleur satisfait à tous les critères de sélection du personnel applicables en vigueur à l'installation dotée de réacteurs de destination avant que le travailleur ne s'inscrive à l'un des programmes de formation initiale mentionnés dans le présent REGDOC;
- c. peut faire passer au travailleur un ou plusieurs tests normalisés portant sur les connaissances générales et s'appuyant sur des méthodes éprouvées, en vue de mettre en évidence d'éventuelles lacunes dans ses connaissances;
- d. peut, au cas par cas, utiliser les résultats du ou des tests de connaissances générales susmentionnés pour l'élaboration d'une analyse des besoins en matière de formation individuelle et d'un plan de formation individuel (PFI);
- e. peut faire passer au travailleur un examen d'accréditation portant les connaissances générales, en vue de s'assurer qu'il possède les connaissances générales adéquates;
- f. peut utiliser l'une ou les deux exemptions potentielles explicitement autorisées dans la présente sous-section.

Orientation

Pratique exemplaire – La CCSN reconnaît que le titulaire de permis de l'installation de destination ne peut être tenu responsable du refus, de la part du titulaire de permis de l'installation d'origine, de partager les renseignements personnels concernant le travailleur et, par conséquent, la CCSN ne blâmera pas le titulaire de permis si l'installation d'origine refuse de transmettre les renseignements mentionnés à la section 14.5.1.a. Néanmoins, le titulaire de permis de l'installation dotée de réacteurs de destination devrait s'assurer, dans toute la mesure du possible, de la pertinence de la candidature du travailleur transféré au programme de formation initiale applicable.

14.5.2 Formation initiale

À l'exception de l'exemption potentielle explicitement autorisée à la sous-section 14.5.3, le travailleur doit suivre avec succès la même formation initiale que celle dispensée à tous les travailleurs tentant d'obtenir une accréditation pour occuper le poste désigné pertinent dans l'installation dotée de réacteurs de destination.

14.5.3 Exemption relative à la formation portant sur les connaissances générales

Le titulaire de permis n'est pas tenu de dispenser une formation portant sur les connaissances générales au travailleur si ce dernier en a déjà suivi une qui :

- a. est équivalente à la formation portant sur les connaissances générales dispensée à tous les travailleurs tentant d'occuper le même poste désigné à l'installation dotée de réacteurs de destination;
- b. a été dispensée conformément aux exigences applicables du présent REGDOC et des REGDOC connexes;
- c. est, dans tous ses autres aspects, acceptable pour le titulaire de permis de l'installation dotée de réacteurs de destination.

Orientation

Restriction – La formation portant sur les connaissances générales est la seule composante d'un programme quelconque de formation initiale, précisée dans le présent REGDOC, dont le travailleur transféré peut être exempté.

Candidats au poste de SPR – Le titulaire de permis peut exempter du programme de formation générale applicable les candidats au poste de SPR qui satisfont aux critères d'exemption précisés dans cette sous-section. Toutefois, ces candidats doivent avoir réussi une formation personnalisée portant, au minimum, sur les connaissances pertinentes propres à la centrale.

14.5.4 Examens d'accréditation

À l'exception de l'exemption potentielle explicitement autorisée à la sous-section 14.5.5, le travailleur doit avoir réussi les mêmes examens d'accréditation que ceux administrés à tous les travailleurs tentant d'obtenir une accréditation pour occuper le poste désigné pertinent dans l'installation dotée de réacteurs de destination.

14.5.5 Exemption de l'examen d'accréditation portant sur les connaissances générales

Le titulaire de permis n'est pas tenu de faire passer un examen d'accréditation portant sur les connaissances générales au travailleur, si ce dernier a déjà obtenu une note de passage à un examen portant sur les connaissances générales qui :

- a. est équivalent à l'examen portant sur les connaissances générales administré à tous les travailleurs tentant d'occuper le même poste désigné à l'installation dotée de réacteurs de destination;
- b. a été administré par des examinateurs qualifiés conformément aux conditions fixées dans le permis de l'installation dotée de réacteurs de destination ou dans le document à l'appui, y compris toute exigence détaillée indiquée dans les documents mentionnés dans le permis ou dans le document à l'appui;
- c. est, dans tous ses autres aspects, acceptable pour le titulaire de permis de l'installation dotée de réacteurs de destination.

Orientation

Restriction – L'examen d'accréditation portant sur les connaissances générales est le seul examen d'accréditation du personnel dont le travailleur transféré peut être exempté. En outre, les

candidats au poste de SPR ne peuvent pas bénéficier de l'exemption précisée dans cette sous-section, puisque le personnel de la CCSN fait passer les examens d'accréditation et les tests de requalification des SPR couvrant à la fois les connaissances générales et les connaissances propres à la centrale.

14.5.6 Avis de transfert de personnel

Le titulaire de permis doit aviser la CCSN dans un délai raisonnable lorsqu'un travailleur visé par la présente sous-section participe à un programme de formation initiale mentionné dans le présent REGDOC. Cette communication doit inclure :

- a. le nom légal complet du travailleur;
- b. un résumé de toute exemption explicitement autorisée dans la sous-section 14.5 et utilisée dans le cadre de la sélection du travailleur, y compris, suivant les besoins :
 - i. les dates de début et de fin de la formation générale utilisée pour justifier l'exemption, ainsi que le nom du titulaire de permis et de l'installation dotées de réacteurs responsables du programme de formation générale associé;
 - ii. la date à laquelle l'examen général d'accréditation utilisé pour justifier l'exemption a été mené et le nom du titulaire de permis et de l'installation dotées de réacteurs l'ayant fait passer.

14.5.7 Informations supplémentaires lors de la demande d'accréditation

Au moment de la demande d'accréditation, le travailleur doit satisfaire à toutes les exigences d'accréditation du personnel applicables à n'importe quel travailleur qui tente d'obtenir une accréditation pour occuper le poste désigné pertinent à l'installation dotée de réacteurs mentionnée au permis.

En plus des exigences précisées dans la sous-section 6.2 et de la notification indiquée dans la présente sous-section, la demande d'accréditation doit inclure un résumé de toute analyse des besoins en matière de formation individuelle et de tout plan de formation individuel (PFI) et examen d'accréditation utilisés dans le cadre du transfert du travailleur.

Orientation

Fondement d'exemption – Les exemptions potentielles mentionnées dans cette sous-section s'appuient sur l'hypothèse d'un degré d'équivalence adéquat entre la formation générale suivie et l'examen portant sur les connaissances générales réussi par le candidat et ceux administrés à l'installation dotée de réacteurs de destination. La CCSN n'est pas tenue d'accréditer un travailleur qui s'est déjà vu accorder une exemption par le titulaire de permis, si elle n'est pas convaincue qu'il existait réellement un degré suffisant d'équivalence au moment où l'exemption a été accordée. En cas de doute, le titulaire de permis devrait consulter le personnel de la CCSN.

Discretion du titulaire de permis – Les exemptions potentielles mentionnées dans cette sous-section ne sont pas obligatoires. Le titulaire de permis de l'installation dotée de réacteurs de destination reste libre d'exiger que le travailleur transféré suive une formation générale avec

succès et passe un examen portant sur les connaissances générales avec succès, indépendamment de toute formation générale ou de tout examen d'accréditation qu'il aurait précédemment réussi.

15. Programmes de formation

15.1 Programmes de formation initiale

Le titulaire de permis doit mettre en œuvre et documenter des programmes de formation initiale spécifiquement conçus pour préparer les travailleurs à occuper chacun des postes désignés figurant au permis et pour qualifier lesdits travailleurs en vue d'une accréditation par la CCSN, conformément aux qualifications des travailleurs applicables précisées à la Partie III.

15.2 Programmes de formation continue

Le titulaire de permis doit mettre en œuvre et documenter des programmes de formation continue spécifiquement conçus pour maintenir la compétence des travailleurs occupant chacun des postes désignés figurant au permis et pour requalifier lesdits travailleurs avant le renouvellement de leur accréditation par la CCSN, conformément aux exigences applicables de requalification des travailleurs indiquées à la Partie III.

Orientation

Objectif – Le but des programmes de formation continue est de s'assurer que les travailleurs accrédités :

- a. conservent les connaissances et compétences ainsi que les attributs essentiels liés à la sûreté acquis lors de leur formation initiale;
- b. acquièrent, selon les besoins, de nouvelles connaissances et compétences et de nouveaux attributs leur permettant de composer avec les modifications procédurales et techniques pertinentes mises en œuvre au fil du temps.

15.2.1 Formation de recyclage

Les programmes de formation continue pertinents doivent inclure une formation de recyclage appropriée qui comprend des évaluations formelles des connaissances et des habiletés, lesquelles traitent de toute modification technique ou procédurale pertinente mise en œuvre à l'installation dotée de réacteurs figurant au permis, ainsi que des leçons pertinentes apprises par l'industrie au fil du temps, ce qui inclut sans s'y limiter :

- a. les modifications apportées aux systèmes et aux sous-systèmes de l'installation dotée de réacteurs;
- b. les changements apportés aux politiques, aux normes et aux procédures propres au titulaire de permis et à la centrale;
- c. les modifications des exigences réglementaires ou les exemptions de ces exigences;
- d. les modifications apportées au permis ou aux documents auquel il fait référence;
- e. l'expérience d'exploitation propre à la centrale et à l'industrie et les événements d'exploitation.

Le titulaire de permis doit rapidement dispenser la formation de recyclage portant sur les connaissances mentionnées dans le présent REGDOC suivant le changement ou l'événement

déclencheur, en ayant recours à des méthodes pédagogiques efficaces, y compris une formation appropriée sur simulateur, le cas échéant.

Orientation

Attente en matière de réglementation – Afin de s’assurer que les travailleurs accrédités peuvent exécuter leurs tâches en toute sécurité et avec compétence en tout temps, une formation de recyclage doit être dispensée en temps opportun. Les travailleurs accrédités devraient suivre une formation de recyclage dès que possible en fonction des circonstances et de l’importance du ou des changements pour la sûreté. Les changements critiques pour la sûreté devraient être communiqués au personnel d’exploitation pendant les changements de quart si la formation de recyclage ne peut pas être dispensée à l’avance à l’équipe de quart.

15.2.2 Formation de révision

Les programmes de formation continue pertinents doivent inclure une formation de révision appropriée qui comprend des évaluations formelles portant sur les connaissances et sur les habiletés, lesquelles traitent des connaissances et compétences ainsi que des attributs essentiels liés à la sûreté que les travailleurs accrédités ont acquis au cours de leur formation initiale et qui doivent être périodiquement revus et appliqués pour qu’ils continuent de les maîtriser.

Le titulaire de permis doit dispenser la formation de révision portant sur les connaissances mentionnée dans le présent REGDOC régulièrement et selon un cycle de formation n’excédant pas cinq (5) ans, en ayant recours à des méthodes pédagogiques efficaces, y compris une formation appropriée sur simulateur lorsque cela s’avère pertinent.

Orientation

Pratique exemplaire – En tenant compte des circonstances individuelles, les travailleurs accrédités devraient suivre une formation de révision suffisante pour passer en revue toutes les connaissances et compétences et tous les attributs applicables liés à la sûreté, au cours de chaque période d’accréditation de cinq (5) ans précédant le renouvellement de leur accréditation.

15.2.3 Formation continue sur simulateur pour le personnel d’exploitation

Les programmes de formation continue destinés au personnel d’exploitation, doivent inclure une formation appropriée sur simulateur, conçue pour garantir que le personnel d’exploitation maintient sa qualification, en appliquant ses connaissances et ses compétences ainsi que ses attributs liés à la sûreté, dans le cadre d’une formation récurrente basée sur les habiletés et traitant de divers scénarios simulés dans des conditions normales et anormales et, dans la mesure du possible, dans des conditions d’urgence.

La formation continue sur simulateur destinée au personnel d’exploitation doit, au minimum, comprendre :

- a. des exercices sur simulateur portant sur les manœuvres habituelles du réacteur et sur les évolutions de la centrale rarement exécutées par les travailleurs accrédités en service;
- b. des exercices sur simulateur traitant de divers scénarios qui :
 - i. sollicitent les capacités de diagnostic et de prise de décision des travailleurs accrédités;

- ii. permettent de garantir que les travailleurs accrédités conservent leur compétence de sélection et d'exécution des procédures opérationnelles, même dans des conditions anormales et d'urgence;
- c. des exercices et des entraînements garantissant que les travailleurs accrédités sont prêts à intervenir en cas d'accident et en situation d'urgence.

Orientation

Pratique exemplaire – La formation continue sur simulateur devrait traiter plus particulièrement des situations nécessitant la prise de décisions importantes pour la sûreté et pour lesquelles le temps constitue un facteur prépondérant ainsi que leur mise en œuvre rapide, afin d'éviter tout préjudice pour les travailleurs, le public ou l'environnement.

15.2.4 Formation sur l'intervention en cas d'urgence nucléaire

Le titulaire de permis doit organiser, sur une base périodique, une formation sur l'intervention en cas d'urgence nucléaire afin de s'assurer que les travailleurs accrédités sont adéquatement préparés pour intervenir en cas d'accidents hors dimensionnement crédibles et pour gérer les urgences nucléaires, conformément aux procédures d'exploitation d'urgence et aux lignes directrices pour la gestion des accidents graves établies.

Orientation

Stratégies et méthodes pédagogiques – La formation sur l'intervention en cas d'urgence nucléaire devrait mettre l'accent sur les rôles et les responsabilités des travailleurs accrédités et peut être dispensée par tout moyen efficace, allant des exercices sur table en salle de classe à la participation de travailleurs accrédités à des exercices d'intervention en cas d'urgence nucléaire de grande envergure.

Documents d'application de la réglementation complémentaires – D'autres exigences et orientations pertinentes à l'intention du personnel participant à la gestion des accidents, ainsi qu'à la préparation et à l'intervention en cas d'urgence nucléaire, se trouvent dans les REGDOC complémentaires pertinents indiqués dans la section Renseignements supplémentaires à la fin de ce REGDOC.

15.3 Système de formation pour les installations dotées de réacteurs

Les programmes de formation initiale et continue, mentionnés au présent REGDOC, doivent être conformes à un système de formation pour les installations dotées de réacteurs acceptable pour la CCSN.

Lorsque le titulaire de permis sous-traite, en tout ou en partie, tout aspect de la formation indiquée dans ce REGDOC, il doit s'assurer que les exigences et l'orientation précisées dans le présent document et dans tout autre document d'application de la réglementation complémentaire pertinent sont respectées par la ou les parties contractantes.

Orientation

Stratégies et méthodes pédagogiques – Lors de la mise en œuvre et de la prestation de la formation initiale et continue mentionnée au présent REGDOC, le titulaire de permis est libre d'utiliser toutes les stratégies pédagogiques efficaces et toute combinaison de méthodes

pédagogiques reconnues, notamment l'apprentissage selon un rythme personnel, l'apprentissage à distance et l'apprentissage en ligne.

Document d'application de la réglementation complémentaire – D'autres exigences et orientations relatives à la formation du personnel, notamment les systèmes de formation, se trouvent dans les REGDOC complémentaires pertinents indiqués dans la section Renseignements supplémentaires à la fin de ce REGDOC.

Exemples de programme de formation – L'0 contient des exemples de programmes de formation initialement mis en œuvre dans les installations dotées de réacteurs CANadiens à Deutérium Uranium (CANDU) et jugés acceptables par la CCSN. Nonobstant cette orientation supplémentaire, un programme de formation approprié est fondé sur le système de formation de l'installation dotée de réacteurs, comme prescrit par la CCSN.

15.4 Évaluations formelles de l'apprenant

Tous les programmes de formation et toutes les formations personnalisées mentionnés dans le présent REGDOC doivent inclure des évaluations formelles de l'apprenant portant, selon le cas, sur les connaissances ou sur les habiletés, conçues pour évaluer les progrès de chaque apprenant durant la formation en question.

Le titulaire de permis doit réaliser toutes ces évaluations formelles de l'apprenant conformément à un processus documenté indiquant :

- a. le nombre et la portée des évaluations formatives et sommatives jugées nécessaires pour suivre les progrès des candidats en fonction des volets et des jalons pertinents de la formation;
- b. les exigences et les procédures relatives à la conception, à l'élaboration, à la tenue et à la notation des évaluations;
- c. les exigences de qualification du personnel responsable de la conception, de l'élaboration, de la tenue et de la notation des évaluations.

Toutes les évaluations formelles de l'apprenant doivent être dispensées par des formateurs qualifiés ou des examinateurs qualifiés, dans le cadre d'une stratégie pédagogique documentée.

Orientation

Objectif – L'objectif des évaluations formelles de l'apprenant diffère de celui des examens d'accréditation et des tests de requalification; les premières fournissent une mesure actualisée de la progression de l'apprenant tout au long de la formation, tandis que les seconds servent de preuve formelle de la compétence du travailleur dans le but d'obtenir l'accréditation de la CCSN. Les résultats des évaluations de l'apprenant peuvent également servir à fournir une rétroaction à ces derniers et à aider les gestionnaires et les formateurs à déterminer le moment approprié où les examinateurs devraient faire passer à un groupe ou à un individu les examens d'accréditation et les tests de requalification du personnel requis par le CCSN.

15.5 Qualifications des formateurs

Le titulaire de permis doit s'assurer que le personnel est dûment qualifié pour dispenser la formation et les évaluations formelles de l'apprenant mentionnées au présent REGDOC auprès des travailleurs accrédités par la CCSN ou qui souhaitent obtenir une accréditation.

16. Examen d'accréditation et test de requalification

16.1 Séparation des fonctions de formation et d'examen

Le titulaire de permis doit s'assurer, dans la mesure du possible, qu'une séparation adéquate et qu'une relation sans lien de dépendance sont maintenues entre les formateurs qui dispensent la formation mentionnée au présent REGDOC et les examinateurs qui font passer les examens d'accréditation et les tests de requalification au nom de la CCSN. Dans ce cadre, au minimum :

- a. aucun examen d'accréditation ou test de requalification portant sur les connaissances ou sur les habiletés, administré conformément aux exigences du présent REGDOC, ne doit être conçu, élaboré, mené ou noté, en tout ou en partie, par un examinateur agissant à titre de formateur pour l'un ou l'autre des candidats subissant l'examen ou le test;
- b. aucun formateur ni aucun examinateur ne doit bénéficier, financièrement ou autrement, du taux de réussite des candidats aux évaluations formelles de l'apprenant, aux examens d'accréditation ou aux tests de requalification mentionnés dans le présent REGDOC.

Orientation

Objectif – Le maintien d'une séparation suffisante entre les formateurs et les examinateurs a pour but de s'assurer que la principale preuve de compétence exigée par la CCSN au moment de l'accréditation ou du renouvellement d'une accréditation, à savoir les résultats de l'examen d'accréditation ou du test de requalification, a été obtenue par des examinateurs qualifiés, indépendamment des formateurs concernés. Dans le contexte de l'accréditation du personnel, l'opinion des examinateurs sur la compétence des travailleurs doit constituer une vérification indépendante de l'opinion des formateurs en la matière, les examinateurs étant chargés de représenter l'organisme d'accréditation plutôt que l'employeur. Cette séparation constitue un aspect fondamental des pratiques exemplaires des organismes d'accréditation. La Commission ou le FD exige une preuve satisfaisante de compétence afin de se faire une opinion étayée de la compétence du travailleur, avant de prendre toute décision d'accréditation du personnel.

Pratique exemplaire – Idéalement, le personnel chargé de la formation et des examens devrait appartenir à des équipes distinctes, dirigées par des gestionnaires différents; cependant, la CCSN reconnaît que ce niveau de séparation n'est ni essentiel ni toujours réalisable dans la pratique.

16.2 Examens d'accréditation

Le titulaire de permis doit s'assurer que les examens d'accréditation portant sur les connaissances et portant sur les habiletés mentionnés dans le présent REGDOC sont conçus, élaborés, menés et notés par des examinateurs qualifiés, conformément aux exigences applicables de la CCSN précisées ou référencées dans le permis ou dans les documents qui l'accompagnent.

16.3 Tests de requalification

Le titulaire de permis doit s'assurer que les tests de requalification portant sur les connaissances et basés sur les habiletés mentionnés dans le présent REGDOC sont conçus, élaborés, menés et notés par des examinateurs qualifiés, conformément aux exigences applicables de la CCSN précisées ou référencées dans le permis ou dans les documents qui l'accompagnent.

16.4 Mesures de sécurité associées à l'administration d'examens d'accréditation et de tests de requalification

Le titulaire de permis doit mettre en œuvre et documenter des politiques et des procédures efficaces pour contrôler l'accès et l'utilisation des évaluations formelles de l'apprenant, des examens d'accréditation et des tests de requalification mentionnés dans le présent REGDOC.

Les mesures de sécurité associées doivent répondre aux exigences minimales suivantes :

- a. seul le personnel ayant un « besoin de savoir » valide doit avoir accès aux évaluations formelles de l'apprenant, aux examens d'accréditation et aux tests de requalification, ainsi qu'à tout document ou matériel connexe qui fournissent un indice direct de leur contenu;
- b. les formateurs ne doivent pas avoir accès au contenu précis d'un examen d'accréditation ou d'un test de requalification administré à leurs apprenants ni en avoir une connaissance préalable;
- c. les réponses aux questions à développement (QAD) des examens et des tests doivent être protégées contre tout accès non autorisé;
- d. les clés de correction des questions à choix multiple (QCM) des examens et des tests doivent être protégées contre tout accès non autorisé;
- e. tout dépôt, physique ou virtuel, contenant les QAD et les QCM des examens et des tests doit être protégé contre tout accès non autorisé;
- f. afin de s'acquitter de ses fonctions, le personnel de la CCSN participant aux activités de vérification de la conformité doit être exempté de toute mesure de sécurité établie par le titulaire de permis, conformément aux exigences précisées à la présente sous-section.

Orientation

Accès du personnel de la CCSN – Le personnel de la CCSN prendra les précautions appropriées, conformément aux normes de sécurité applicables aux employés fédéraux et aux mesures de sécurité précisées dans cette sous-section. De plus, le personnel de la CCSN respectera, dans toute la mesure du possible, les procédures pertinentes des titulaires de permis. Toutefois, aucun inspecteur de la CCSN ni aucun autre membre d'une équipe d'inspection ne peut se voir refuser l'accès à l'information requise par les membres du personnel de la CCSN pour s'acquitter de ses fonctions en vertu de la LSRN.

16.5 Qualifications des examinateurs

Le titulaire de permis doit s'assurer que le personnel chargé de faire passer les examens d'accréditation et les tests de requalification mentionnés dans le présent REGDOC a suivi, avec succès, la formation appropriée et est dûment qualifié pour faire passer ces examens et tests aux travailleurs accrédités par la CCSN ou qui souhaitent obtenir une accréditation.

17. Travail sous supervision

Le titulaire de permis doit établir et documenter, pour chaque poste désigné pertinent indiqué au permis, des procédures efficaces pour mener le TSS mentionné dans le présent REGDOC.

Toutes les périodes de TSS prescrites doivent répondre aux objectifs suivants :

- a. le TSS doit offrir au travailleur évalué une réelle occasion de démontrer un niveau fonctionnel de compétence et la capacité à assurer seul des quarts de travail, en tant qu'opérateur principal ou en tant que chef de quart;
- b. le TSS doit fournir aux gestionnaires de l'exploitation une période d'observation suffisante pour confirmer qu'il est possible de faire confiance au travailleur évalué pour assurer seul des quarts de travail, en tant qu'opérateur principal ou en tant que chef de quart, et pour exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

Lorsqu'il est mis en œuvre dans le cadre d'un programme de formation initiale, le TSS ne doit pas commencer tant que la responsabilité du rendement de l'apprenant n'a pas été transférée de l'autorité responsable de la formation à celle responsable de l'exploitation.

Orientation

Autorité de supervision – Étant donné que le TSS remplit principalement une fonction d'évaluation du rendement, plutôt qu'une fonction de formation, les périodes de TSS sont supervisées par du personnel d'exploitation accrédité, sous l'autorité de l'équipe de gestion de l'exploitation. Lors de la participation à un programme de formation initiale, l'apprenant devrait avoir acquis un niveau fonctionnel de compétence, avant le début de la période de TSS.

Formation en cours d'emploi – Nonobstant l'objectif principal du TSS prescrit, le titulaire de permis peut mettre en œuvre une FCE et du mentorat pendant toute période de TSS, notamment dans le cadre d'un programme de formation initiale.

18. Entrevues de la direction

Le titulaire de permis doit établir et documenter des procédures efficaces pour préparer et mener les diverses entrevues de la direction mentionnées dans le présent REGDOC.

Chaque entrevue obligatoire de la direction remplit une fonction d'évaluation et doit :

- a. être menée oralement par au moins un gestionnaire autorisé à représenter le titulaire de permis et à mener l'entrevue;
- b. fournir au travailleur évalué une réelle occasion de démontrer un niveau de compétence adéquat;
- c. fournir à au moins un membre de l'équipe de gestion de l'exploitation une réelle occasion de prendre une décision finale sur la compétence du travailleur;
- d. être consignée par écrit ou sur tout autre support récupérable, ce document devant être conservé et mis à la disposition de la CCSN, sur demande.

Orientation

Objectif – Le but de l'entrevue de la direction est de s'assurer que la décision prise par le titulaire de permis et par l'équipe de gestion de l'exploitation quant à la compétence adéquate des travailleurs est définitive et que chacun d'entre eux est pris en compte individuellement avant sa

présentation à l'accréditation par la CCSN ou sa réintégration dans ses fonctions, à la suite d'un retrait de poste pour un motif valable.

19. Politiques et procédures administratives applicables aux travailleurs en formation

Les politiques et procédures précisées à la présente section s'appliquent à tout travailleur, accrédité ou non, qui suit l'un des programmes de formation initiale mentionnés dans le présent REGDOC, dans le cadre de cette formation et en relation avec elle.

19.1 Réintégration d'un travailleur en formation suite à une interruption prolongée de la formation

Le titulaire doit établir et documenter un processus efficace pour gérer le cas d'un travailleur réintégrant un programme de formation initiale, après une interruption prolongée de sa formation. Dans le cadre de ce processus, le titulaire de permis doit :

- a. déterminer la nécessité d'une évaluation formelle de l'apprenant, et l'effectuer si la situation le justifie, y compris des tests portant sur les connaissances et sur les habiletés pour évaluer la rétention par le travailleur des connaissances et compétences acquises en formation et pour mettre en évidence toute lacune en la matière pouvant être apparue pendant la période d'interruption de la formation;
- b. déterminer le besoin d'une formation personnalisée, sur la base d'une analyse des besoins en matière de formation individuelle, en tenant compte de l'ensemble des connaissances et compétences éventuellement oubliées par le travailleur, ainsi que de toute modification ou actualisation des connaissances, des compétences et des attributs essentiels liés à la sûreté survenue pendant sa période d'absence;
- c. formuler et mettre en œuvre, si nécessaire, un plan de formation individuel;
- d. s'assurer qu'au minimum, le travailleur réussit l'ensemble des formations et des évaluations formelles de l'apprenant qu'il aurait manquées pendant sa période d'absence;
- e. déterminer un moment de réintégration approprié dans le programme de formation initiale concerné.

Tout travailleur qui s'absente d'un programme de formation initiale pour une période de six (6) mois ou plus doit, au minimum, suivre un processus formel de réintégration satisfaisant aux exigences de la présente sous-section.

Orientation

Pratique exemplaire – Le titulaire de permis devrait s'assurer, au cas par cas, que tous les travailleurs qui s'absentent de la formation initiale pendant une période prolongée sont évalués pour assurer une rétention adéquate des connaissances et compétences acquises, avant leur réintégration dans un programme de formation initiale. Toutefois, lorsque l'absence est inférieure à six (6) mois, la réintégration formelle est à la discrétion du titulaire de permis.

20. Politiques et procédures administratives applicables aux travailleurs accrédités

Les politiques et procédures précisées dans cette section s'appliquent à tous les travailleurs accrédités, dans le contexte du ou des postes désignés qu'ils occupent.

20.1 Aptitude au travail

Le titulaire de permis doit mettre en œuvre et documenter des politiques et des procédures efficaces en matière d'aptitude au travail afin de fournir à la CCSN une assurance raisonnable que les travailleurs accrédités sont exempts de toute déficience physique ou mentale qui pourrait nuire à leur capacité d'exercer les fonctions du ou des postes désignés pertinents avec compétence et en toute sécurité.

Les politiques et les procédures en matière d'aptitude au travail applicables aux travailleurs accrédités doivent être mises en œuvre, conformément aux exigences et à l'orientation mentionnées dans le présent REGDOC, ainsi que dans les REGDOC complémentaires traitant de l'aptitude au travail, notamment celles liées à la gestion de la fatigue des travailleurs et à la gestion de la consommation d'alcool et de drogues.

Orientation

Documents d'application de la réglementation complémentaires – D'autres exigences et orientations relatives à la gestion de la fatigue des travailleurs et à la gestion de la consommation d'alcool et de drogues, notamment en matière de tests de dépistage, se trouvent dans les REGDOC complémentaires pertinents indiqués dans la section Renseignements supplémentaires à la fin de ce REGDOC.

20.2 Occupation minimale des travailleurs accrédités

Le titulaire de permis doit s'assurer que les travailleurs accrédités occupent le(s) poste(s) désigné(s) précisé(s) sur leur(s) certificat(s) dans la mesure nécessaire, de façon qu'ils puissent maintenir un niveau de compétence adéquat pendant toute la durée de leur accréditation.

20.2.1 Exigence minimale de quart de travail pour le personnel d'exploitation

Les chefs de quart accrédités doivent exercer les fonctions du ou des postes désignés pertinents pendant un nombre minimal de quarts de travail complets par trimestre civil, acceptable pour la CCSN, et dont la durée représente un nombre minimal d'heures de travail par quart par trimestre civil, acceptable pour la CCSN.

Chaque chef de quart accrédité doit occuper le poste concerné selon le minimum requis, en tant que membre de l'effectif minimal, et non pas comme remplaçant ou à titre surnuméraire et, dans toute la mesure du possible, en relation avec un réacteur ou un groupe de réacteurs chargés en combustible et en exploitation.

Orientation

Objectif – L'exigence d'occupation minimale vise à s'assurer que les travailleurs accrédités effectuant un travail par quart sont exposés aux fonctions du poste désigné concerné à une fréquence suffisante pour maintenir un niveau de compétence adéquat. Cette exigence vise principalement les tâches routinières qui ne sont pas importantes pour la sûreté et pour lesquelles le temps ne constitue pas un facteur prépondérant, et qui peuvent donc être effectuées pendant le service sans avoir de répercussions négatives sur la sûreté nucléaire. Les connaissances et les

compétences importantes pour la sûreté et pour lesquelles le temps constitue un facteur prépondérant devraient être systématiquement traitées lors de la formation continue.

Exigence minimale – Le titulaire de permis n'est pas obligé de s'assurer que chaque quart de travail effectué par des travailleurs de quart accrédités satisfait aux exigences et à l'orientation de la présente sous-section, tant que chaque travailleur de quart accrédité travaille suffisamment pour répondre, sur une base trimestrielle, à l'exigence en matière d'occupation minimale applicable.

Programme de conformité – L'annexe B précise les exigences relatives au nombre minimal d'heures de quart, acceptable pour la CCSN, pour les installations dotées de réacteurs concernées et en service au moment de la publication de la dernière version du présent REGDOC.

Quart complet – Un quart complet signifie une période minimale de quatre (4) heures consécutives de travail dans un poste désigné, en tant qu'opérateur ou que chef de quart, précédée d'un transfert officiel des responsabilités du quart de la part d'un homologue ayant terminé son quart, et suivi d'un transfert équivalent, à un homologue débutant son quart, lors du changement de quart suivant.

Durée normale des quarts – La CCSN reconnaît que le titulaire de permis peut mettre en œuvre, soit comme norme, soit pour gérer les horaires de travail sur une base individuelle, des rotations et des durées de quarts différentes, mais tout aussi efficaces, notamment, une durée normale de quart de 12 heures.

Durée minimale de quart de travail – Compte tenu des préoccupations connues et des limites existantes concernant la fatigue des travailleurs, la CCSN ne déterminera pas de durée minimale de quart de travail, autre que la durée minimale susmentionnée de quatre (4) heures consécutives. Cette durée minimale est établie simplement pour s'assurer que chaque quart de travail complet, consigné dans le but de satisfaire à une exigence minimale en matière de quart de travail, constitue en fait une réelle exposition aux fonctions du poste désigné pertinent.

Aménagement raisonnable – Afin de fournir au titulaire de permis une flexibilité suffisante pour gérer les circonstances individuelles, notamment les travailleurs souffrant de maladies ou de douleurs chroniques, les travailleurs de quart accrédités sont libres d'effectuer des quarts de travail complets de toute durée minimale acceptable, tant que le nombre minimal de quarts complets et le nombre total d'heures de travail par quart applicables sont atteints, sur une base trimestrielle.

Chefs de quart principaux – Une fois dûment qualifiés, les chefs de quart principaux sont autorisés à exercer les fonctions de tout poste de chef de quart applicable, propre à la centrale, indiqués à l'Annexe A et peuvent donc effectuer des quarts de travail à titre de chef de quart ou de chef de quart principal, de manière interchangeable, afin de satisfaire à l'exigence de quart de travail minimal trimestriel applicable.

20.2.2 Report de l'exigence relative au nombre minimal de quarts de travail

Lorsqu'un chef de quart accrédité ne satisfait pas, au cours d'un trimestre civil donné, à une exigence applicable relative au nombre minimal de quarts, le nombre de quarts complets et d'heures de travail par quart non exécutés doit être effectué au cours du trimestre civil suivant, en plus de l'exigence relative au nombre minimal de quarts strictement applicable trimestre en question.

20.2.3 Occupation minimale des spécialistes principaux en radioprotection

Le titulaire de permis doit s'assurer que les travailleurs accrédités pour le poste de spécialiste principal en radioprotection exécutent régulièrement les tâches dudit poste pendant toute la durée de leur accréditation.

20.3 Gestion d'une période prolongée de non-emploi

Tout travailleur accrédité doit être officiellement retiré des fonctions du poste désigné pertinent et se voir attribuer un statut d'emploi inactif si, pour une période minimale de six (6) mois consécutifs, il n'est pas ou ne sera pas en mesure, indépendamment du motif :

- a. de suivre la formation continue prescrite;
- b. de satisfaire à une exigence applicable en matière de nombre de quarts de travail par trimestre.

Orientation

Applicabilité – Cette sous-section s'applique à tout travailleur accrédité qui satisfait à l'un des critères de non-emploi ou aux deux, quelles que soient les circonstances. Les circonstances pertinentes comprennent, mais sans s'y limiter, toute affectation de travail concurrente, notamment une réaffectation temporaire ou permanente, à l'intérieur ou à l'extérieur de l'installation dotée de réacteurs, ou un congé prolongé, par exemple un congé sabbatique, une absence pour raison médicale, un congé parental ou un congé de maternité. En outre, tout travailleur titulaire d'un certificat en vigueur qui cesse de suivre une formation continue ou de satisfaire à l'exigence applicable en matière d'occupation minimale, que ce soit volontairement ou non, y compris en raison d'un départ à la retraite, devrait être officiellement retiré de ses fonctions conformément à cette sous-section, et peut subséquemment être réintégré dans ses fonctions, conformément au processus de réintégration indiqué à la sous-section 20.5, si la situation le justifie.

20.4 Retrait des fonctions pour un motif valable

Tout travailleur accrédité satisfaisant à l'un des critères précisés dans cette sous-section doit être officiellement retiré des fonctions du poste désigné pertinent pour un motif valable et se voir attribuer un statut d'emploi inactif ou non accrédité, selon le cas.

20.4.1 Non-respect d'une exigence en matière d'occupation minimale

Le travailleur n'a pas satisfait à une exigence applicable relative au nombre minimal de quarts de travail trimestriels pendant deux (2) trimestres civils consécutifs.

Orientation

Applicabilité – Ce critère s'applique à un travailleur de quart accrédité qui devait satisfaire à une exigence applicable relative au nombre minimal de quarts et qui n'y a pas satisfait pendant deux (2) trimestres civils consécutifs. Les cas de travailleurs incapables d'effectuer un nombre suffisant de quarts de travail en raison d'une absence prolongée ou d'une affectation de travail

concurrente doivent être traités en vertu des dispositions relatives à une période prolongée de non-emploi précisées à la sous-section 20.3.

20.4.2 Échec au test de requalification

Le travailleur a échoué à un test de requalification, que ce soit dans un rôle principal ou de soutien.

20.4.3 Incapacité à travailler avec compétence et en toute sécurité

Le travailleur a fait l'objet d'un test de dépistage de drogue ou d'alcool positif, administré conformément au programme d'aptitude au travail prescrit par la CCSN, ou est autrement jugé inapte, par le titulaire de permis, à exercer les fonctions d'un poste désigné avec compétence et en toute sécurité, pour quelque raison que ce soit, notamment, mais sans s'y limiter :

- a. un problème médical ou physique, qu'il soit permanent ou temporaire;
- b. un problème de santé mentale, qu'il soit permanent ou temporaire;
- c. un rendement inadéquat en service, y compris toute intervention ou décision mettant en danger la santé et la sécurité des travailleurs ou du public, ainsi que l'environnement;
- d. une réticence démontrée à prendre les précautions nécessaires pour protéger la santé et la sécurité des travailleurs ou du public, ainsi que l'environnement, ou un manquement manifeste en la matière;
- e. un manque démontré d'intégrité ou de fiabilité.

Orientation

Applicabilité – En ce qui concerne toute condition médicale, physique ou de santé mentale, le critère de retrait des fonctions s'applique au cas d'un travailleur accrédité qui doit être retiré de ses fonctions par le titulaire de permis, avec ou sans le consentement du travailleur, parce que les troubles physiques ou physiologiques ou l'incapacité mentale résultant du problème sous-jacent interfèrent avec la capacité du travailleur à exécuter les fonctions du poste désigné concerné, avec compétence et en toute sécurité, quelle que soit la durée prévue de la condition.

20.4.4 Expiration d'un certificat

Le certificat du travailleur a expiré.

20.4.5 Décision proposée de ne pas accréditer un travailleur ou de lui retirer son accréditation

Le travailleur a été visé par une décision proposée par la CCSN de refuser l'accréditation ou de retirer l'accréditation, alors qu'une décision définitive par la Commission ou par un FD est toujours en attente.

Orientation

Justification du retrait – Conformément à la section 11, le travailleur et le titulaire de permis disposent de 30 jours civils pour demander la possibilité d'être entendu. Lorsque, en plus de ce délai minimal, une possibilité d'être entendu est demandée, la décision finale de la Commission ou d'un FD peut être considérablement retardée. Comme le travailleur conserve son accréditation pendant toute la durée de la procédure, alors que la Commission ou un FD a des raisons de la lui

retirer ou de la lui refuser, le travailleur doit être relevé des fonctions du poste désigné pertinent jusqu'à ce que la Commission ou un FD ait rendu une décision finale.

20.5 Processus de réintégration de base

Aucun travailleur accrédité qui a été retiré officiellement des fonctions d'un poste désigné ne doit être autorisé à exercer ces fonctions tant qu'il n'aura pas réussi un processus de réintégration de base approprié, conforme aux exigences précisées dans la présente sous-section.

Orientation

Applicabilité – Le processus de réintégration de base s'applique à tous les travailleurs accrédités retirés de leurs fonctions, quelle qu'en soit la raison. Le processus correctif, précisé ensuite à la sous-section 20.6, s'ajoute au processus de réintégration de base, mais ne s'applique qu'aux travailleurs accrédités retirés de leurs fonctions pour un motif valable.

20.5.1 Formation de recyclage

Le travailleur doit avoir suivi une formation de recyclage appropriée traitant de tous les changements techniques ou opérationnels pertinents mis en œuvre, et de toutes les leçons apprises pertinentes, pendant qu'il était officiellement retiré de ses fonctions du poste désigné, y compris, mais sans s'y limiter :

- a. les modifications apportées aux systèmes et aux sous-systèmes de l'installation dotée de réacteurs;
- b. les changements apportés aux politiques, aux normes et aux procédures propres au titulaire de permis et à la centrale;
- c. les modifications des exigences réglementaires ou les exemptions de ces exigences;
- d. les modifications apportées au permis ou aux documents auquel il fait référence;
- e. l'expérience d'exploitation propre à la centrale et à l'industrie et les événements d'exploitation.

20.5.2 Formation de révision

Le travailleur doit réussir une formation de révision appropriée, en rapport avec la durée de sa période d'absence ou du retrait de ses fonctions.

Au minimum, cette formation de révision doit englober toute formation de révision planifiée à laquelle le travailleur n'a pas assisté pendant qu'il était officiellement retiré de ses fonctions.

20.5.3 Formation sur simulateur

Le travailleur doit avoir suivi, avec succès, une formation appropriée sur simulateur traitant d'un nombre et d'une variété de scénarios proportionnelle à la durée de sa période d'absence ou du retrait de ses fonctions.

Au minimum, cette formation sur simulateur doit mettre à l'épreuve les compétences de diagnostic et de prise de décision du travailleur et englober toute formation planifiée sur simulateur à laquelle le travailleur n'a pas assisté pendant sa période d'absence ou de retrait de ses fonctions.

20.5.4 Travail sous supervision

Le travailleur doit avoir exercé, avec succès, les fonctions du poste désigné applicable sous la supervision d'un travailleur accrédité qualifié pour le même poste désigné et pour un nombre de quarts complets jugés suffisants par le titulaire de permis afin de confirmer que le travailleur peut exercer lesdites fonctions avec compétence et en toute sécurité.

20.5.5 Entrevue de la direction

Lorsqu'il est retiré de ses fonctions pour un motif valable, le travailleur doit avoir passé avec succès une entrevue menée en bonne et due forme par la direction.

Orientation

Applicabilité – L'entrevue de la direction n'est pas obligatoire pour les travailleurs réintégréés dans leurs fonctions à l'issue d'une période prolongée de non-emploi.

20.6 Mesures correctives à la suite d'un retrait pour motif valable

En plus du processus de réintégration de base précisé à la sous-section 20.5, aucun travailleur accrédité retiré de ses fonctions pour un motif valable, sur la base de l'un des critères définis à la sous-section 20.4, ne doit être autorisé à exercer les fonctions du poste désigné concerné jusqu'à ce qu'il ait suivi, avec succès, une formation de rattrapage appropriée qui est conforme au motif applicable du retrait, comme indiqué à la présente sous-section.

20.6.1 Non-respect d'une exigence en matière d'occupation minimale

Le titulaire de permis peut réintégrer un travailleur dans les fonctions du poste désigné pertinent, à la suite d'un manquement à une exigence d'occupation minimale si :

- a. les circonstances qui ont empêché le travailleur d'exercer les fonctions du poste désigné pertinent n'existent plus;
- b. le travailleur a effectué un nombre de quarts complets et d'heures de travail par quart sous la supervision d'un travailleur accrédité qualifié pour le poste désigné, correspondant au minimum au nombre de quarts complets et d'heures de travail par quart qu'il n'a pas effectué au cours du trimestre précédant le retrait de ses fonctions.

20.6.2 Échec au test de requalification

Le titulaire de permis peut réintégrer un travailleur dans les fonctions du poste désigné pertinent, à la suite d'un échec à un test de requalification, une fois que le travailleur a réussi un test de requalification de reprise équivalent à celui auquel il avait échoué.

Ce test de requalification de reprise doit être équivalent en tous points, mais ne doit être identique ni au test de requalification échoué par le candidat ni à aucun autre test de reprise qu'il aurait raté, dans le cadre du processus de réintégration. En outre, toute restriction établie dans des documents complémentaires concernant le chevauchement autorisé de sujets entre les tests de requalification doit s'appliquer.

20.6.3 Incapacité à travailler avec compétence et en toute sécurité

Le titulaire de permis peut réintégrer un travailleur dans les fonctions du poste désigné pertinent à la suite d'un retrait en raison d'une incapacité à travailler avec compétence et en toute sécurité si le motif du retrait des fonctions a été corrigé ou atténué de manière adéquate, ou n'existe plus.

20.6.4 Expiration d'un certificat

Le titulaire de permis peut réintégrer un travailleur dans les fonctions du poste désigné pertinent, à la suite de l'expiration d'un certificat, une fois qu'il a été officiellement informé de la décision de la Commission ou du FD d'accréditer à nouveau le travailleur.

Orientation

Lorsque la Commission ou le FD n'a pas l'intention de redonner son accréditation au travailleur, une décision proposée à cet égard sera prise, auquel cas la sous-sous-section 20.4.5 s'applique.

20.6.5 Décision proposée de ne pas accréditer un travailleur ou de lui retirer son accréditation

Le titulaire de permis peut réintégrer dans les fonctions du poste désigné pertinent un travailleur ayant fait l'objet d'une décision proposée de ne pas l'accréditer ou de lui retirer son accréditation, une fois qu'il a été officiellement informé de la décision de la Commission ou du FD d'accréditer le travailleur ou de ne pas lui retirer son accréditation.

Orientation

Lorsque la décision finale de la Commission ou du FD est de ne pas accréditer le travailleur ou de lui retirer son accréditation, celui-ci n'est plus accrédité par la CCSN comme étant qualifié pour exercer les fonctions du poste réglementé pertinent, et la restriction en matière de dotation établie à la sous-section 4.2 s'applique.

20.7 Avis de changement de statut d'emploi

20.7.1 Avis de retrait des fonctions

Le titulaire de permis doit informer sans délai la CCSN de tout travailleur accrédité retiré des fonctions d'un poste désigné, en précisant notamment les renseignements suivants :

- a. le nom légal complet du travailleur;
- b. le poste désigné pertinent;
- c. le statut d'emploi qui en résulte attribué au travailleur conformément à la section 3.2
- d. le motif du retrait des fonctions conformément à la section 20.3 ou 20.4, suivant les besoins.

20.7.2 Avis de réintégration dans les fonctions

Le titulaire de permis doit informer sans délai la CCSN de tout travailleur accrédité réintégré dans les fonctions d'un poste désigné, en précisant notamment les renseignements suivants :

- a. le nom légal complet du travailleur;
- b. le poste désigné pertinent;

- c. le statut d'emploi qui en résulte attribué au travailleur conformément à la section 3.2
- d. le motif du retrait antérieur des fonctions et une confirmation que ledit motif n'existe plus ou qu'il a été adéquatement résolu ou atténué, selon le cas;
- e. un résumé du processus de réintégration de base réussi par le travailleur;
- f. à la suite d'un retrait motivé, un résumé de toute mesure corrective prise pour satisfaire aux exigences applicables précisées à la section 20.6.

Orientation

Applicabilité – Les éléments indiqués aux sections 20.7.2.e et 20.7.2.f ne sont pas obligatoires à la suite d'une récupération de l'accréditation suivant un retrait de l'accréditation, puisque la CCSN est informée des détails du cas par le biais du processus de récupération de l'accréditation.

21. Gestion de l'information

Le titulaire de permis doit mettre en œuvre et documenter des politiques et des procédures efficaces de gestion de l'information garantissant :

- a. la conservation et la récupération rapide de la documentation organisationnelle et des dossiers de preuve de compétence liés à l'accréditation du personnel;
- b. la protection et le contrôle des renseignements de nature délicate relatifs à l'accréditation du personnel;
- c. l'accès illimité, par le personnel autorisé de la CCSN, à la documentation organisationnelle et aux dossiers du personnel précisés à la présente section.

21.1 Documents organisationnels

21.1.1 Rôles et responsabilités

Le titulaire de permis doit documenter, conserver et mettre à la disposition de la CCSN, sur demande, les rôles et les responsabilités :

- a. des travailleurs accrédités;
- b. de tout le personnel, y compris la direction, participant à la formation et la qualification des travailleurs qui tentent d'obtenir ou qui détiennent déjà une accréditation, notamment les formateurs, les examinateurs et les gestionnaires auxquels ont été délégués des pouvoirs d'approbation pertinents.

21.1.2 Procédures opérationnelles

Le titulaire de permis doit conserver et mettre à la disposition de la CCSN, sur demande, un exemplaire de la dernière version des politiques, des procédures et des schémas techniques, propres au titulaire de permis et à la centrale, consultés par les travailleurs accrédités pour exécuter les fonctions des postes désignés, avec compétence et en toute sécurité, notamment ceux liés :

- a. aux Lignes de conduite pour l'exploitation;
- b. aux attentes en matière de rendement des travailleurs;
- c. à la radioprotection;
- d. aux opérations normales et anormales;
- e. aux incidents anormaux;

- f. aux mesures de réduction de la puissance;
- g. à la gestion des accidents graves.

21.1.3 Gouvernance en matière de formation et de qualification

Pour chaque poste désigné mentionné dans le permis, le titulaire de permis doit documenter, conserver et mettre à la disposition de la CCSN, sur demande, les politiques, normes et procédures pour la formation et la qualification des travailleurs demandant une accréditation, et pour la formation et le maintien de la qualification des travailleurs titulaires d'une accréditation, y compris les procédures pour :

- a. gérer la formation initiale et continue;
- b. préparer et administrer les évaluations formelles de l'apprenant dispensées dans le cadre de la formation initiale et continue;
- c. préparer et faire passer les examens d'accréditation et les tests de requalification;
- d. gérer les périodes de TSS;
- e. préparer et mener les entrevues de la direction;
- f. tenir à jour des dossiers du personnel complets et exacts.

21.1.4 Qualifications des formateurs et des examinateurs

Le titulaire de permis doit documenter, conserver et mettre à la disposition de la CCSN, sur demande, un dossier des qualifications des formateurs et des examinateurs mentionné dans le présent REGDOC.

21.2 Dossiers du personnel

Pour chaque travailleur accrédité ou souhaitant obtenir une accréditation pour occuper un poste désigné, le titulaire de permis doit conserver et mettre à la disposition de la CCSN, sur demande, un dossier du personnel adéquat qui est conservé pendant toute la durée d'emploi du travailleur, que ce soit à titre d'employé ou d'entrepreneur, à laquelle s'ajoute une période de cinq (5) ans après la fin de l'emploi du travailleur à quelque titre que ce soit.

Au minimum, ces dossiers du personnel doivent comprendre ce qui suit :

- a. Niveau de scolarité ou de littératie – Le nom et l'adresse de tout établissement d'enseignement ou organisme de formation auprès duquel le travailleur a obtenu une accréditation, notamment un diplôme, un grade ou un certificat, et une copie de tout diplôme, grade ou certificat, exigé pour le programme de sélection du personnel du détenteur de permis.
- b. Expérience professionnelle – Un historique complet détaillé de toute période d'emploi requise par le programme de sélection du personnel du détenteur de permis, ou dans le cadre de la formation prescrite de familiarisation avec la centrale, incluant, dans chaque cas, le nom de l'employeur, l'adresse du lieu de travail et les dates de début et de fin d'emploi.
- c. Entrevues et épreuves de sélection du personnel – Un historique complet de toutes entrevues et épreuves de sélection du personnel, y compris la date et les résultats réels dans chaque cas, passées dans le cadre du programme de sélection du personnel du titulaire de permis.
- d. Transfert de personnel – Tous les renseignements détaillés, requis ou recueillis, dans le cadre d'un transfert de personnel.
- e. Promotion – Tous les renseignements détaillés, requis ou recueillis, dans le cadre d'une promotion à un poste de chef de quart ou de chef de quart principal.

- f. Formation – Un historique complet de la formation initiale et de la formation continue suivies, avec succès, par le travailleur, incluant les dates de début et de fin de chaque période distincte ou jalon de formation.
- g. Évaluations formelles de l'apprenant – Un historique complet des évaluations formelles de l'apprenant dont le travailleur a fait l'objet, dans le cadre de sa formation initiale ou continue, incluant, dans chaque cas, la date à laquelle l'évaluation s'est déroulée, son résultat, ainsi que le nom légal du ou des évaluateurs.
- h. Travail sous supervision – Un historique complet de tout travail effectué sous supervision par le travailleur, y compris, dans chaque cas, l'exigence ainsi satisfaite, la date de chaque quart de travail effectué sous supervision, ainsi que le nom légal complet du travailleur accrédité qui supervisait le travailleur, et l'accréditation de la CCSN qu'il détenait.
- i. Entrevues de la direction – Un historique complet des entrevues de la direction passées par le travailleur, incluant, pour chacune d'entre elles, la date, ainsi que le ou les noms légaux complets et le ou les titres de poste du ou des intervieweurs, ainsi qu'un compte rendu mot à mot ou un résumé des questions et des réponses échangées pendant l'entrevue.
- j. Examens d'accréditation – Les dossiers d'examen d'accréditation cités en référence dans le permis ou dans tout document connexe, ou encore dans tout REGDOC complémentaire mentionné dans ce REGDOC, dans le permis ou dans tout document connexe.
- k. Tests de requalification – Les dossiers des tests de requalification cités en référence dans le permis ou les documents de permis qui l'accompagnent, ou tout REGDOC complémentaire mentionné dans le présent REGDOC, le permis ou les documents de permis qui l'accompagnent.
- l. Dossiers d'emploi – Les dossiers d'emploi mentionnés à la sous-section 3.3.
- m. Aptitude au travail – Tout renseignement recueilli concernant l'aptitude au travail du travailleur, à l'exception des renseignements de nature délicate ou privilégiés protégés par les lois sur la confidentialité.
- n. Retraits et réintégrations – Un historique complet de tous les retraits des fonctions et de toutes les réintégrations dans les fonctions d'un poste désigné, y compris dans chaque cas, la date d'entrée en vigueur du retrait des fonctions et son motif et, le cas échéant, la date d'entrée en vigueur de la réintégration, ainsi que les mesures prises pour réintégrer le travailleur.

Orientation

Adéquation – Les dossiers du personnel adéquats sont exacts, complets, facilement accessibles et fournissent aux vérificateurs et aux inspecteurs une assurance raisonnable que la documentation conservée comme preuve de compétence est authentique.

Sous-partie B – Infrastructure physique

Le titulaire de permis doit s'assurer que l'installation dotée de réacteurs est équipée de l'infrastructure physique nécessaire pour dispenser la formation et faire passer les examens d'accréditation et les tests de requalification portant sur les connaissances et sur les habiletés, précisés dans le présent REGDOC, y compris, au minimum, les installations mentionnées dans la sous-partie B.

22. Installations pour la tenue des examens et des tests portant sur les connaissances

Le titulaire de permis doit s'assurer que les examinateurs ont accès à des installations adéquates permettant l'administration des examens d'accréditation et des tests de requalification pertinents portant sur les connaissances, conformément aux exigences applicables de la CCSN qui figurent sur le permis ou dans les documents qui l'accompagnent, y compris les mesures de sécurité requises.

Orientation

Installation adéquate – Les installations mentionnées dans cette section pour l'examen et le test portant sur les connaissances n'ont pas besoin d'être des espaces entièrement réservés aux examens ou aux tests. Toute salle peut être utilisée, si elle offre un environnement adéquat doté de systèmes d'éclairage, de chauffage et de ventilation suffisants pour l'administration d'examens et de tests, et si elle est temporairement, ou en permanence, aménagée de manière à assurer la sécurité de tout examen d'accréditation ou test de requalification qui s'y déroule.

23. Installations pour la tenue des examens et des tests portant sur les habiletés

Le titulaire de permis doit s'assurer que les examinateurs ont accès à un simulateur pleine échelle ou à un autre simulateur acceptable par la CCSN, permettant l'administration des examens d'accréditation et des tests de requalification pertinents portant sur les habiletés, conformément aux exigences applicables de la CCSN qui figurent sur le permis ou dans les documents qui l'accompagnent, notamment les mesures de sécurité requises. Tous les examens d'accréditation et tous les tests de requalification portant sur les habiletés mentionnés dans le présent REGDOC, doivent être administrés dans des installations ou sur des systèmes jugés acceptables par la CCSN.

23.1 Capacités de simulation

Le simulateur doit permettre de simuler, de façon réaliste et en temps réel, toutes les manœuvres importantes et tous les phénomènes transitoires importants qui peuvent se dérouler lorsque la centrale fonctionne dans des conditions normales et anormales, notamment :

- a. les démarrages et les arrêts du réacteur;
- b. les perturbations majeures de la centrale et les conditions d'accident;
- c. toutes les défaillances importantes des systèmes et des sous-systèmes associés, ainsi que les conséquences de ces défaillances;
- d. les réactions du système et de l'équipement aux interventions de l'opérateur.

Dans le cas de conditions et de défaillances dont l'amplitude peut varier, comme un bris de conduite, une perte d'inventaire ou de débit, une chute de pression ou une détérioration du vide,

le simulateur doit pouvoir simuler tous les degrés de gravité d'une condition ou d'une défaillance qui ont une incidence sur la réaction des systèmes ou sur les interventions de l'opérateur.

Orientation

La simulation doit être autonome une fois que le scénario simulé a été lancé, nécessitant une intervention minimale de l'opérateur du simulateur ou d'autres membres du personnel, sauf pour contrôler l'évolution du scénario simulé, y compris l'introduction de dysfonctionnements scénarisés et le besoin potentiel d'interrompre et de reprendre la simulation.

23.2 Aménagement physique

Dans la mesure du possible, le simulateur doit reproduire les systèmes et équipements d'exploitation et de surveillance mis à la disposition des travailleurs accrédités dans la salle de commande principale, ainsi que leurs relations dans l'espace.

Dans les cas où la CCSN a accepté l'utilisation d'un simulateur autre qu'un simulateur pleine échelle, soit en complément, soit en remplacement d'un simulateur pleine échelle, ce simulateur de remplacement doit, dans la mesure du possible, satisfaire aux exigences de cette sous-section, dans les limites physiques ou fonctionnelles inhérentes du simulateur.

23.3 Salle des opérations du simulateur

La salle des opérations du simulateur doit être isolée de la réplique de la salle de commande principale de manière à empêcher le ou les candidats évalués de voir ou d'entendre l'enregistrement de données ou la saisie d'entrées dans le simulateur, ainsi que toute communication entre l'opérateur du simulateur, le ou les examinateurs et les autres membres de l'équipe d'examen.

Orientation

Installation adéquate – L'installation du simulateur doit permettre de surveiller les interventions et les communications du ou des candidats, depuis la salle des opérations du simulateur, sans interférer avec le déroulement d'un examen d'accréditation ou d'un test de requalification.

23.4 Systèmes et équipement de communication

Le simulateur doit être équipé de répliques fonctionnelles du ou des systèmes ou de l'équipement de communication ou d'avertissement utilisés par les travailleurs accrédités dans la salle de commande principale de l'installation dotée de réacteurs simulée, y compris, selon le cas :

- a. des téléphones ou tout autre système de communication interne bidirectionnel;
- b. un système d'avertissement d'urgence radiologique avec ses alertes visuelles et sonores;
- c. un système d'avertissement d'urgence en cas d'incendie avec ses alertes visuelles et sonores;
- d. un système de diffusion publique.

23.5 Systèmes et équipement d'enregistrement de données

Afin de faciliter la tenue et la notation des examens d'accréditation et des tests de requalification basés sur les habiletés mentionnés dans le présent REGDOC, le simulateur doit être équipé de

systèmes et d'équipements d'enregistrement de données adéquats satisfaisant aux exigences minimales précisées dans la présente sous-section.

23.5.1 Enregistrement des interventions de l'opérateur

Le simulateur doit permettre l'enregistrement, la récupération et l'impression, dans l'ordre chronologique, avec l'heure de leur occurrence :

- a. de tous les dysfonctionnements provoqués par l'opérateur du simulateur;
- b. de toutes les interventions de l'opérateur effectuées par le ou par les candidats, en utilisant les panneaux de commande et l'instrumentation simulés.

23.5.2 Enregistrement des paramètres des systèmes

Le simulateur doit permettre :

- a. l'enregistrement, la récupération et l'impression de toutes les valeurs des paramètres des systèmes pertinents :
 - i. l'évaluation des interventions de l'opérateur effectué par le ou les candidats;
 - ii. la vérification de la fidélité du simulateur;
- b. la représentation graphique et l'impression de la variation des valeurs des paramètres du système en fonction du temps, sur la base d'une fréquence d'échantillonnage adéquate, et pour une durée d'enregistrement minimale de deux (2) heures.

23.5.3 Système d'enregistrement audiovisuel

Le simulateur doit être équipé d'un système d'enregistrement audiovisuel permettant :

- a. d'enregistrer et de revoir les interventions effectuées par chaque candidat évalué;
- b. d'enregistrer et de réécouter toutes les communications orales, y compris les échanges téléphoniques, entre le candidat ou les candidats évalués et les autres membres de l'équipe d'exploitation;
- c. d'identifier, sans équivoque, la voix de chaque candidat évalué;
- d. d'identifier les commandes d'exploitation, les instruments et les références utilisés par le ou les candidats évalués;
- e. la superposition chronologique, réelle ou simulée, sur les enregistrements audiovisuels.

Orientation

Objectif – En contexte, l'objectif principal du système d'enregistrement audiovisuel est de fournir à l'équipe d'examineurs des informations supplémentaires au moment de la notation, dans le cas où certaines actions et communications de l'opérateur ne sont pas observées pendant la conduite de l'examen, ou dans le cas où certaines des observations faites par le ou les examinateur(s) pendant la conduite de l'examen sont contradictoires ou équivoques.

Capacité – Lorsque des caméras sont installées pour satisfaire aux exigences de la présente sous-section, certaines des caméras devraient pouvoir fonctionner à distance, permettant à un opérateur situé dans la salle d'opération du simulateur d'effectuer des zooms et d'offrir une vue panoramique du cadre, en avant, en arrière et dans les trois dimensions, permettant ainsi à l'opérateur, au moyen d'un nombre suffisant de caméras, de suivre les mouvements du ou des

candidats dans l'ensemble du simulateur et de mettre en évidence l'instrumentation, les procédures opérationnelles et les dessins techniques utilisés par le ou les candidats.

23.5.4 Contrôle des données audiovisuelles

Le titulaire de permis doit établir et documenter des politiques et des procédures efficaces pour contrôler l'accès aux données audiovisuelles et leur utilisation, lors de la conception, de l'élaboration et du déroulement des examens d'accréditation et des tests de requalification.

Partie III – Qualifications des travailleurs

La Partie III précise les conditions préalables que les travailleurs des installations dotées de réacteurs doivent satisfaire pour être admissibles aux processus d'accréditation du personnel décrits à la Partie I. Ces conditions préalables s'appliquent à deux (2) groupes distincts de travailleurs accrédités : le personnel d'exploitation et les spécialistes principaux en radioprotection.

Sous-partie C – Personnel d'exploitation

24. Accréditation du personnel d'exploitation

Les exigences précisées à la présente section s'appliquent aux travailleurs qui occupent, ou souhaitent occuper, l'un des postes désignés des catégories génériques suivantes :

- a. opérateur de systèmes auxiliaires (OSA);
- b. opérateur de réacteur (OR);
- c. chef de quart.

24.1 Qualifications de base pour le personnel d'exploitation

Tout travailleur auquel il est fait référence dans cette section doit satisfaire, au moment de la demande d'accréditation, aux qualifications de base prévues pour le personnel d'exploitation et précisées à la présente sous-section.

24.1.1 Sélection du personnel

Le travailleur doit avoir satisfait, avant le début de sa formation initiale, aux conditions préalables de base précisées à la sous-section 14.2.1.

24.1.2 Connaissances générales

Le travailleur doit avoir réussi une formation générale fondée sur un système de formation et doit par conséquent posséder les connaissances fondamentales, y compris les principes de science appliquée et d'ingénierie, pertinentes pour la conception et le fonctionnement du ou des réacteurs, ainsi que des systèmes, des sous-systèmes et des équipements associés faisant partie de l'installation dotée de réacteurs mentionnée au permis.

24.1.3 Familiarisation avec la centrale

Avant le début de la formation propre à la centrale indiquée à la sous-section 24.1.4, le travailleur doit avoir réussi une formation de familiarisation propre à la centrale fondée sur un système de formation et doit posséder, au minimum, une compréhension de base :

- a. de l'aménagement physique de l'installation dotée de réacteurs figurant au permis, y compris l'emplacement et la taille des principaux systèmes, sous-systèmes et équipements;
- b. du système de gestion et de l'infrastructure organisationnelle nécessaire au fonctionnement de ladite installation dotée de réacteurs dans des conditions normales, anormales et d'urgence, y compris le mandat, les rôles et les responsabilités du personnel clé et des groupes de personnel.

24.1.4 Connaissances propres à la centrale

Le travailleur doit avoir réussi une formation propre à la centrale fondée sur un système de formation et doit, par conséquent, posséder les connaissances détaillées nécessaires pour exercer les fonctions avec compétence et en toute sécurité, dans des conditions normales, anormales et d'urgence, du ou des réacteurs, ainsi que des systèmes, des sous-systèmes et des équipements associés faisant partie de l'installation dotée de réacteurs mentionnée au permis.

Orientation

Précision – Les connaissances mentionnées dans cette sous-section sont les connaissances propres à la centrale qui, pour les candidats à un poste d'OSA, sont requises d'un OSA accrédité ou qui, pour les candidats à un poste d'OR et de chef de quart, sont requises d'un OR accrédité.

24.1.5 Gestion des urgences nucléaires

Le travailleur doit posséder une connaissance adéquate de l'intervention en cas d'urgence nucléaire et de la gestion des accidents hors dimensionnement, notamment des rôles et des responsabilités des travailleurs accrédités à l'égard des procédures d'exploitation d'urgence et de la gestion des accidents graves.

24.1.6 Formation en cours d'emploi

Le travailleur doit avoir réussi une formation en cours d'emploi (FCE) fondée sur un système de formation traitant, au minimum, des connaissances et compétences pertinentes et des attributs liés à la sûreté acquis ou renforcés le plus efficacement par la FCE.

24.1.7 Formation sur simulateur

Le travailleur doit avoir réussi une formation sur simulateur fondée sur un système de formation traitant, au minimum, des connaissances et compétences pertinentes et des attributs liés à la sûreté acquis ou renforcés le plus efficacement au moyen de scénarios simulés.

24.1.8 Examen d'accréditation portant sur les connaissances générales

Le travailleur doit avoir réussi un examen portant sur les connaissances qui prouve de manière suffisante qu'il possède les connaissances générales requises pour exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.1.9 Examen d'accréditation portant sur les connaissances propres à la centrale

Le travailleur doit avoir réussi un examen portant sur les connaissances qui prouve de manière suffisante qu'il possède les connaissances propres à la centrale requises pour exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.1.10 Examen d'accréditation basé sur les habiletés

Le travailleur doit avoir réussi, dans les deux (2) ans suivant la demande d'accréditation, un examen d'accréditation portant sur les habiletés effectué au moyen d'un simulateur pleine échelle ou d'un autre système approuvé, qui prouve de manière suffisante qu'il peut exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.1.11 Travail sous supervision

Le travailleur doit avoir effectué, avec succès, un nombre minimal d'heures de travail sous supervision (TSS) acceptable par la CCSN, dans le poste désigné pertinent et sous la supervision d'un travailleur qualifié accrédité pour occuper le poste désigné pertinent.

Orientation

Programme de conformité – L'annexe B précise le nombre minimal d'heures de TSS acceptable pour la CCSN, en ce qui concerne les installations dotées de réacteurs concernées et en service au moment de la publication de la dernière version du présent REGDOC.

24.1.12 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à représenter ce dernier, et qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions du poste désigné pertinent, avec compétence et en toute sécurité.

L'entrevue de la direction doit être menée après que toutes les autres exigences précisées à la sous-section 24.1 ont été satisfaites.

24.2 Qualifications supplémentaires relatives au poste de chef de quart

Outre les qualifications de base pour le personnel d'exploitation précisées à la sous-section 24.1, le travailleur qui souhaite obtenir une accréditation pour un poste de chef de quart doit satisfaire, au moment de sa demande d'accréditation, aux exigences supplémentaires précisées dans cette sous-section.

24.2.1 Critères supplémentaires de sélection du personnel

Le travailleur doit avoir rempli les conditions préalables supplémentaires mentionnées dans la sous-section 14.2.2.

24.2.2 Connaissances supplémentaires propres à la centrale

Le travailleur doit avoir réussi une formation supplémentaire portant sur les connaissances propres à la centrale fondée sur un système de formation, et doit, par conséquent, posséder les connaissances supplémentaires spécifiquement requises des chefs de quart concernant la

conception et le fonctionnement, dans des conditions normales, anormales et d'urgence, du ou des réacteurs, ainsi que des systèmes, des sous-systèmes et de l'équipement en place à l'installation dotée de réacteurs indiquée au permis.

Orientation

Précision – La formation supplémentaire sur les connaissances propres à la centrale pour les chefs de quart couvre toutes les connaissances supplémentaires propres à la centrale qui sont requises d'un chef de quart accrédité, en plus des connaissances propres à la centrale de base requises d'un OR accrédité.

24.2.3 Examen d'accréditation supplémentaire des connaissances propres à la centrale

Le travailleur doit avoir réussi un examen portant sur les connaissances qui prouve de manière suffisante qu'il possède les connaissances supplémentaires propres à la centrale précisément requises pour permettre aux chefs de quart d'exercer leurs fonctions avec compétence et en toute sécurité.

24.3 Requalification du personnel d'exploitation

Tout travailleur visé à la présente section qui demande le renouvellement de son accréditation doit satisfaire, au moment de la demande de renouvellement d'accréditation, aux exigences précisées dans la présente sous-section.

24.3.1 Formation continue

Le travailleur accrédité doit avoir suivi avec succès, au cours de la période d'accréditation actuelle, une formation continue appropriée répondant aux exigences mentionnées à la sous-section 15.2.

24.3.2 Tests de requalification portant sur les connaissances

Le travailleur accrédité doit avoir réussi, dans les deux (2) ans qui suivent la demande de renouvellement de l'accréditation, un test ou une série de tests de requalification portant sur les connaissances qui prouvent de manière suffisante qu'il a conservé les connaissances requises pour exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.3.3 Tests de requalification portant sur les habiletés

Le travailleur accrédité occupant un rôle prépondérant doit avoir réussi, dans les deux (2) ans suivant la demande de renouvellement de l'accréditation, un test ou une série de tests de requalification portant sur les habiletés effectué au moyen d'un simulateur pleine échelle ou d'un autre système approuvé, fournissant des preuves suffisantes qu'il peut exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.3.4 Durée minimale d'emploi du personnel d'exploitation

Le travailleur accrédité doit avoir occupé pendant une durée suffisante le poste désigné pertinent, en vue de maintenir un niveau de compétence adéquat.

Orientation

Durée minimale d'emploi – La CCSN ne prescrit pas un nombre précis d'heures en ce qui concerne la durée minimale d'emploi mentionnée dans cette sous-section. Néanmoins, le titulaire de permis devrait s'assurer que, dans toute la mesure du possible, chaque chef de quart accrédité est suffisamment exposé aux fonctions du poste désigné, soit en travaillant seul, soit dans le cadre de quarts supervisés, sur une base régulière ou périodique, tout au long de la période d'accréditation.

Remarque importante – Le titulaire de permis devrait prendre note du fait que les règlements d'application pertinents n'autorisent ni la CCSN ni un FD à renouveler une accréditation, si le travailleur accrédité n'a pas « exercé de façon compétente et en toute sécurité les fonctions » du poste désigné concerné.

24.4 Qualification pour la récupération de l'accréditation dans les cinq ans suivant l'expiration d'un certificat

Tout travailleur visé dans la présente section qui demande une récupération de son accréditation dans les cinq (5) ans suivant l'expiration d'une accréditation antérieure pour le même poste doit satisfaire, au moment de la demande de récupération de l'accréditation, aux exigences mentionnées dans la présente sous-section.

24.4.1 Formation personnalisée

Le travailleur doit avoir réussi une formation personnalisée, comprenant une formation de révision et de recyclage portant sur les connaissances et sur les habiletés, fondée sur une analyse des besoins en matière de formation individuelle et documentée et sur un plan de formation individuel documenté.

Au minimum, cette formation adaptée doit comprendre toute formation de révision et de recyclage programmée, notamment toute formation sur simulateur, que le travailleur a manquée pendant la période intermédiaire entre l'expiration du certificat et la demande de récupération de l'accréditation.

24.4.2 Tests de requalification portant sur les connaissances

Le travailleur accrédité doit avoir réussi, dans les deux (2) ans qui suivent la demande de récupération de l'accréditation, un test ou une série de tests de requalification portant sur les connaissances qui prouvent de manière suffisante qu'il a conservé les connaissances requises pour exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.4.3 Tests de requalification portant sur les habiletés

Le travailleur accrédité occupant un rôle prépondérant doit avoir réussi, dans les deux (2) ans suivant la demande de récupération de l'accréditation, un test de requalification exhaustif portant sur les habiletés effectué au moyen d'un simulateur pleine échelle ou d'un autre système approuvé, confirmant qu'il peut exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.4.4 Travail sous supervision

Le travailleur doit avoir exercé, avec succès, les fonctions du poste désigné pertinent sous la supervision d'un travailleur qualifié accrédité qui occupe le même poste désigné, et pour un nombre de quarts de travail complets jugé suffisant par le titulaire de permis pour confirmer que le travailleur peut exercer les tâches du poste désigné pertinent avec compétence et en toute sécurité.

24.4.5 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à représenter ce dernier, et qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions du poste désigné pertinent, avec compétence et en toute sécurité.

L'entrevue avec la direction doit être menée après que toutes les autres exigences précisées précédemment dans la sous-section 24.4 ont été satisfaites.

24.5 Qualification pour la récupération de l'accréditation à la suite d'un retrait de l'accréditation ou de l'expiration d'un certificat après cinq ans

Tout travailleur visé dans la présente section qui demande la récupération de son accréditation à la suite d'un retrait de celle-ci par la CCSN, ou à la suite de l'expiration d'un certificat survenu plus de cinq (5) ans avant la date de la demande, doit satisfaire, au moment de la demande de récupération de l'accréditation, aux exigences mentionnées dans la présente sous-section.

24.5.1 Mesures correctives en réponse au retrait de l'accréditation

Lorsque le travailleur demande la récupération de son accréditation à la suite d'un retrait d'accréditation, toute lacune identifiée comme faisant partie du motif fourni par la CCSN justifiant le retrait de l'accréditation du travailleur ne doit plus exister ou doit avoir été corrigée par le titulaire de permis à la satisfaction de la CCSN.

Orientation

En fonction du motif du retrait de l'accréditation, la rectification peut inclure toute méthode ou tout moyen utilisé pour rectifier ou corriger la cause du retrait de l'accréditation, y compris, mais sans s'y limiter, des mesures administratives, une formation corrective, une réhabilitation ou une thérapie.

24.5.2 Formation personnalisée

Le travailleur doit avoir réussi une formation personnalisée, comprenant une formation de révision et de recyclage portant sur les connaissances et sur les habiletés, fondée sur une analyse des besoins en matière de formation individuelle et documentée et sur un plan de formation individuel documenté.

Au minimum, la formation personnalisée mentionnée à la présente sous-section doit inclure toute formation de révision et de recyclage planifiée, y compris sur simulateur, que le travailleur a manquée pendant la période intermédiaire entre le retrait de l'accréditation ou l'expiration du certificat et la demande de récupération de l'accréditation.

24.5.3 Examen d'accréditation portant sur les connaissances propres à la centrale

Le travailleur doit avoir réussi, dans les deux (2) années précédant la demande de récupération de l'accréditation, un examen portant sur les connaissances propres à la centrale, qui prouve de manière suffisante qu'il possède les connaissances propres à la centrale requises pour exécuter les fonctions du poste désigné pertinent avec compétence et en toute sécurité.

Lorsque le travailleur sollicite une accréditation de chef de quart, le titulaire de permis doit lui faire passer les examens de base et supplémentaire propres à la centrale.

24.5.4 Examen d'accréditation portant sur les habiletés

Le travailleur doit avoir réussi, dans les deux (2) ans suivant la demande de récupération de l'accréditation, un examen d'accréditation portant sur les habiletés effectué au moyen d'un simulateur pleine échelle ou d'un autre système approuvé, qui prouve de manière suffisante qu'il peut exercer avec compétence et en toute sécurité les fonctions du poste désigné pertinent.

24.5.5 Travail sous supervision

Le travailleur doit avoir exercé, avec succès, les fonctions du poste désigné pertinent sous la supervision d'un travailleur qualifié accrédité qui occupe le même poste désigné, et pour un nombre de quarts de travail complets jugé suffisant par le titulaire de permis pour confirmer que le travailleur peut exercer les tâches du poste désigné pertinent avec compétence et en toute sécurité.

24.5.6 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à représenter ce dernier, et qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions du poste désigné pertinent, avec compétence et en toute sécurité.

L'entrevue de la direction doit être menée après que toutes les autres exigences précisées à la sous-section 24.5 ont été satisfaites.

Orientation

Calendrier – L'entrevue de la direction mentionnée dans la section 24 est la dernière activité effectuée avant toute demande d'accréditation ou de récupération de l'accréditation, car elle vise à être la dernière étape de l'évaluation des compétences du travailleur.

Dates d'entrée en vigueur – La période de validité de deux (2) ans applicable aux résultats de l'examen d'accréditation et du test de requalification portant sur les connaissances et sur les habiletés mentionnée dans la section 24 commence à la date à laquelle l'examen ou le test est effectué, et non à la date à laquelle la note est reçue.

Sous-partie D – Spécialistes principaux en radioprotection

25. Accréditation des spécialistes principaux en radioprotection

Les exigences précisées dans cette section concernent les travailleurs qui occupent un poste de spécialiste principal en radioprotection (SPR) ou qui souhaitent occuper un tel poste.

25.1 Qualifications des spécialistes principaux en radioprotection

Un travailleur qui sollicite une accréditation pour un poste de SPR doit satisfaire, au moment de la demande d'accréditation, aux exigences de la présente sous-section.

25.1.1 Sélection du personnel

Le travailleur doit avoir satisfait, avant le début de sa formation initiale, aux conditions préalables de base précisées aux sous-sections 14.2.1 et 14.2.2 respectivement.

25.1.2 Scolarité antérieure

Le travailleur doit :

- a. détenir un diplôme en radioprotection délivré par une université reconnue;
- b. être titulaire d'un baccalauréat en génie ou en sciences délivré par une université reconnue et avoir suivi, avec succès, une série de cours appropriés offerts par un établissement d'enseignement ou un organisme de formation reconnu portant sur les méthodes et les principes actuels de radioprotection.

25.1.3 Expérience professionnelle antérieure

Le travailleur doit posséder au moins quatre (4) années d'expérience pertinente, dont deux (2) à titre de spécialiste en radioprotection ou dans un poste équivalent, à une installation dotée de réacteurs.

25.1.4 Formation initiale

Le travailleur doit avoir réussi une formation initiale fondée sur un système de formation portant sur les connaissances générales et propres à la centrale, les habiletés et les attributs liés à la sûreté requis pour exécuter, avec compétence et en toute sécurité, les fonctions d'un SPR travaillant à l'installation dotée de réacteurs mentionnée au permis.

25.1.5 Expertise en radioprotection

Le travailleur doit, suivant la scolarité, l'expérience professionnelle et la formation initiale précisées précédemment à la sous-section 25.1, posséder une connaissance de la théorie des rayonnements, dans une mesure proportionnelle aux fonctions d'un SPR, y compris des risques radiologiques, et de la théorie et des pratiques de la radioprotection, y compris les procédures de radioprotection applicables à l'exploitation de l'installation dotée de réacteurs indiquée au permis, dans des conditions normales, anormales et d'urgence.

25.1.6 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à le représenter, qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions d'un SPR avec compétence et en toute sécurité.

L'entrevue de la direction doit avoir lieu une fois que le travailleur a réussi la formation initiale mentionnée à la sous-section 25.1.4, et avant l'examen d'accréditation précisé à la sous-section 25.1.7.

25.1.7 Examen d'accréditation

Le travailleur doit avoir réussi un examen portant sur les connaissances, administré par le personnel de la CCSN.

Orientation

Domaines de connaissances – L'annexe C fournit un résumé des principaux domaines de connaissances et des sujets choisis par le personnel de la CCSN lors des examens d'accréditation et des tests de requalification d'un SPR.

25.2 Requalification des spécialistes principaux en radioprotection

Un travailleur qui sollicite le renouvellement d'une accréditation pour un poste de SPR doit satisfaire, au moment de la demande de renouvellement d'accréditation, aux exigences précisées dans les sous-sections qui suivent.

25.2.1 Formation continue

Le travailleur doit avoir réussi une formation de révision et de recyclage fondée sur un système de formation portant sur les connaissances, les habiletés et les attributs liés à la sûreté requis pour exécuter, avec compétence et en toute sécurité, les fonctions d'un SPR à l'installation dotée de réacteurs mentionnée au permis.

25.2.2 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à le représenter, qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions d'un SPR avec compétence et en toute sécurité.

L'entrevue de la direction doit avoir lieu une fois que le travailleur a réussi la formation continue mentionnée à la sous-section 25.2.1, et avant le test de requalification précisé à la sous-section 25.2.3.

25.2.3 Tests de requalification

Le travailleur doit avoir réussi un test de requalification portant sur les connaissances mené par le personnel de la CCSN.

Orientation

Domaines de connaissances – L'annexe C fournit un résumé des principaux domaines de connaissances et des sujets choisis par le personnel de la CCSN lors des examens d'accréditation et des tests de requalification d'un SPR.

25.3 Qualification pour la récupération de l'accréditation après un retrait de l'accréditation ou l'expiration du certificat

Un travailleur qui sollicite une accréditation pour un emploi de SPR, à la suite du retrait de son accréditation par la CCSN ou de l'expiration de son certificat, doit satisfaire, au moment de la demande de récupération de l'accréditation, aux exigences précisées dans les sous-sections qui suivent.

25.3.1 Mesures correctives en réponse au retrait de l'accréditation

Lorsque le travailleur demande une accréditation à la suite d'un retrait de l'accréditation, toute lacune identifiée comme faisant partie du motif fourni par la CCSN justifiant le retrait de l'accréditation du travailleur ne doit plus exister ou doit avoir été corrigée par le titulaire de permis à la satisfaction de la CCSN.

Orientation

En fonction du motif du retrait de l'accréditation, la rectification peut inclure toute méthode ou tout moyen utilisé pour rectifier ou corriger la cause du retrait de l'accréditation, y compris, mais sans s'y limiter, des mesures administratives, une formation corrective, une réhabilitation ou une thérapie.

25.3.2 Formation personnalisée

Le travailleur doit avoir réussi une formation personnalisée, comprenant une formation de révision et de recyclage portant sur les connaissances et sur les habiletés, fondée sur une analyse des besoins en matière de formation individuelle et documentée et sur un plan de formation individuel (PFI) documenté.

Au minimum, la formation personnalisée mentionnée à la présente sous-section doit inclure toute formation planifiée de révision et de recyclage des connaissances que le travailleur a manquée pendant la période intermédiaire entre le retrait de l'accréditation ou l'expiration du certificat et la demande d'accréditation.

25.3.3 Entrevue de la direction

Le travailleur doit avoir passé avec succès une entrevue de la direction menée en bonne et due forme par un gestionnaire autorisé par le titulaire de permis à le représenter, qui a ainsi vérifié que le travailleur peut, de l'avis du titulaire de permis, accomplir les fonctions d'un SPR avec compétence et en toute sécurité.

L'entrevue de la direction doit avoir lieu une fois que le travailleur a réussi la formation personnalisée mentionnée à la sous-section 25.3.2, et avant l'examen d'accréditation précisé à la sous-section 25.3.4.

25.3.4 Examen d'accréditation

Le travailleur doit avoir réussi un examen portant sur les connaissances, administré par le personnel de la CCSN.

Annexe A : Postes désignés propres à la centrale

La présente annexe précise les postes désignés propres à la centrale qui correspondent à chaque catégorie générique de postes désignés mentionnés dans le présent REGDOC, pour l'installation dotée de réacteurs concernée et en service au moment de la publication de la version actuelle du présent REGDOC.

A.1 Postes propres à la centrale nécessitant une accréditation d'opérateur de système auxiliaire (OSA)

Installations dotées de réacteurs CANDU					
Installation	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
Poste d'OSA	Opérateur de la salle de commande de la tranche 0	Opérateur de la salle de commande de la tranche 0	Aucun	Aucun	Aucun

A.2 Postes propres à la centrale nécessitant une accréditation d'opérateur de réacteur (OR)

Installations dotées de réacteurs CANDU					
Installation	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
Poste d'OR	Opérateur nucléaire autorisé	Opérateur nucléaire autorisé	Aucun	Opérateur nucléaire autorisé	Opérateur de la salle de commande

A.3 Postes propres à la centrale nécessitant une accréditation de chef de quart

Installations dotées de réacteurs CANDU					
Installation	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
Poste de chef de quart	Chef de quart de la salle de commande	Chef de quart de la salle de commande	Aucun	Chef de quart de la salle de commande	Chef de quart
Poste de chef de quart principal	Gestionnaire de quart	Gestionnaire de quart	Aucun	Gestionnaire de quart	Aucun

A.4 Postes propres à la centrale nécessitant une accréditation de spécialiste principal en radioprotection (SPR)

Installations dotées de réacteurs CANDU					
Installation	Bruce	Darlington	Gentilly-2	Pickering	Point Lepreau
Poste de SPR	Spécialiste en radioprotection autorisé	Responsable technique de la radioprotection	Responsable technique de la radioprotection	Responsable technique de la radioprotection	Spécialiste principal en radioprotection

Annexe B : Programmes de conformité acceptables pour la CCSN

La présente annexe précise les programmes acceptables pour la CCSN que le titulaire de permis doit mettre en œuvre dans les installations dotées de réacteurs visées, en vue de se conformer aux exigences citées en référence, pour les installations dotées de réacteurs concernées et en service au moment de la publication de la version actuelle du présent REGDOC.

Programmes obligatoires d'accréditation du personnel pour les installations dotées de réacteurs CANDU

Référence	Description	Exigence
Sous-section 24.1.11	Nombre minimal d'heures de TSS requis pour l'accréditation du personnel d'exploitation	Le travailleur doit avoir effectué, avec succès, 360 heures de TSS dans le poste désigné concerné, sous la supervision d'un travailleur qualifié accrédité pour occuper le poste désigné.
Sous-section 14.4.1	Expérience minimale comme chef de quart avant une promotion à un poste de chef de quart principal	Le travailleur doit avoir exercé, avec compétence et en toute sécurité les fonctions de chef de quart à l'installation dotée de réacteurs mentionnée au permis pendant au moins 80 quarts de travail complets totalisant au moins 960 heures de travail avant d'être sélectionné pour une promotion au poste de chef de quart principal.
Sous-section 20.2.1	Exigence minimale de quart de travail pour le personnel d'exploitation	<p>Tout travailleur accrédité pour un poste d'OSA doit exercer les fonctions d'un OSA pour un nombre minimal de quatre (4) quarts de travail complets par trimestre civil, ce qui équivaut à un nombre minimal de 48 heures de travail.</p> <p>Tout travailleur accrédité pour un poste d'OR doit exercer les fonctions d'un OR pour un nombre minimal de quatre (4) quarts de travail complets par trimestre civil, ce qui équivaut à un nombre minimal de 48 heures de travail.</p> <p>Tout travailleur accrédité pour un poste de chef de quart, mais non qualifié comme chef de quart principal, doit exercer les fonctions d'un chef de quart pour un nombre minimal de quatre (4) quarts de travail complets par trimestre civil, ce qui équivaut à un nombre minimal de 48 heures de travail.</p> <p>Tout travailleur accrédité pour un poste de chef de quart qui est dûment qualifié comme chef de quart principal doit exercer les fonctions de chef de quart ou de chef de quart principal pour un nombre minimal de quatre (4) quarts de travail complets par trimestre civil, équivalant à un nombre minimal de 48 heures de travail par quart, par trimestre civil.</p>

Annexe C : Sujets des examens et des tests pour le poste de spécialiste principal en radioprotection

Les examens d'accréditation et les tests de requalification administrés par le personnel de la CCSN aux travailleurs qui souhaitent obtenir une accréditation ou le renouvellement d'une accréditation pour un poste de spécialiste principal en radioprotection couvrent des sujets divisés en trois (3) parties, chacune portant sur un domaine de connaissances spécifique, comme indiqué dans la présente annexe.

C.1 → Règlements et permis d'exploitation d'un réacteur de puissance

Les sujets pertinents comprennent, sans s'y limiter :

- a. dispositions pertinentes de la LSRN;
- b. règlements pertinents pris en vertu de la LSRN, à savoir :
 - i. *Règlement général sur la sûreté et la réglementation nucléaires;*
 - ii. *Règlement sur la radioprotection;*
 - iii. *Règlement sur les installations nucléaires de catégorie I;*
 - iv. *Règlement sur les substances nucléaires et les appareils à rayonnement;*
 - v. *Règlement sur l'emballage et le transport des substances nucléaires;*
- c. permis de l'installation dotée de réacteurs et les documents qui y sont cités en référence.

C.2 → Radioprotection

Les sujets pertinents comprennent, sans s'y limiter :

- a. culture de sûreté;
- b. conception, exploitation et entretien de l'installation dotée de réacteurs;
- c. politiques, normes et procédures propres au titulaire de permis et à la centrale;
- d. principes, méthodes et pratiques de radioprotection liés à l'exploitation de l'installation dotée de réacteurs mentionnée au permis;
- e. normes et conventions canadiennes, internationales et industrielles pertinentes.

C.3 → Rôles et responsabilités

Les sujets pertinents comprennent, sans s'y limiter :

- a. responsabilités et autorité du spécialiste principal en radioprotection;
- b. responsabilités et autorité des travailleurs qui interagissent avec le spécialiste principal en radioprotection.

Annexe D : Exemples de formation propre à la centrale

La présente annexe contient des exemples de domaines de connaissances propres à la centrale couverts dans les programmes de formation propres à la centrale, initialement mis en œuvre dans les installations dotées de réacteurs CANDU et jugés acceptables par la CCSN. Ces exemples sont inclus à titre d'orientation supplémentaire pour les exploitants d'installations dotées de réacteurs nouvellement autorisées qui tentent d'établir des programmes de formation appropriés. Nonobstant cette orientation supplémentaire, un programme de formation approprié est fondé sur un système de formation pour l'installation dotée de réacteurs, jugé acceptable par la CCSN.

D.1 → Formation propre à la centrale pour les opérateurs de réacteur

Les domaines de formation pertinents peuvent inclure :

- a. conception et exploitation des systèmes de l'installation dotée de réacteurs;
- b. exploitation intégrée des systèmes de l'installation dotée de réacteurs, y compris, le cas échéant, les interfaces entre les systèmes d'une tranche de réacteur et ceux d'autres tranches de réacteur, ainsi que les systèmes communs et auxiliaires;
- c. réaction attendue des systèmes et des tranches de l'installation dotée de réacteurs dans des conditions anormales et d'accidents;
- d. fondement technique des procédures d'exploitation d'urgence;
- e. diagnostic des pannes d'équipement et évaluation des conditions anormales de la centrale;
- f. phénomènes susceptibles de se répercuter de manière importante sur la réactivité et la forme du flux neutronique dans le cœur du réacteur;
- g. rechargement en combustible, limites à respecter lors du rechargement, manutention et entreposage du combustible, et refroidissement du combustible utilisé;
- h. configuration des systèmes et isolement de l'équipement requis pour les activités d'entretien;
- i. culture de sûreté;
- j. principes de la sûreté nucléaire et leur application;
- k. permis d'exploitation et documents qui y sont mentionnés;
- l. situations pouvant entraîner la violation des conditions du permis d'exploitation et des Lignes de conduite pour l'exploitation;
- m. procédures administratives liées à l'exploitation et à l'entretien de l'installation dotée de réacteurs;
- n. responsabilités et autorité d'un opérateur de réacteur, et des autres membres du personnel de l'installation dotée de réacteurs qui interagissent avec l'opérateur de réacteur.

D.2 → Formation supplémentaire propre à la centrale pour les chefs de quart de la salle de commande

Les domaines de formation pertinents peuvent inclure, en plus de ceux applicables à la formation propre à la centrale pour les opérateurs de réacteur :

- a. physique des réacteurs, principes de fonctionnement des réacteurs et stratégies de rechargement du combustible;
- b. phénomènes susceptibles de se répercuter de manière importante sur la réactivité et la forme du flux neutronique dans le cœur du réacteur;
- c. propriétés du combustible utilisé, principes de refroidissement du combustible et physique des défaillances du combustible;
- d. limites et contraintes d'exploitation associées au rechargement du combustible et au refroidissement du combustible utilisé;

- e. sûreté des réacteurs, mécanismes des échanges thermiques et mécanique des fluides;
- f. sources froides principales et de secours;
- g. risques conventionnels et radiologiques pour le personnel de l'installation dotée de réacteurs et pour le public, incluant les risques associés aux conditions d'accident hypothétiques;
- h. gestion des urgences classiques et radiologiques;
- i. gestion d'une entrée par effraction ou d'un attentat terroriste;
- j. exigences de conception de l'équipement et des systèmes liés à la sûreté;
- k. caractéristiques de conception et limites de l'équipement et des systèmes de l'installation dotée de réacteurs;
- l. contrôle chimique des systèmes;
- m. diagnostic des pannes d'équipement et évaluation des conditions anormales de la centrale;
- n. réaction attendue des systèmes et des tranches de l'installation dotée de réacteurs dans des conditions anormales et d'accidents;
- o. stratégies d'exploitation;
- p. analyses de la sûreté de l'installation dotée de réacteurs, y compris les principales hypothèses utilisées dans les analyses d'accident et les fondements techniques des procédures d'exploitation d'urgence;
- q. configuration des systèmes et isolement de l'équipement requis pour les activités d'entretien;
- r. conception et exploitation des systèmes de l'installation dotée de réacteurs pour lesquels les opérateurs de réacteur n'ont pas de contrôle opérationnel direct, y compris les systèmes communs et les systèmes de manutention du combustible;
- s. politiques, normes et procédures du titulaire de permis;
- t. permis d'exploitation et documents qui y sont mentionnés;
- u. situations pouvant entraîner la violation des conditions du permis d'exploitation et des Lignes de conduite pour l'exploitation;
- v. exigences relatives à l'exploitation de l'installation dotée de réacteurs inscrites dans les lois et les règlements fédéraux et provinciaux, ainsi que dans les normes et les codes pertinents;
- w. responsabilités et autorité du chef de quart de la salle de commande, du chef de quart de la centrale et des autres membres du personnel de l'installation dotée de réacteurs qui rendent compte au chef de quart de la salle de commande et au chef de quart de la centrale ou qui interagissent avec eux;
- x. exigences de qualification des membres du personnel de l'installation dotées de réacteurs qui rendent compte au chef de quart de la salle de commande et au chef de quart de la centrale.

D.3 → Formation propre à la centrale pour les spécialistes principaux en radioprotection

Les domaines de formation pertinents peuvent inclure :

- a. dispositions pertinentes de la LSRN;
- b. règlement pris en vertu de la LSRN, y compris :
 - i. *Règlement général sur la sûreté et la réglementation nucléaires;*
 - ii. *Règlement sur la radioprotection;*
 - iii. *Règlement sur les installations nucléaires de catégorie I;*
 - iv. *Règlement sur les substances nucléaires et les appareils à rayonnement;*
 - v. *Règlement sur l'emballage et le transport des substances nucléaires;*
- c. culture de sûreté;
- d. responsabilités et autorité du spécialiste principal en radioprotection;
- e. responsabilités et autorité des membres du personnel de l'installation dotée de réacteurs qui interagissent avec le spécialiste principal en radioprotection;
- f. responsabilités et autorité des membres d'organismes externes qui interagissent avec le spécialiste principal en radioprotection, notamment dans le contexte de la gestion des urgences nucléaires;
- g. permis d'exploitation et documents qui y sont mentionnés;
- h. politiques, normes et procédures du titulaire de permis et de l'installation dotée de réacteurs;

- i. conception, exploitation et entretien de l'installation dotée de réacteurs;

Glossaire

Les définitions des termes utilisés dans le présent document figurent dans le [REGDOC--3.6, *Glossaire de la CCSN*](#), qui comprend des termes et des définitions tirés de la [Loi sur la sûreté et la réglementation nucléaires](#), de ses règlements d'application ainsi que des documents d'application de la réglementation et d'autres publications de la CCSN. Le REGDOC-3.6 est fourni à titre de référence et pour information.

Les définitions suivantes sont soit nouvelles, soit des versions modifiées de termes déjà définis. Après une consultation publique, la version définitive des termes et de leur définition sera soumise aux fins d'intégration dans la prochaine édition du REGDOC-3.6, *Glossaire de la CCSN*.

(modifié)

accréditation (*certification*)

Attestation de la Commission, ou d'un fonctionnaire désigné autorisé par la Commission, attestant qu'une personne est qualifiée pour exercer les activités autorisées pour le compte du titulaire de permis, y compris les fonctions d'un poste désigné.

(nouveau)

analyse des besoins en matière de formation individuelle (*individual training needs analysis*)

Processus systématique par lequel les besoins de formation d'un seul travailleur sont déterminés en identifiant toute lacune dans les connaissances, les compétences et les attributs liés à la sûreté requis pour que le travailleur accomplisse ses fonctions avec compétence et en toute sécurité.

(nouveau)

candidat (*candidate*)

Dans le cadre d'une demande d'accréditation, y compris la récupération d'une accréditation ou le renouvellement d'une accréditation, il s'agit du travailleur qui demande une accréditation et dont la candidature est évaluée par la CCSN; dans le cadre d'un examen d'accréditation ou d'un test de requalification, il s'agit du travailleur dont les connaissances ou les habiletés sont évaluées.

(nouveau)

chef de quart accrédité (*certified shift worker*)

Travailleur accrédité qui effectue un travail par quart, normalement dans la salle de commande principale, comme partie intégrante des fonctions du poste désigné, par opposition aux travailleurs accrédités dont les fonctions sont généralement exercées pendant les heures normales de travail.

(nouveau)

chef de quart principal (*senior shift supervisor*)

Chef de quart accrédité qui exerce une autorité sur un certain nombre de chefs de quart comme partie intégrante du système de gestion et de l'effectif minimal; par exemple, les gestionnaires de quart employés dans des installations dotées de réacteurs CANDU à tranches multiples sont considérés comme des chefs de quart principaux.

(nouveau)

certificat (*certificate*)

Preuve d'accréditation imprimée par la CCSN délivrée à chaque travailleur accrédité et signée par un membre de la Commission ou un fonctionnaire désigné agissant au nom de la Commission.

(nouveau)

compétence des travailleurs (*worker competency*)

Capacité déduite d'un travailleur ou d'un effectif à exécuter les tâches de son poste avec compétence et en toute sécurité sur la base de connaissances, de compétences et d'attributs liés à la sûreté démontrés.

(modifié)

évaluation de l'apprenant (*learner evaluation*)

Évaluation des progrès réalisés par les participants au cours d'un programme d'enseignement (évaluation formative) et de leur réussite à la fin du programme (évaluation sommative).

(nouveau)

fidélité du simulateur (*simulator fidelity*)

Niveau auquel un simulateur reproduit l'aspect physique et le comportement de l'objet simulé.

(nouveau)

formation personnalisée (*tailored training*)

Formation adaptée pour répondre aux besoins de formation spécifiques d'un apprenant individuel sur la base d'une analyse des besoins en matière de formation individuelle et d'un plan de formation individuel, par opposition à un programme de formation établi.

(nouveau)

organisme d'accréditation (*certifying body*)

L'entité juridique ou l'association habilitée ou autorisée à accréditer les travailleurs et à établir les exigences d'accréditation des travailleurs en rapport avec une profession ou un emploi donné; aux fins du présent document d'application de la réglementation, la CCSN agit comme organisme d'accréditation.

(nouveau)

plan de formation individuel (*individual training plan*)

Stratégie de formation, y compris les objectifs d'apprentissage et la ou les évaluations de l'apprenant, résultant d'une analyse des besoins en matière de formation individuelle et servant de base à la formation d'un seul apprenant, par opposition à celle d'un groupe d'apprenants.

(nouveau)

portant sur les connaissances (*knowledge-based*) [évaluation de l'apprenant, examen d'accréditation, test de requalification]

Se dit d'une évaluation visant à mesurer la rétention des connaissances liées à l'emploi au moyen d'une méthode de questions-réponses orales ou écrites.

(nouveau)

portant sur les habiletés (*performance-based*) (évaluation de l'apprenant, examen d'accréditation, test de requalification)

Se dit d'une évaluation des connaissances et des compétences liées à l'emploi et des attributs liés à la sûreté, basée sur l'observation directe de l'exécution d'une tâche ou d'une série de tâches liées à l'emploi.

(nouveau)

poste désigné (*designated position*)

Poste ayant une incidence directe et immédiate sur la sûreté nucléaire et qui a été désigné dans un permis en ce qui concerne un programme d'accréditation du personnel ou un autre processus d'autorisation, et qui doit donc être doté de travailleurs dûment accrédités ou autorisés par la CCSN.

(nouveau)

quart de travail complet (*complete shift*)

Quart de travail effectué dans un poste désigné en tant que membre de l'effectif minimal consistant en une période minimale de quatre (4) heures consécutives de travail, précédée d'un transfert officiel des responsabilités du quart de la part d'un homologue ayant terminé son quart, et suivi d'un transfert équivalent, à un homologue débutant son quart.

(modifié)

simulateur pleine échelle (*full-scope simulator*)

Simulateur capable d'effectuer une modélisation détaillée de la réponse, dans des conditions normales, anormales et d'accident de dimensionnement, du réacteur ou du groupe de réacteurs et des systèmes et sous-systèmes associés installés dans une installation dotée d'un réacteur. Un simulateur pleine échelle est équipé d'une réplique de l'instrumentation de la salle de commande principale et permet aux utilisateurs de surveiller et de faire fonctionner en temps réel les systèmes et les sous-systèmes simulés dans un environnement reproduisant les caractéristiques physiques et fonctionnelles de l'instrumentation normalement disponible pour le personnel d'exploitation.

Abréviations

Abréviation	Signification
CANDU	réacteur CANadien à Deutérium-Uranium
CCSN	Commission canadienne de sûreté nucléaire
FCE	formation en cours d'emploi
FD	fonctionnaire désigné
LSRN	<i>Loi sur la sûreté et la réglementation nucléaires</i>
OR	opérateur de réacteur
OSA	opérateur de système auxiliaire
PFI	plan de formation individuel
QAD	questions à développement
QCM	questions à choix multiples
SPR	spécialiste principal en radioprotection
TSS	travail effectué sous supervision

Renseignements supplémentaires

Ce document doit être lu conjointement avec les REGDOC complémentaires de la CCSN qui font partie de la série sur la gestion de la performance humaine et d'autres DSR. Les documents énumérés dans cette section sont les REGDOC complémentaires applicables à la version actuelle du REGDOC-2.2.3, tome III.

1. REGDOC-2.1.1, *Système de gestion*
2. REGDOC-2.1.2, *Culture de sûreté*
3. REGDOC-2.2.1, *Facteurs humains*
4. REGDOC-2.2.2, *La formation du personnel*
5. REGDOC-2.2.4, *Aptitude au travail : Gérer la fatigue des travailleurs*
6. REGDOC-2.2.4, *Aptitude au travail, tome 2 : Gérer la consommation d'alcool et de drogues*
7. REGDOC-2.2.5, *Effectif minimal*
8. REGDOC-2.3.2, *Gestion des accidents*
9. REGDOC-2.10.1, *Préparation et intervention relatives aux urgences nucléaires*
10. REGDOC-3.1.1, *Rapports à soumettre par les exploitants de centrales nucléaires*

Séries de documents d'application de la réglementation de la CCSN

Les installations et les activités du secteur nucléaire du Canada sont réglementées par la CCSN. En plus de la *Loi sur la sûreté et la réglementation nucléaires* et de ses règlements d'application, ces installations et activités pourraient devoir se conformer à d'autres outils de réglementation, comme les REGDOC ou les normes.

Les documents d'application de la réglementation préparés par la CCSN sont classés en fonction des catégories et des séries suivantes :

1.0 Installations et activités réglementées

Séries 1.1 Installations dotées de réacteurs

- 1.2 Installations de catégorie IB
- 1.3 Mines et usines de concentration d'uranium
- 1.4 Installations nucléaires de catégorie II
- 1.5 Homologation d'équipement réglementé
- 1.6 Substances nucléaires et appareils à rayonnement

2.0 Domaines de sûreté et de réglementation

Séries 2.1 Système de gestion

- 2.2 Gestion de la performance humaine
- 2.3 Conduite de l'exploitation
- 2.4 Analyse de la sûreté
- 2.5 Conception matérielle
- 2.6 Aptitude fonctionnelle
- 2.7 Radioprotection
- 2.8 Santé et sécurité classiques
- 2.9 Protection de l'environnement
- 2.10 Gestion des urgences et protection-incendie
- 2.11 Gestion des déchets
- 2.12 Sécurité
- 2.13 Garanties et non-prolifération
- 2.14 Emballage et transport

3.0 Autres domaines de réglementation

Séries 3.1 Exigences relatives à la production de rapports

- 3.2 Mobilisation du public et des Autochtones
- 3.3 Garanties financières
- 3.4 Délibérations de la Commission
- 3.5 Processus et pratiques de la CCSN
- 3.6 Glossaire de la CCSN

Remarque : Les séries de documents d'application de la réglementation pourraient être modifiées périodiquement par la CCSN. Chaque série susmentionnée peut comprendre plusieurs documents d'application de la réglementation. Pour obtenir la plus récente [liste de documents d'application de la réglementation](#), veuillez consulter le site Web de la CCSN.

Detailed comments table for public consultation on REGDOC-2.2.3, Personnel Certification, Volume III: Certification of Reactor Facility Workers, Version 2

Tableau des commentaires sur le REGDOC-2.2.3, Accréditation du personnel, tome III : Accréditation des personnes qui travaillent dans des installations dotées de réacteurs, version 2

Table A - Consultation period: July 4th to October 18, 2022
Comments received: 139 comments from 6 reviewers

Table B – February 16, 2023 Workshop

Tableau A - Période de consultation: 4 juillet au 18 octobre 2022
Commentaires reçus : 139 commentaires reçus de 6 examinateurs

Tableau B – Atelier du 16 février 2023

Table A - Consultation period/Tableau A - Période de consultation

#	Section	Organisation	Comments Commentaires	CNSC staff responses Réponses du personnel de la CCSN
1.	General	Bruce Power, CNA, OPG, NB Power	The nuclear power plant facilities (Industry) appreciate the opportunity to provide feedback on this important document, which impacts the effectiveness and timeliness of the training programs for certifying workers at nuclear power plants. We further recognize the many improvements this version already incorporates from the past versions, of note: better definition of information required for application for certification and renewal of certification; direction on requirements for certified staff transferring to other facilities; validity periods and sequencing of written/simulator examinations removed/extended; revised certification of SM to a licensee managed qualification; and revised lists of station specific topic areas to guidance, allowing licensees to fully implement Systematic-Approach-to-Training (SAT) based training programs.	<p>CNSC staff acknowledges the industry’s general comments and thanks the organizations that contributed to the joint feedback. CNSC staff will host a follow-up workshop to ensure that both the licensees’ concerns and the proposed regulatory changes are fully understood by all the stakeholders involved. In the interim, the following are intended as initial responses.</p> <p>Topic 1 CNSC staff aims to produce a regulatory tool that allows designated officers (DO) and Examination and Certification Officers (ECO) to carry out their duties under the Act effectively, not merely in context of the current CANDU reactor fleet, but also in relation to future operations, including small modular reactors (SMR). Accordingly, CNSC staff may rely on qualitative metrics when quantitative metrics are unavailable or undesirable, repeat content in order to minimize ambiguity, and modernize terminology as warranted.</p>

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			<p>Given this, ensuring this version of the REGDOC's structure, requirements and guidance are as clear as possible will avoid confusion on expectations, internal churn and the potential for errors during implementation. The intent of our feedback is to share the practical challenges of applying the proposed text as currently written. The majority of our comments focus on improving the clarity of the final document, while a few of the comments identify inconsistencies or conflicts with other REGDOCs, CNSC guidance, or Industry best practices.</p> <p>Following a collective review by personnel with extensive experience developing SAT based programs, licensees have identified several areas where misunderstanding may be possible and detailed them in this table of comments. To ensure the intent and impacts of these proposals are fully understood, Industry requests the CNSC host a workshop with all impacted stakeholders before this draft is revised and submitted to the Commission for approval. Licensees suggest the following topics for discussion:</p> <ol style="list-style-type: none"> 1. Presence of subjective or ambiguous wording or wording repetitive of or inconsistent with other REGDOCs <ul style="list-style-type: none"> ○ Causes regulatory uncertainty and may lead to inconsistent implementation amongst industry. ○ To the extent possible, the wording of the REGDOC should be explicit and not be susceptible to subjective interpretation. ○ Confusion on, or misinterpretation of, the REGDOC expectations between Industry and CNSC staff will create additional, possibly excessive, discussions to address this uncertainty. 2. Over-prescription of requirements <ul style="list-style-type: none"> ○ By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished. 3. Applicability to and/or ability to implement at new facilities <ul style="list-style-type: none"> ○ Many of the requirements are based on roles, responsibilities, and functions at a CANDU facility, which may or may not be transferable to future nuclear power facilities. 	<p>Topic 2 The proposed REGDOC is consistent with the training systems for nuclear facilities mandated in REGDOC 2.2.2, <i>Personnel Training</i>, including the Systematic Approach to Training (SAT). CNSC staff aims to reach an appropriate balance between a performance-based regulatory approach and the establishment of a standardized, hence fair, personnel certification scheme for all trainees and certified workers. The requirements applicable to certified workers are in addition to the requirements applicable to all workers, including those specified in REGDOC-2.2.2. This added regulatory oversight is the very purpose of personnel certification.</p> <p>Topic 3 The CNSC cannot specify requirements for hypothetical personnel whose roles and responsibilities are currently unknown. The proposed REGDOC can be applied to future concept of operation (COO) as per the CNSC's graded approach. Once known, future designated positions and compliance schemes may be specified, either in future versions of REGDOC-2.2.3 Volume III, or by means of alternate regulatory instruments.</p> <p>Topic 4 The proposed REGDOC does not set requirements that would apply strictly to contractors, and therefore does not duplicate regulatory oversight. On the contrary, all workers referenced in this REGDOC are treated the same, regardless of their contractual agreement. The proposed REGDOC clarifies the CNSC position on contractor utilization in designated positions, opening the door, subject to CNSC approval during licensing, for management systems and staffing options previously assumed to be prohibited. This change was made in preparation for future operations, including SMRs, which may rely on contractors and third-party services. The proposed REGDOC is consistent with REGDOC-3.6, <i>Glossary of CNSC Terminology</i>, which already defines the term <i>worker</i> as encompassing contractors and subcontractors (see the note under the definition). References to contractors made in the proposed REGDOC neither differ from, duplicate, nor contradict, similar mentions in other REGDOCs, including those related to the management system, safety culture, human performance, and worker fatigue.</p> <p>The following details are added in response to the specific considerations and requests for clarification that follow the general comments.</p>

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			<p>4. Oversight of contracting out</p> <ul style="list-style-type: none"> ○ Contractor oversight is governed by other management system processes and should not be included in this REGDOC. ○ Inclusion may result in a reduction in safety due to delays in conduct of training programs. <p>Lastly, Industry highlights and reiterates the following request for clarification:</p> <ul style="list-style-type: none"> ○ CNSC will consider for inclusion in the next revision, the ability for licensees to conduct science fundamentals and equipment principles training prior to commencing the initial certification training program. ○ In October 2021, Industry recommended the CNSC allow the licensees to conduct science fundamentals, equipment principles prior to commencing the initial certification training program, and the requirement to conduct a separate general examination be removed. 	<p>Request 1 Save the simulator-based examination and management interview, which are treated differently for fundamental reasons, the proposed REGDOC allows licensees to administer initial training and certification examinations in any sequence, any number of times, and according to any schedule deemed most effective for individual candidates and groups of candidates. General training cannot be delivered “before” the start of a SAT-based initial training program, since candidates begin (by definition) their initial training as soon as they attend general training designed to prepare them for employment in a designated position. The proposed REGDOC, like the previous version as well as RD-204, makes no reference to any program explicitly named “initial certification training program”, which is a licensee-owned title and self-imposed constraint. The CNSC merely requires that all candidates attend an initial training program based on a training system, which includes general training, and meet other qualification requirements, including certification examinations, before seeking certification by the CNSC.</p> <p>Request 2 Certification examinations serve a distinct function from the formal learner evaluations administered by trainers. The purpose of certification examinations and tests is to provide satisfactory proof of competency to the CNSC, as independent regulator and certifying body, not the licensee. Furthermore, the CNSC does not rely on any one examination or subset of evaluations, but infers adequate worker competency from the sum of all the activities relevant to personnel certification. The nuclear industry’s safety record is proof that the Canadian regulatory approach works. Again, the proposed REGDOC already allows licensees to administer the general certification examination to any candidate, at any time, and any number of times. The prior mandated training and examination sequence and most examination validity periods were removed from the proposed REGDOC for that very purpose. Given the purpose of personnel certification examinations, the general training schedule has no bearing on whether or not a “separate general examination” should be administered.</p>

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2.	General	GE-Hitachi Nuclear Energy	GEH staff acknowledge the specific modifications proposed by CNSC staff to Draft REGDOC2.2.3 Personnel Certification, Volume III: Certification		CNSC staff acknowledges GH-Hitachi’s general comments and thanks GE-Hitachi for submitting feedback.

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			<p>of Reactor Facility Workers, Version 2 to facilitate the incorporation of Small Modular Reactors (SMRs) into certification programs within the Canadian regulatory framework.</p> <p>The Version 2 document layout and the inclusion of the Guidance notes provide a substantial improvement in basis and clarity of the requirements. GEH appreciates the opportunity to provide comments on the draft REGDOC-2.2.3 Vol III, Version 2.</p> <p>GEH staff have noted that language in certain sections of the draft REGDOC-2.2.3 remain restrictive and may hinder the timely certification of personnel required to support the commissioning of SMRs in Canada, including deployment of the first BWRX-300.</p> <p>While aspects of GEH staff's concerns with the certification requirements may also be addressed under REGDOC-1.1.2, Licence Application Guide: Licence to Construct A Reactor Facility, GEH as the Plant Designer and Original Equipment Manufacturer is not the licensee for the Darlington New Nuclear Project (DNNP), but is responsible for the analysis, design and development of the BWRX-300</p>		

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			training programs for key plant personnel		
3.	General comment	GE-Hitachi Nuclear Energy	While Revision 2 does offer a degree of flexibility in demonstrating compliance with CSNC Regulatory Requirements and opens the door to other than CANDU Nuclear Power Plants there are many areas of the current draft where the legacy of the CANDU related requirements persists, and sufficient provision is not provided for Small Modular Reactors and the unique characteristics of certifying workers for new First-of-a-Kind (FOAK) reactor designs.	Global solution is one, the inclusion of “or an approved alternative” for either each major section or in an opening preamble to cover all future non CANDU reactor designs. And two, guidance language must be included that outlines the foundational principle(s) which support the specific requirement and how these principles can be applied in a proportional manner to all future non-CANDU reactor designs.	<p>The proposed REGDOC, as with the previous version and the original RD-204, will be referenced in the applicable operating licences and therefore assumes a reactor facility operating under an established management system and mature support programs. It documents best practice and the most stringent personnel certification requirements.</p> <p>These requirements may be applied in accordance with the graded approach documented in REGDOC-3.5.2 Subsection 5.4 throughout the life cycle of future reactor facilities. The graded approach may be applied via the relevant Licence Condition Handbooks (LCH) on a site or fleet basis.</p> <p>Canada does not set detailed personnel certification requirements applicable to the personnel involved in the site preparation and construction phases, allowing applicants to propose alternatives to existing requirements in accordance with REGDOC-3.5.3, <i>Regulatory Fundamentals</i>, Section 3 and REGDOC-1.1.5, <i>Supplemental Information for Small Modular Reactor Proponents</i>, Subsection 3.2.</p> <p>Certification schemes for first-of-a-kind (FOAK) reactor personnel and initial cohorts of certified workers will be developed during the licensing process, as per the licence application guides REGDOC-1.1.2 and REGDOC-1.1.3. While this performance-based approach may entail some uncertainty in the early licensing stages, as opposed to more prescriptive approaches, it also offers added flexibility in adapting the regulatory framework to meet the challenges posed by FOAK designs.</p> <p>Since the pertinent regulatory principles are sufficiently documented in other parts of the CNSC regulatory framework, they will not be duplicated in REGDOC-2.2.3.</p>
4.	Section 3.1 Permitted Employment Guidance, Certificate Transferability language applies to single or multi-unit plants at a site/facility	GE-Hitachi Nuclear Energy	This section does not provide specific language to cover multiple single separate reactor unit plants at the same site, i.e., two or more identical Small Modular Reactors located at the same site and operated by a single licensee.	Consider incorporating a “fleet or type” related certification tied to the reactor design.	<p>CNSC staff amended Subsection 3.1 to add clarity and eliminate undue restrictions.</p> <p>That said, the proposed REGDOC explicitly documents certification conditions already implied in the existing certificate language. Multi-unit operations is already sanctioned by specifying the appropriate information on the certificates issued to certified workers. Fleet or type certification schemes can likewise be accomplished without adding extraneous language to the REGDOC, by specifying, for example, a specific</p>

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					reactor technology on certificates and including adequate provisos in LCHs. There remains uncertainties regarding FOAK reactor facility operations; exceptional circumstances can be addressed in the applicable LCHs or future regulatory tools.
5.	Section 5.2.4 (e) and Appendix B Sub-subsection 9.1.119.1.11 – 360 hours of Work Under Supervision (WUS) being an existing CANDU criteria is related to the complexity of the plant.	GE-Hitachi Nuclear Energy	Two issues: One, for Small Modular Reactors this must be scalable based upon plant complexity and factoring in the presence of passive safety systems and hence the complexity of the specific role. Two, no allowance for alternatives when plant commissioning is taking place, not possible to perform WUS until after plant is in service.	Accommodation required for “Cold License Class(es) vs Hot License Classes” and scalability need to be included for this requirement.	<p>Issue 1 As stated under 9.1.11, the number of hours of work under supervision must be acceptable to the CNSC, but is left undefined, since the appropriate number depends on multiple factors, including technology and COO. The 360 hours currently specified in Appendix B are applicable to CANDU reactor facilities only, as explicitly stated in Appendix B. Other acceptable compliance schemes, including those applicable to SMRs, will be decided upon, and eventually appended to Appendix B, if and when sufficient information is provided by an applicant to make a final determination possible. As for paragraph 5.2.4.e, the requirement is generic, not CANDU-centric, and will apply to all candidates irrespective of technology and COO.</p> <p>Issue 2 There are no explicit “cold versus hot licensing” regulations or requirements in Canada; neither does the CNSC issue licences to workers; certificates differ from licences. As previously mentioned, a risk-informed, graded approach will be applied during construction and commissioning. REGDOC-1.1.2 and REGDOC-1.1.3 specify the information to be provided by the applicant, for CNSC staff analysis, during these early lifecycle phases. Incidentally, CNSC staff believes there may be alternate means to conduct work under supervision (WUS) during commissioning, in accordance with the graded approach, that have not yet been considered.</p>
6.	Appendix B Sub-subsection 18.2.1 – 4 shifts/48hrs per quarter is an increase from Rev 1 Section 14.1.1 and 3 shifts per quarter with 50 over 3 years.	GE-Hitachi Nuclear Energy	Two issues: One, again the number of shifts was based upon CANDU technology and therefore linked to plant/job complexity and the recency effect, and this again does not factor in the reduced complexity and passive safety systems of SMRs. Two, this provides less flexibility for individuals/organizations while only simplifying compliance monitoring by	Proportionality and scalability need to be included for this requirement.	<p>Issue 1 As in the previous case, subsection 18.2.1 references an undefined minimum number acceptable to the CNSC of complete shifts and hours of shiftwork per calendar quarter precisely to accommodate non-CANDU reactor facility operations. Appendix B documents the CANDU case only, and will be updated as needed, if and when alternate compliance schemes are accepted.</p> <p>The proposed four (4) shifts per quarter amounts to a minor reduction (48 shifts) in regulatory burden over the course of the baseline three-year period (currently 50 shifts). In actuality, from a nuclear safety perspective, the two schemes are equivalent, but the simpler, revised scheme proposed in this REGDOC version represents a reduction in regulatory and administrative burden compared to the current, multi-</p>

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			the CNSC.		<p>stream, two-tier compliance scheme. In addition, for a minority of certified workers temporarily employed in non-operational, non-designated positions, the proposed change represents a decrease in burden without negatively impacting worker competency.</p> <p>Furthermore, of particular relevance to SMR operations, including those potentially located in remote areas, the revised approach provides licensees with added operational flexibility by allowing licensees to select an optimum shift duration, either as a standard operating basis for crews of certified workers, or individually as a form of reasonable accommodation.</p> <p>In addition, while the commenter makes an argument based on the premise that CANDU reactor facilities are more complex than the anticipated SMRs, it is important to consider that future operations may include reactor facilities other than SMRs. In any case, while CANDU technology is relatively complex, the continued training programs established at CANDU sites are both mature and proportionally more complex, providing sufficient assurance of continued worker competency without a minimum employment frequency greater than 48 hours of shiftwork per quarter.</p> <p>However, it is not self-evident to CNSC staff that the minimum work exposure required to maintain competency varies in direct proportion with reactor complexity, independently of the management and training systems in place.</p> <p>Finally, the existing CANDU-based requirements are largely based on empirical data and no such data exist for FOAK reactor facilities. As previously stated, a risk-informed, graded approach will be adopted when requirements set in REGDOC-2.2.3 Volume III may be overly restrictive or otherwise unsuitable.</p> <p>Issue 2 While minimally reducing operational flexibility in each quarter, the revised compliance scheme offers added operational flexibility overall, when all changes are considered as a whole.</p> <p>Another objective of the revised quarterly minimum employment requirements was to redistribute, in the direction of accrued nuclear safety, the employment of certified</p>

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					<p>workers more evenly over the full five-year certification period. Among other advantages, this approach eliminates the need for licensees to intensify the employment of certified workers closer to the end of the baseline period (be it three or five years) in an attempt to “catch-up” with the baseline requirement. Part of the reason d’être of the quarterly minimum employment requirements is to achieve regular employment throughout the certification period, while avoiding worker fatigue at any given time.</p> <p>Finally, the simplification of the compliance scheme will result in reduction in regulatory and administrative burden for both CNSC staff and licensee staffs, since tracking shifts worked over continuous three-year cycles for each certified worker across three distinct groups of workers (full-time, operational part-time, non-operational part-time) will no longer be required.</p>
7.	Section 9.1.6 On-the job Training addresses OJT but Sections 9.1.10 Performance-based Certification Examination / Section 9.3.3 Performance-based Requalification Testing / Section 9.5.4 Performance based Certification Examination only mentions Full-Scope Simulator Examination or an “approved alternative” but no definition of what the scope of “approved alternative acceptable to the CNSC” may	GE-Hitachi Nuclear Energy	BWRX-300 SMR requires the adoption of “Licensing/Certification Job Performance Measure” for safety critical tasks that are discrete and insufficient in and of themselves to construct a dynamic simulator-based evaluation event. Given the level of plant automation and passive safety systems inherent in the BWRX-300 SMR the design of the Initial and Recertification Examinations will have to be substantially different. Note also that there is currently no flexibility or provision for alternative evaluation methodologies for SMRs in either CNSC Exam Guide 1 or Exam Guide 2 (REGDOC 2.2.3 Vol IV draft).	Formal mechanism required for SMR Initial Certification Examinations that meets the intent of the performance-based requirements but accommodates the differences in plant design and role duties for the BWRX-300 SMR. A possible venue is a BWRX-300 specific CNSC TECDOC.	<p>Issue 1 The purpose of allowing alternatives to the full-scope simulator is to provide licensees and vendors with added flexibility going forward. Specifying acceptable alternatives in this REGDOC would be self-contradictory. Future applicants will have to present substantiated proposals for suitable alternatives, which CNSC staff will analyse as part of the previously referenced licensing processes. This performance-based approach offers maximum flexibility to applicants and vendors in leveraging modern simulator technologies and implementing best training practices, while achieving a suitable certification examination and requalification testing environment. Section 21 specifies the regulatory expectations relevant to simulators, full or partial-scope. Generally, these requirements would remain relevant under static or dynamic conditions in a partial or full-scope simulator.</p> <p>Issue 2 The detailed certification examination and requalification testing requirements are considerations out of scope, since REGDOC-2.2.3 Volume III does not address how the mandatory certification examinations and requalification tests must be administered.</p>

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	encompass (Section 21).				
8.	Current document in locked in multi-unit or multi-role certification model from large CANDU plants – Section 9.1 Core Qualifications for Operations Personnel vs Section 9.2 Supplementary Qualifications for Shift Supervisors and Section 3.2 Employment Status Guidance Multiple Certifications. Section 4 The Designated Positions, Section 4.2 Designated Position Staffing, Section 9 Operations Personnel Certification and Section 13.1 Initial Training Programs and Section 13.2 Continuing Training Programs separate the shift supervisor and reactor operator certifications and require “distinct XXX	GE-Hitachi Nuclear Energy	For the BWRX-300 SMRs there will be a single Control Room Certification Program for the Shift Supervisors and Control Room Operators thus furthering the safety goal that either one can act in any required role in an emergency. Which role an individual will fill on a particular shift should not require a unique specific or multiple certification(s) – Lead vs Right Hand and Left Hand Assisting Authorized Nuclear Operators, Lead vs Assisting Unit 0 Control Room Operators. This concept has been recognized by the CNSC via the new language addressing Control Room Shift Supervisors and Shift Managers at multi-unit CANDU plants including the issuance of multiple certifications.	Multiple possible solutions including; single Control Room Certification for both Control Room Operators and Shift Supervisors, only certifying the Control Room Operators with Shift Supervisors maintaining a Control Room Operator Certification, or issuing Multiple Certifications to individuals for both positions.	<p>Issue 1 Worker qualifications have been regrouped in a generic and tiered manner in order to avoid overlapping the reactor operator (RO) and shift supervisor requirements. Shift supervisors are already expected to possess the knowledge required of ROs, and the higher qualifications are specified as additional requirements compared to the baseline RO qualifications. Therefore, all pertinent qualifications would apply to any worker seeking certification for employment as both RO and shift supervisor, assuming such need arises, whether one or multiple certificates are ultimately required. Licensees who wish to train shift supervisors capable of operating instrumentation previously manipulated by ROs alone merely have to establish corresponding management systems and training programs. Delegations of authority, be it under normal or abnormal conditions and emergency situations, are likewise components of the management system, not elements of the personnel certification scheme. In the event that future COOs depart significantly from current norms, this REGDOC can be applied in a risk-informed, graded-approach, and alternate or supplementary regulatory tools can be developed over time.</p> <p>Issue 2 Licensees must establish programs and processes in support of CNSC certification, including training programs. However, strictly speaking, personnel certification is a CNSC process, not a licensee program. The reviewer is describing an anticipated COO relying on a common training program for all operations personnel. REGDOC-2.2.3 Volume III can be applied in a risk-informed, graded-approach, regardless of the specifics of the COO ultimately implemented. Personnel certification aims to ensure that certified workers are qualified to perform the duties of designated positions as described in the management system accepted by the CNSC as part of the licensing basis. Licensees are free to train operations personnel to the highest standard and may propose any COO for CNSC staff analysis.</p> <p>Issue 3 CNSC staff will investigate further to determine the exact manner in which the referenced terminology may be causing an issue. However, the proposed REGDOC does not set any requirement entailing separate certificates for specific operator roles</p>

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	training programs”.				(left or right, assistant versus lead). The proposed REGDOC mandates a minimum employment whereby all certified workers – regardless of their employment at other times – must stand four (4) complete shifts in the relevant lead role every three (3) months; in other words, 16 shifts annually totalling 80 shifts every five years. As per the guidance included under Subsection 18.2.1, the licensee would be free to employ certified workers in assisting or supernumerary roles for all shifts outside of the mandatory four (4) complete shifts per quarter. Regulations do not allow the Commission or a DO to renew the certification of a certified worker unless the latter has safely performed the duties of the relevant position some minimum number of times. The proposed REGDOC, like its predecessors, defines a minimum employment for consistency, but licensees may exceed this minimum requirement as warranted on an individual or group basis. Finally, the revised requirement represents a reduction in burden since the prevalent (and current) regulatory interpretation was that absolutely all shifts performed by certified workers had to be 12 hours in duration.
9.	Section 10.1.3 Prior Work Experience (Health Physicist), Section 12.1 Personnel Selection Program Requirements (Prior Work Experience) and Section 12.2.1 (c) Work Experience are all problematic for “Cold Start Up” of the first BWRX-300 Unit in Canada.	GE-Hitachi Nuclear Energy	Not feasible to meet these prior work experience requirements for the “First-of-a-Kind” Plant Design.	Require accommodation for “First of Kind” Plant Design and Commissioning of First Unit for any NPP Licensee.	Concerns over FOAK technology and new build commissioning have already been sufficiently addressed – see item #3. REGDOC-2.2.3 Volume III is referenced in operating licences.
10.	Section 14.1 (a) separation between Trainers and Examiners is too restrictive for a First-	GE-Hitachi Nuclear Energy	This requirement is appropriate only for a mature plant design with a full complement of training and examination staff.	For new plants the previous standard of prohibiting trainer/examiner contact with students once the examination development is initiated. is more	Issue 1 Concerns over FOAK technology and new build commissioning have already been sufficiently addressed – see item #3. REGDOC -2.2.3 Volume III is referenced in operating licences.

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	of-a-Kind (FOAK) reactor design and associated certification training program.			appropriate and this flexibility must be reflected in the requirements.	<p>Issue 2 CNSC staff will investigate further to ensure compliance with the training versus examination separation, as currently stated in the draft REGDOC, is possible.</p> <p>The separation of training and examination is fundamental, since the examiners are expected to act independently of the employer and trainers, on behalf of the certifying body, in this case the CNSC. The revised requirement represents a high-level standardization and reinforcement of current norms and regulatory expectations.</p> <p>However, complete separation is mentioned as best practice under a guidance header, allowing licensees to implement the separation to the extent feasible on a case-by-case basis.</p> <p>Finally, this version of REGDOC-2.2.3 Volume III, like prior pertinent documents, assumes that the trainers and examiners are employed by the same licensee. In the event that the CNSC agrees to training being administered by a third party, an alternate approach may be considered.</p>
11.	General	Froats and Froats Associates	<p>This document provides thoughts and input in response to the request from Brian Torrie in May 2022. The request asked to provide some independent thought / perspective for consideration as the CNSC works to evolve the REGDOC-2.2.3 governing the certification of licenced positions for Class IA nuclear facilities in Canada.</p> <p>Context of the Review In conducting the review, no discussion was initiated with any of the licensees. The request was to</p>		<p>CNSC staff would like to thank Mr. Froats and his team for their independent review and feedback. As a general comment, CNSC staff notes that nothing stated in the report produced by the review team appears to contradict any CNSC staff position or recommendation documented in REGDOC-2.2.3, Volume III, Version 2. The following is offered in response to specific comments.</p> <p>Gender-Based Analysis (GBA) + This REGDOC has undergone a GBA+. The said analysis provided an added rationale for regulatory modernization already considered for several reasons. Consequently, CNSC staff is proposing the removal of potential barriers to candidate recruitment and retention that were deemed unnecessary. Nevertheless, CNSC staff confirms that competency standards have been maintained and would add that, overall, the proposed changes result in a strengthening of the regulatory framework.</p> <p>Potential Over-reliance on the SAT CNSC staff does not rely exclusively on licensee compliance with the SAT or any alternate training system. Personnel certification requirements encompass a series of</p>

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			<p>provide some independent perspective. The thoughts and comments that follow are solely based on the experience of John Froats plus a consultation with four university educators on examination methods and perspectives on the subject of licenced staff.</p> <p>In the briefing for this review, the objectives driving the changes were stated to be:</p> <ul style="list-style-type: none"> • To address opportunities to reduce barriers to access to the licenced roles • To prepare for the application in the context of SMR's <p>The stated intent of reducing barriers to access to licenced roles was shared as a positive objective by all. It is important to emphasize that all in this review were very quick to say as long</p>		<p>mandatory activities providing a continued proof of competency at the individual worker level, including certification examination and requalification test results. The CNSC maintains regulatory control over the knowledge areas and skills evaluated during these examinations and tests by setting detailed requirements in complementary documents. In addition, CNSC staff periodically inspects training and other pertinent programs, including certification examination and requalification testing, to ensure continued licensee compliance. The CNSC's compliance verification program is a distinct topic which is not addressed in REGDOC-2.2.3 Volume III.</p> <p>Evolving Roles and Responsibilities The fact that roles and responsibilities evolve is part of the rationale for abandoning the prior prescriptive regulatory approach, which could not cope effectively with change. Moreover, the expected SMR operations poses a particular challenge precisely because there exists little to no past experience that would allow the regulator to prescribe training program requirements; some degree of reliance on training systems analysis is in that case unavoidable.</p> <p>Fundamental and Plant Layout Knowledge This version of REGDOC-2.2.3 Volume III continues to mandate the administration of a general examination covering fundamental knowledge, but it also introduces a new plant familiarization training covering physical plant layout and organizational infrastructure, in order to address some of the concerns raised by the commenter. Likewise, explicit references to nuclear emergency preparedness and beyond-design-basis accident (BDBA) training are made for the first time, post-Fukushima. Finally, the omission of an appendix on general knowledge was indeed deliberate because such guidance was deemed non-essential – even the inclusion of Appendix D was deemed merely desirable, primarily for the benefit of future licensees which may be unfamiliar with training systems and personnel certification. The rationale for this approach is that REGDOC-2.2.3 Volume III sets high-level requirements, while the detailed requirements related to examination and testing, including fundamental knowledge areas, are specified in other, complementary documents.</p> <p>Preparation for SMRs It should be noted that it is the certificates, not the personnel, which cannot be transferred between licensees. This version of REGDOC 2.2.3 Volume III specifies a</p>

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			<p>as the high standard of competency in these roles is maintained.</p> <p>Definition and Control Of Knowledge, Skill and Attitudinal Aspects (Competency)</p> <p>As an overarching comment, there are many ways to evaluate and check competency. Basing the confirmatory processes on a rigorous SAT assessment process is a sound approach. However, if there are knowledge, skill or attitudinal (cultural) elements omitted from the defined content requirements then any assessment process fails. It would seem prudent that considerable thought be given to how the CNSC is going to exert oversight and Regulatory control (authority) over the definition of the competency requirements that need to be met. Some form of approval / change control process would seem needed / prudent.</p> <p>I was licenced as a shift supervisor (albeit many years ago) and was able to meet the requirements over a 2-year period of very intensive learning and experience. Requirements and roles have changed / evolved since</p>		<p>personnel transfer process to ensure that trainees and certified workers transferred between reactor facilities (equipped with similar technologies) are ultimately qualified to work at their new place of employment. It should also be noted that the CNSC does not issue operating licences to workers; rather, the CNSC issues certificates (as proof of certification) to qualified workers, resulting in important procedural differences. Regulatory oversight of personnel transfer is partially achieved by setting certificate restrictions. However, it is already established practice to issue multiple certificates to personnel qualified to work at multiple sites. In addition, class or fleet-level certification could readily be accomplished by issuing certificates showing the appropriate information, and by specifying further details and conditions in Licence Conditions Handbooks (LCH) as may be warranted. Nonetheless, CNSC staff revised and added guidance to subsection 3.1.</p> <p>Specific Observation 1 Appendix C is included in this REGDOC as guidance to applicants and candidates because CNSC staff administers the certification examinations and requalification tests to senior health physicists (SHP). In contrast, operations personnel are examined and tested by licensee staff members. Consequently, the examination and testing topics relevant to operations personnel, including safety culture, are specified in complementary documents referenced in the relevant LCHs.</p> <p>Specific Observation 2 Multiple-choice questions (MCQ) represent a proven methodology, and CNSC staff verifies compliance with minimum requirements and best practice. However, the CNSC does not rely exclusively on the MCQ methodology. Diagnostic skills and knowledge application are evaluated by means of a suite of comprehensive, performance-based examinations and tests conducted under dynamic conditions in full-scope simulators.</p> <p>Specific Observation 3 CNSC staff has conducted a literature review of knowledge retention science. This review indicated that, without frequent application or refresher, semantic knowledge is forgotten within hours to months, not years, which are the timescales covered by the examination validity periods. In addition, studies showed that, despite significant knowledge decay, a relatively constant knowledge base persists between six (6) and 25-30 years after learning, forming a semi-permanent store of useful knowledge</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>that time in very significant ways — so of course the knowledge and skills (competency) requirements has evolved as the roles changed.</p> <p>The thinking has changed considerably with respect to the adherence to procedures and procedures have improved dramatically. Over the same period, we have had events that resulted in the emergence of a focus on beyond design basis events. While some procedural guidance can be provided for these kinds Of situations, experience to date suggests that response will require ability to apply knowledge (including science fundamental knowledge and knowledge of plant physical layout) to successfully manage the challenges at the Level 4 defence in depth response level and in beyond design base events. There is relevant OPEX from events like the 2003 blackout that provide 'food for thought' on this aspect of knowledge and skill requirements.</p> <p>So, while the document provides a high-level list of Station Specific</p>		<p>predicated on need. Based on available science, CNSC staff concluded that the existing validity periods did not constitute an effective means of knowledge decay prevention. While tight regulatory control over the initial training duration promotes, in principle, frequent knowledge application, the resulting lack of flexibility also caused candidate recruitment and retention issues. In addition, the efforts deployed in preparing candidates for examination retakes after results expired served to delay the integration of the said candidates in the continued training programs designed to ensure that knowledge is continually refreshed and applied. Ultimately, CNSC staff removed the validity periods from knowledge-based examinations as unnecessary barriers, after careful consideration. This change was deemed acceptable given the fact that candidates cannot successfully complete their final, in-simulator, performance-based examination without having retained the essential general and station-specific knowledge. Conversely, given their importance, a two-year validity period was maintained for all simulator-based examinations, after which time unsuccessful candidates must retake the said examinations. Further mitigating the residual risk, and acting as a self-regulating incentive, the licensees know that it is in their best interest, financially and operationally, to ensure that candidates are adequately prepared for the mandated simulator-based examinations and tests. That objective is most readily achieved by minimizing delays between station-specific and simulator-based training, and likewise between the end of initial training and the start of continued training. Finally, as added mitigating action, the proposed REGDOC prescribes, for the first time, the implementation of a return-to-training process applicable to trainees who reintegrate their initial training after a prolonged absence.</p> <p>Specific Observation 4 The risk posed by societal and financial drivers is well understood by CNSC staff. In addition, whenever a valid need for collaboration with external organizations and subject matter experts becomes evident, CNSC staff does not hesitate to leverage external resources. CNSC staff does not presently see the need for such collaboration in the present context, but notes the proposal for future consideration.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>knowledge requirements in Appendix Delta, it does not provide any similar guidance for the 'general knowledge requirements' — the subject of the most substantive change in approach. This may be deliberate, leaving the discussion of required competency base knowledge to some other process. It just strikes me as an independent reviewer to be an inconsistency that warrants reflection. So as an independent reviewer, I'd have to summarize my overall conclusion as that without any detail of the definition of specifics of required content, control of content definition and change control at the front end, or without understanding of the CNSC approach to independent oversight to ensure front end definition is correct and that confirmation of adequacy of implementation (the back end) is effectively done, all I can say is that the changes could work if correctly implemented and controlled.</p> <p>Preparation for SMR's</p> <p>In looking at the document with the lens of application to SMR's, most of the document is at a high</p>		

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>enough level that it could be applied to any technology. Of course, the Appendix Alpha would need to be updated to include whatever structure merges for the SMR. The application to SMR will very much depend on the SAT based evaluation of what the knowledge requirements are for new machines.</p> <p>The only other place in the document that may warrant reflection is section 3.1. In section 3.1, it explicitly requires a unique licence for each site (not transferrable). I have ben of the view for some time that to make the vision of SMR's economically feasible, industry will need to deploy series of 'identical' machines. If a machine in Ontario was 'identical' to a machine in Saskatchewan for example, then just like a pilot gets certified to fly a specific aircraft, we might envision a transferable licence between facilities as long as the facilities are 'identical'.</p> <p>A Few Specific Observations</p>		

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>1. In the draft, safety culture is listed in Appendix Charlie 2 as a requirement for being a licensed Health Physicist but is not mentioned anywhere in the context of a requirements for the other licensed positions.</p> <p>2. In discussions with academic colleagues about methods to confirm student comprehension there was general consensus that:</p> <p>Multiple choice questions can be effective in confirming specific details of required knowledge.</p> <p>Multiple choice questions are less effective at confirming ability to diagnose or apply specific knowledge.</p> <p>3. There was general agreement that the longer the time interval between the study of a subject and the application of the subject knowledge the more likely the recollection of the knowledge has diminished. The relaxation of time limits for EDI concerns has merit, but success will be dependent on the processes to confirm knowledge retention — particularly after an absence for any reason.</p>		

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>4. During the discussion with academic colleagues, all expressed the importance of being able to explain to the public how independent regulatory oversight would remain effective in providing public assurance / confidence that licensed personnel have the required competency (knowledge, skills and attitude) in whatever scheme is being used. It is clear that there are both societal drivers (EDI) and huge cost and production drivers that would tend to drive toward reducing requirements. As is often quoted 'safety must remain the overriding requirement'. One thought was that there may be an opportunity to blend in some kind of 3rd party review process to the change control process of defining required content and/or evaluation of conformance to requirements.</p>		
12.	Entire Document	Bruce Power, CNA, OPG, NB Power	<p>Title change from “<i>Certification of Persons Working at Nuclear Power Plants</i>” to “<i>Certification of Reactor Facility Workers</i>” will require document revisions of licensees’ documentation, such as training materials where this may be the only update required.</p> <p>MAJOR</p>	Return title to “Certification of Persons Working at Nuclear Power Plants”.	The new title realigns REGDOC-2.2.3 Volume III, which has remained essentially unchanged since 2008, with the current regulatory framework. <i>Reactor facility</i> has been adopted by the CNSC as technologically-neutral term encompassing both nuclear power plants (NPP) and small modular reactors (SMR). Likewise, the term <i>worker</i> was preferred to <i>person</i> : (a) because it is more precise, since this REGDOC pertains to the certification of workers, as defined in the Regulations; (b) in order to leverage the legal meaning of <i>worker</i> ; and (c) to align personnel certification with the other special areas of the <i>human performance</i> safety control area (SCA), which all refer to <i>workers</i> . Since the term <i>person</i> does not appear in the proposed REGDOC, it no longer constitutes a

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			Impact: This is an administrative burden with no obvious or corresponding improvement to nuclear safety.		suitable choice of word for the revised title. Modernization and standardization, including that of terminology, were among the key objectives of the revision.
13.	Several sections 9.1.11 & Guidance, 12.4.1 & Guidance, 13.3, 18.2.1, & Guidance, 20, 21, App B	Bruce Power, CNA, OPG, NB Power	Use of the words “acceptable to the CNSC” MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Replace “acceptable to the CNSC” For example; change: “ <i>acceptable to the CNSC</i> ” to: “ <i>accepted as part of the licensing basis</i> ”	CNSC staff considered using the suggested text, but decided to maintain the original text. The proposed REGDOC provides licensees with operational flexibility, which the industry sought and needed to implement best training practice and improve candidate selection and retention rates. The regulatory statement made in the current REGDOC draft is "acceptable to the CNSC"; that is, the Commission, not CNSC staff. The partial shift to a performance-based approach documented in this revised REGDOC was achieved by means of both quantitative and qualitative metrics. Much guidance has been added to the proposed REGDOC in order to minimize diverging regulatory interpretation.
14.	Several sections 5.3.3, 5.4.3, 5.4.4, 5.5.3, 5.5.4, 10.1.2, 12, 12.1, 13.2.1, 13.2.2, 13.2.3, 14.5, 17.1, 18.5, 18.5.1, 18.5.2, 18.5.3, 18.6, App D	Bruce Power, CNA, OPG, NB Power	Use of the word “suitable” MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Remove the word “suitable”.	See comment 13
15.	Page 11 1.3 (c)	Bruce Power, CNA, OPG, NB Power	List of <i>Class I Nuclear Facilities Regulations</i> sections being referenced does not include 13(2), which deals with certification decision notifications.	Add a reference to section 13(2).	CNSC staff added the missing reference.
16.	Page 13 Section 2	Bruce Power,	CNSC cannot mandate that workers MUST apply for renewal of	Consequently, applicants seeking certification renewal should apply	Section 2 merely provides a brief summary of the relevant legislation as background information, and therefore sets no requirement. Interpretation must consider the

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		CNA, OPG, NB Power	<p>certification, if the person or licensee does not want to.</p> <p>Certified workers DO NOT apply for certification, a licensee does. MAJOR Impact: REGDOC must comply with Class I Facilities Regulations.</p> <p>Regulatory uncertainty due to the inconsistency with the Class I Facilities Regulations.</p>	<p>for the renewal of certified worker's <u>their</u> certification(s) before the expiry date specified on their certificate(s).</p>	<p>context. The context is that of a worker applying for the renewal of their certification, after making the voluntary decision to request the renewal, in which case the said application must be submitted before the deadline. This section does not imply that certified workers are obligated to seek the renewal of their certification. CNSC staff nonetheless modified the statement for added clarity.</p>
17.	Page 13 Section 3.1 Guidance	Bruce Power, CNA, OPG, NB Power	<p>In this document, employee-employer relationship should be limited to certified staff.</p>	<p>The licensee is responsible for the competency of all <u>certified</u> workers employed at the reactor facility identified in the licence, regardless of the contractual agreement binding certified workers and the licensee as employer.</p>	<p>The referenced text is a statement of fact and a description included as guidance; it does not set any requirement. The statement of fact does not apply to certified workers specifically, and should therefore not be qualified as such, lest some readers incorrectly infer that the statement applies only to certified workers. The addition of the term “certified” to this particular sentence would therefore introduce, rather than minimize, ambiguity. CNSC staff did not amend the text as suggested, but did revise the sentence for added clarity.</p>
18.	Page 13 Section 3.1 Guidance	Bruce Power, CNA, OPG, NB Power	<p>“Multiple Certifications” wording is not aligned with Section 1 Introduction.</p>	<p>The CNSC may certify a worker <u>as qualified to carry out the duties of for employment in</u> more than one designated position, as long as...</p>	<p>The referenced text is a statement of fact and a description included as guidance; it does not set any requirement. The introduction ties the REGDOC to the language used in the Act on purpose. However, this legislative language is lengthy and need not be repeated throughout the document. The second formula suffices to convey the intended meaning and is used throughout the document for the sake of brevity. Furthermore, it should be noted that the full text of the Act includes the term <i>employment</i>: NSCA 21(1)(i) states that the CNSC may certify persons “as qualified to carry out their duties under this Act or the duties of their employment, as the case may be”, which statement primarily applies, respectively, to members of Commission and CNSC staff, and members of licensee staffs, including certified workers. The terms <i>employment</i> and <i>employed</i> are therefore used throughout the proposed REGDOC consistently with the Act. CNSC staff did not amend the text as suggested, but did revise the introduction to underline the term <i>employment</i> is borrowed from the Act, since Subsection 1.3, in agreement the latest REGDOC template, no longer cites the legislative basis in full.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
19.	Page 14 Section 3.2 b	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	... an inactive status is assigned to any certified worker who holds a valid certificate, but was formally removed from duty in accordance with subsection 18.3 or 18.4; either one of the processes specified in subsections 18.3 or and 18.4;	CNSC staff revised paragraph 3.2.b for clarity.
20.	Page 14 Section 3.2 Guidance	Bruce Power, CNA, OPG, NB Power	Typo in “End of Employment”.	...unless the worker is reinstated to duty as per subsection 18.518.5 before ...	A number of hyperlinks failed to update as expected and consequently read as typographic errors. CNSC staff will investigate and correct this technical issue before final publication. Notwithstanding, CNSC staff revised the guidance for added clarity.
21.	Page 14 Section 4	Bruce Power, CNA, OPG, NB Power	Current list of designated positions is reflective of the current licenced facilities and implies that these positions will be required at all future facilities. MAJOR Impact: Does not allow for different operating organization structures that may be proposed for future SMRs.	Add guidance to explain that these four positions reflect only those at the currently licensed facilities.	Since REGDOC-2.2.3 Volume III is referenced in operating licences, Section 4 inherently reflects the positions designated in existing licences at the time of writing. The proposed REGDOC, like previous versions, neither designates positions (designation occurs in licences) nor restricts the COO to the listed designated positions. Section 4 merely defines generic terms based on existing management systems and, by referencing Appendix A, establishes a convention regrouping positions that are similar, but given different names by the existing licensees. If and when alternate COOs entailing new designated positions are accepted by the CNSC during a licensing process, REGDOC-2.2.3 Volume III can be amended. Moreover, LCHs can be used to document amendments and exemptions, either temporarily between REGDOC revisions, or permanently to address site or class-specific circumstances. As previously stated, applicants may propose alternatives to existing requirements during the licensing process in accordance with REGDOC-1.1.2 and REGDOC-1.1.3. The requirements applicable to the management system and the minimum staff complement are specified in REGDOC-2.1.1, <i>Management System</i> , and REGDOC-2.2.5, <i>Minimum Staff Complement</i> respectively, as indicated in the additional information section included at the end of REGDOC-2.2.3 Volume III. Notwithstanding, CNSC staff revised and added guidance to Section 4.
22.	Page 14 Section 4 c	Bruce Power, CNA, OPG, NB Power	Missing an acronym.	c. shift supervisor (<u>SS</u>); and	The abbreviation is not missing. CNSC staff decided not to use the abbreviation in the body of the document in order to avoid the historical, negative connotation, which some reviewers objected to. The abbreviation is used, hence defined, in Appendix A only, for brevity, but this usage too may be revised before publication. Spelling out the position title in full causes no added burden and introduces no ambiguity.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
23.	Page 15 4.1	Bruce Power, CNA, OPG, NB Power	Typo	... and are associated with the generic classes of designated positions listed in Appendix A.	There is no error, typographic or grammatical, in the referenced statement. CNSC staff nonetheless revised the sentence for added clarity.
24.	Page 15 4.3	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	When in possession of a valid certificate, workers are deemed qualified to perform the duties of the pertinent site-specific positions listed in Appendix A in accordance with the licensee's established management system., including the roles and responsibilities documentation found acceptable by the CNSC.	CNSC staff amended the text as suggested.
25.	Page 15 5.1	Bruce Power, CNA, OPG, NB Power	Section 5.1 deals with applications for certification, renewal of certification, and requests for decertification. The section does not mention requests for opportunities to be heard or applications for examinations and tests, while sections 6.3 and 7 refer back to section 5.	Revise section 5 to include requests for opportunities to be heard and applications for SHP examination and tests.	The document structure was revised for added clarity: new sections were created to separate the general provisions from the core application processes, and requests were linked to a specific subsection of Section 5.
26.	Page 16 5.2.2 Guidance Page 19 5.3.2 Guidance	Bruce Power, CNA, OPG, NB Power	The definition of "Worker Competency" is repeated in several instances:	Move the definition of "Worker Competency" to the Glossary section on Page 69.	Current CNSC policy is to refer readers to REGDOC-3.6, <i>Glossary of CNSC Terminology</i> for all terms requiring a definition. However, <i>worker competency</i> does not yet appear in REGDOC-3.6, and it is such a fundamental concept in context that the writing team added guidance to the relevant subsections of the REGDOC. CNSC staff has removed the guidance and has added new definitions to the REGDOC glossary for later inclusion in REGDOC-3.6.
27.	Page 17 5.2.3	Bruce Power, CNA, OPG, NB Power	Requirement could be written more clearly, with less repetition in the document.	The application shall describe how the applicable prerequisites of the personnel selection program mandated in section 12 were met., including, but not limited to:	CNSC staff believes specifying the minimum information to be enclosed in the application process described under subsection 5.2.3 adds clarity. Part I is written to assist authorized applicants by regrouping all of the information relevant to each application process under a distinct subsection. This approach causes some repetition, but minimizes the occurrence of incomplete applications. Part III specifies the program-level requirements to be implemented in support of the CNSC processes specified in Part I, and therefore shares elements in common with Part I.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				<p>a. the worker’s education or literacy level upon selection for initial training;</p> <p>b. any education or literacy level equivalency recognized by the licensee;</p> <p>c. any prior work experience required by the CNSC or the licensee;</p> <p>d. any personnel selection interview undergone by the worker;</p> <p>e. any personnel selection test administered to the worker, including any medical screening; and</p> <p>f. any exemption explicitly sanctioned in this REGDOC that was employed by the licensee.</p>	
28.	Page 17 5.2.4	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and the requirement should be limited to the “certification” related training.	The application shall provide a chronological summary of the qualifications achieved by the worker covering the initial <u>certification</u> training components, the certification examinations, and all other personnel certification <u>requirements milestones</u> successfully completed by the worker.	By default, any and all training administered to workers to qualify and requalify them for employment in designated positions is considered “certification training”. However, neither this nor the prior version of REGDOC-2.2.3 Volume III, nor RD-204, nor REGDOC-2.2.2, mentions any training specifically titled <i>certification training</i> . The proposed REGDOC is meant to be generic and technologically-neutral. The CNSC is concerned with all training completed by the candidates in relation to their duties as certified workers. Conversely, any training delivered to certified workers that is not related to the said duties is irrelevant in context, and falls outside of the defined scope. CNSC staff did not add the term <i>certification</i> as suggested. The term <i>milestones</i> reflects the language used on current application letters. CNSC staff nonetheless replaced <i>milestone</i> with <i>requirement</i> as suggested.
29.	Page 17 5.2.4 & Page 19 5.3.3	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	The worker qualification summary should offer sufficient evidence that the worker meets all of the applicable qualifications specified	CNSC staff replaced the term <i>should</i> with <i>shall</i> , but did not remove “at a minimum”. CNSC staff will verify compliance with minimum requirements.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				in Part II. At a minimum, <u>T</u> his summary shall include, as applicable depending on the designated position:	
30.	Page 17 5.2.4 a.	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	a. the date of each cumulative or final formal evaluation marking the completion of each initial training component;	Paragraph 5.2.4.a was intended to refer generically to the final evaluation, which may or may not be a cumulative, depending on the training program implemented by the licensee. CNSC staff revised paragraph 5.4.4.a using the technical term “summative evaluation” as defined in REGDOC 2.2.2, <i>Personnel Training</i> and REGDOC 3.6, <i>Glossary of CNSC Terminology</i> .
31.	Page 17 5.2.4 e.	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	e. the date of completion of any period of <u>working</u> under supervision (WUS), including the total number of supervised work hours;	The correct term is “work under supervision” (WUS). CNSC staff consistently refers to a WUS period throughout the draft, the first version of the REGDOC, and the original RD-204 published in 2008.
32.	Page 17 5.2.4 Guidance & Page 19 5.3.3 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Move the following text under guidance section: <u>The worker qualification summary should offer sufficient evidence that the worker meets all of the applicable qualifications specified in Part II.</u>	As in the previous case, CNSC staff replaced the term <i>should</i> with <i>shall</i> – see item #29.
33.	Page 17 5.2.5 & Page 19 5.3.4	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Delete “comprehensive”: For example; The licensee is not required to append any supporting documentation to the application as proof of competency; however, comprehensive personnel records shall be maintained in accordance with subsection 19.2 and made available for verification by the CNSC upon request.	CNSC staff removed the qualifier in this case since it is already specified in subsection 19.2 as part of the guidance on the maintenance of “adequate” personnel records.
34.	Page 19 5.3.3	Bruce Power,	As written, the statement is unclear.	The application shall provide a chronological summary of the	This comment has already been addressed – see item #28.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
		CNA, OPG, NB Power		requalification requirements met by the worker during the current certification period covering the continuing training components, the requalification tests, and all other personnel certification requirements milestones successfully completed by the worker.	
35.	Page 19 5.3.3 a.	Bruce Power, CNA, OPG, NB Power	Could be written more clearly, with less repetition in the document.	a. confirmation that the worker attended continuing training and successfully underwent formal evaluations compliant with the requirements specified in section 13., including suitable update, refresher, simulator-based, and nuclear emergency response training;	CNSC staff will explicitly list minimum requirements and repeat essential information as added emphasis when deemed warranted, in order to reduce the risk, and avoid the consequences, of omissions. In this particular case, CNSC staff wants to receive an explicit mention upon application, rather than a blanket statement. The original text was preserved.
36.	Page 19 5.3.3 d.	Bruce Power, CNA, OPG, NB Power	This requirement should be aligned with section 18.2.1 and Appendix B.	d. the total number of complete shifts and hours of shiftwork in the designated position performed by the worker during each quarter of over the current certification period;	CNSC staff corrected the typographic error. However, although linked to shiftwork in all cases, the information required under paragraph 5.3.3.d differs, in kind and purpose, from the requirement specified in subsection 18.2.1 and the CANDU compliance scheme specified in Appendix B. The minimum employment requirement provides partial evidence of continued competency monitored on a quarterly basis in order to permit timely intervention by CNSC staff during the certification period. In contrast, paragraph 5.3.3.d sets a certification renewal requirement applicable upon application once every five years. The certification renewal requirement is not a duplication of the quarterly report requirement, as suggested by the commenter. Rather, the application must specify the total numbers of complete shifts and hours of shiftwork completed by the certified worker during the current certification period, up to the time of application for certification renewal. This requirement is primarily designed to satisfy 9.3(a) of the Class I Regulations, and therefore serves a distinct purpose. Aggregating and submitting this information causes minimal administrative burden if the licensee maintains adequate records as per subsection 19.2.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
37.	Page 20 5.3.5 Guidance	Bruce Power, CNA, OPG, NB Power	<p>Per section 18.4.4, when a certificate expires, the licensee must remove a person from the designated position.</p> <p>When a certificate is not issued before the current one expires, due to <u>CNSC</u> processing delays, the effective date of the new certificate should be the date of the CNSC decision, not the date of expiry of the previous certification.</p> <p>MAJOR Impact: The CNSC suggested wording will prevent the individual from having the full benefit of the new 5-year certification period.</p>	<p>Certificate Expiry – When the certificate expires before the application can be processed by CNSC staff and a renewed certificate issued by the CNSC, the effective date of the certification renewal will be <u>that of the certification decision made by the Commission or a DO, made to coincide with the date of expiry of the existing certification.</u></p>	<p>Neither the Commission nor a DO may renew an expired certification. Therefore, the latest possible effective date of renewal is the date of expiry of the current certification. The situation addressed by the cited guidance is suboptimal, but it can be avoided if the applicant submits a complete application within the normal processing time specified in the REGDOC. Subsection 5.3.5 provides licensees with maximum operational flexibility by allowing the processing of renewal applications – including incomplete ones – that are submitted up to the very end of the certification period. Other, more restrictive approaches were analyzed by CNSC staff and found less effective, since alternatives are known to lead to more instances of non-compliance, causing added administrative burden for both CNSC and licensee staffs.</p>
38.	Page 20 5.3.6 Guidance	Bruce Power, CNA, OPG, NB Power	<p>In guidance, “Limitation” seems to contradict section 5.3.5, which does not specify when a renewal application should be submitted, in that a renewal application requesting an “early” effective date is subject to a 60-day validity window, while a normal renewal is not.</p> <p>CNSC’s suggested wording seems to be written as a requirement.</p>	<p>Limitation – In order to provide licensees with scheduling flexibility, the CNSC allows the renewal of the certification of reactor facility workers at any time before the end of the certificate validity period. This allowance is made because shortening the certification period effectively increases the requalification testing frequency.</p> <p><u>However, the CNSC will not postpone the effective date of the certification renewal any more than 60 calendar days past the effective date of the application for certification renewal. This</u></p>	<p>CNSC staff agrees that the combination of subsections 5.3.5 and 5.3.6 as currently written results in ambiguity when the application is made within 60 calendar days of the certificate expiry. Consequently, CNSC staff revised both subsections and established an equivalent, but simpler compliance scheme.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				restriction is imposed to ensure that the proof of worker competency provided at the time of application is relatively recent, and is therefore valid.	
39.	Page 20 5.4, 5.4.1, Page 22 5.5, 5.5.1, 5.5.3 Page 30 & 31 9.4 , 9.4.1, 9.4.2, 9.4.3, 9.4.5 Guidance, 9.5, 9.5.2, 9.5.3, 9.5.4, & Page 36 10.3	Bruce Power, CNA, OPG, NB Power	The term “recertification” is not present in the NSCA or the Class 1 Facilities Regulations.	Replace “Recertification” with “Certification” For example; Application for ReCertification within Five Years of a Certificate Expiry	In this particular case, the legislation provides no language or guidance directly relevant to the recertification context. The term <i>recertification</i> is universally understood and its usage is already established in the regulatory framework, namely via REGDOC-2.2.3, <i>Personnel Certification: Radiation Safety Officers</i> , and the Canadian Standards Association (CSA) standard PCP-09, regarding the certification of Exposure Device Operators (EDO). The change therefore reflects first a standardization decision. In addition, the proposed term allows for a clearer distinction between the existing CNSC processes and the proposed new processes dealing with the recertification of operations personnel. These new processes are designed to address longstanding regulatory gaps that have caused added burden for CNSC and licensee staffs. Early draft versions referred to “certification within five years...” as suggested by the commenter, but this convention caused confusion for most reviewers. Based on this feedback and the other considerations mentioned, <i>recertification</i> was retrained as an intuitive term improving regulatory clarity.
40.	Page 20 5.4	Bruce Power, CNA, OPG, NB Power	Typo; section 5.2 is for initial certification applications.	In addition to the general provisions specified in subsection 5.1 5.2, an application for certification submitted ...	CNSC staff fixed the failed hyperlink update.
41.	Page 20 5.4.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	A worker whose certificate expired more than five (5) years prior to the date of application shall must meet the additional requirements specified later in subsection 5.5.	To avoid duplicating <i>shall</i> statements, the term <i>must</i> was preferred here because the cited paragraph refers the reader to a relevant requirement specified later in Subsection 5.5. Notwithstanding, CNSC staff replaced the “must” statement with a statement of fact under a guidance header.
42.	Page 21 5.4.2 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Important Note – To satisfy the condition set by subsection 9(2) of the Class I Regulations, the correct worker competency	The choice of term made by CNSC staff in this case is consistent with the choice made under item #39. The terms <i>certification</i> and <i>recertification</i> form a pair as part of a convention consistent with the legislative basis. The term “initial certification” does not appear in the Act and Regulations. In this revised version of REGDOC-2.2.3 Volume

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				declaration for a recertification is the same as the one required for an initial certification.	III, CNSC staff proposes interrelated changes: the removal of all references to <i>initial certification</i> , in strict adherence with the language of the Act and Regulations; and, the adoption of <i>recertification</i> , given the absence of any explicit legislative language in that case. The adjective <i>initial</i> is not needed when <i>recertification</i> is adopted. As previously mentioned, standardizing personnel certification terminology starting with this REGDOC was one of the key objectives of the revision.
43.	Page 21 5.4.2 b and 5.4.3 b & c.	Bruce Power, CNA, OPG, NB Power	5.4.3 b & c specify “test”, which contradicts section 5.4.2 b, which specifies “examination”. MAJOR Impact: Licensees cannot implement the REGDOC when two sections define contradicting requirements to be implemented at the same time.	5.4.2 Worker Competency Declaration In accordance with regulations, the application shall state that the worker: b. has successfully completed the applicable training program and requalification tests examination referred to in the licence; ...	Licensees can comply with paragraphs 5.4.3.a, b, and c by submitting the information required by the CNSC at the time of application, although CNSC staff understands the resulting conundrum because the regulations do not address recertification. In accordance with the graded approach, CNSCs staff is of the opinion that requiring a full suite of certification examinations under subsection 5.4 would be excessive. CNSC staff instead proposes a generic interpretation of the word “examination” in context of a recertification, and the use the requalification tests as sufficient examination in context. This preferred option is consistent with the requalification requirement to be met every five years and is possible because modern licences do not, in fact, refer to any examination, pointing instead to this REGDOC-2.2.3. The alternative would be to require a suite of certification examinations in blind adherence with Class I Regs 9(2)(b). However, this second option would create undue added regulatory and administrative burden for both CNSC and licensee staffs. CNSC staff added guidance to the appropriate subsections to clarify the proposed approach, but the declaration to be made by applicants as specified under 5.4.2.b is the correct one. Since this issue is complex, CNSC staff proposes to provide further details at the planned workshop.
44.	Page 21 5.4.4 c, d, e & f	Bruce Power, CNA, OPG, NB Power	Section 19.2 requires licensees to retain, and make available to the CNSC upon request, personnel training records, and should not be required to submit such records with certification applications. MAJOR Impact: Increased requirement and administrative burden beyond a	c. the date of the knowledge-based requalification test successfully completed by the worker, including the worker’s answers and the grade, in percentage, obtained by the worker; d. the date of the performance-based requalification test or	The CNSC sets requirements according to the graded approach. The information to be submitted upon application as sufficient proof of competency is at the discretion of the CNSC, as regulator and certifying body. CNSC staff acting on behalf of the Commission must be satisfied with the evidence presented to them before making informed recommendations and decisions regarding the qualification of workers seeking certification by the CNSC. The context of subsection 5.4.4 is a recertification following a certificate expiry, not a routine case. The worker may have been inactive for up to five (5) years by the time the application is made. This situation poses a risk commensurate with the duration of the period of inactivity. The current regulatory framework provides no applicable requirement or guidance, a known regulatory gap that has

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			normal renewal application with no obvious or corresponding improvement to nuclear safety.	series of tests successfully completed by the worker; e. a suitable record, signed by an authorized licensee representative, of the WUS hours completed by the worker; and f. a recording, transcript, or the minutes of the mandated management interview. e. the date of completion of any period of work under supervision, including the total number of supervised work hours; and f. the date of the management interview.	caused added burden for both CNSC and licensee staffs in the past. The proposed process is elastic and vary in scope with the length of the period of inactivity, eliminating the need to define “prolonged inactivity”. This is the very approach that would be recommended by ECOs if an application for recertification was received today. Under the current regulatory framework, the DO would delay the recertification until satisfactory proof of competency was received by the applicant. The implementation of a standardized process will ultimately save time and effort for all parties involved. CNSC staff does not intend, in this non-routine case, to postpone the verification of the pertinent records until an inspection can be conducted. Baseline inspections target personnel record samples to ensure licensee compliance with general recordkeeping requirements. The information required at the time of application is immediately pertinent to the certification of the worker concerned. Supplementing the new recertification processes, the REGDOC establishes a new approach in dealing with certified workers who announce their retirement or otherwise cease to be employed in a designated position. Workers in such circumstances will neither be decertified nor deemed uncertified, but will be removed from duty until the certification expires, making their eventual reinstatement to duty possible. This approach reduces the probability that any worker will be seeking recertification and licensees will be able to avoid nearly all recertification cases.
45.	Page 22 5.5.2 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Important Note – To satisfy the legal requirement set by subsection 9(2) of the Class I Regulations, the correct worker competency declaration for a recertification is the same as the one required for an initial certification.	This comment has been addressed already – see item #42.
46.	Page 23 5.5.3 b ii & iii	Bruce Power, CNA, OPG, NB Power	Section 19.2 requires licensees to retain, and make available to the CNSC upon request, personnel training records, and should not be required to submit such records with certification applications MAJOR	ii. the date of the knowledge-based certification examination successfully completed by the worker, including the worker’s answers and the grade, in percentage, obtained by the worker;	This comment has largely been addressed already – see item #44. However, the rationale already supplied is even more relevant to subsection 5.5. The context is one of two cases: either the worker was previously decertified by the CNSC, or the worker’s certification expired more than five (5) years ago. In the first case, the CNSC rarely decertify workers, and it does so only when the worker has demonstrated significant shortcomings. In the rare, and arguably unlikely, event that the licensee subsequently requests the recertification of the same worker, the CNSC is justified in requiring a more detailed proof of competency at the time of application than is the case for a

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>Impact: Increased requirement and administrative burden beyond a normal renewal application, with no obvious or corresponding improvement to nuclear safety.</p>	<p>iii. the date of the performance-based certification examinations successfully completed by the worker;</p>	<p>“normal renewal”, including the remediation of the decertification basis. This approach is consistent with the graded approach and the existing removal-from-duty and reinstatement processes. In the second case, the worker has been uncertified for more than five (5) years, and has therefore skipped an entire continued training and requalification testing cycle, posing an obvious added risk compared to certified workers who have been frequently employed, continually trained, and recently retested. CNSC staff does not intend, in those two exceptional cases, to rely on a potential later inspection before verifying the proof of competency necessary to make an informed recommendation to the DO or the Commission. The added burden is minimal compared to the status quo, and occurrences as rare as the circumstances relevant to subsection 5.5 cannot be said to cause added burden.</p>
47.	Page 23 5.5.4 a, b, c & d			<p>a. the tailored training needs analysis (TNA) or a summary of the said TNA; b. the individual training plan (ITP) or a summary of the ITP; c. the knowledge-based certification examination successfully completed by the worker, including the worker’s answers and the grade, in percentage, obtained by the worker; d. the performance-based certification examination successfully completed by the worker;</p>	<p>This comment has sufficiently been addressed already – see items #44 and #46.</p>
48.	Page 23 5.5.4 e & f			<p>e. a suitable record, signed by an authorized licensee representative, of the WUS hours completed by the worker; and f. a recording, transcript, or the minutes of the mandated management interview.</p>	<p>This comment has sufficiently been addressed already – see items #44 and #46.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				e. the date of completion of any period of work under supervision, including the total number of supervised work hours; and f. the date of the management interview.	
49.	Page 23 6.1	Bruce Power, CNA, OPG, NB Power	Suggest adding the following guidance.	Important Note – To satisfy the legal requirement set by subsection 11(1) of the Class I Regulations, the CNSC shall notify a licensee and the person of a proposed decision not to certify the person, as well as the basis for the proposed decision, at least 30 days before refusing to certify the person.	The comment was noted. The purpose of subsection 6.1 is not to duplicate the regulations, but to provide contextual information for licensee staffs and other readers.
50.	Page 24 6.3	Bruce Power, CNA, OPG, NB Power	Requirements should use the word “SHALL”.	All such requests shall should contain the information and be transmitted to the CNSC ...	The term <i>should</i> was used under subsection 6.3 because some of the information referenced does not apply to all relevant cases. The text was revised to avoid the wording altogether.
51.	Page 24 6.3 & Page 24 7.	Bruce Power, CNA, OPG, NB Power	Sections 6.3 & 7 should not refer to all of 5.1; just 5.1.2 to 5.1.4. Section 5 is titled "Personnel Certification Applications", while section 6 is related to refusal to certify and decertification.	Replace 5.1 with 5.1.2 to 5.1.4, for example; ... with the general provisions specified in subsections 5.1 5.1.2 to 5.1.4.	The document structure was revised to avoid the issue.
52.	Page 24 7 a.	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	... specifying the effective date of completion of the initial or continuing training referenced in section 10;	The term “effective date” is universally understood and used consistently throughout the document. The proposed REGDOC is requiring that the applicant specify an effective date of completion, in part to ensure that applications are duly completed individually, and not recycled applications. Another reason is that CNSC staff cannot proceed without receiving the relevant attestation, which of little legal value without an effective date.
53.	Page 26 9 c.	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	c. shift supervisor (SS).	This comment has already been addressed – see item # 22.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
54.	Page 26 9.1.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear, and should use wording similar to section 10.1.1.	The worker must have met, prior to the start of their initial training, the basic prerequisites specified in subsection 12.2 as part of the personnel selection program mandated in section 12. OR The worker must have met, prior to the start of their initial training, any applicable position specific prerequisites set by the licensee as part of the personnel selection program mandated in section 12.	Subsection 9.1.1 correctly refers to the basic prerequisites applicable to all operations personnel listed under 12.2.1. This subsection already encompasses criteria set by the licensee. In the case of operations personnel, it is necessary to distinguish between basic and supplementary prerequisites because the supplementary prerequisites defined under 12.2.2 apply to shift supervisors only. This approach avoids repeating detailed lists of requirements applicable to all positions. CNSC staff revised subsection 9.1.1 for added clarity, but the subsection continues to reference the basic prerequisites applicable to all operation personnel. Conversely, subsection 10.1.1 pertains to SHPs only. In that case, the basic prerequisites specified under 12.2.1 do not apply, which is why section 10 is more generic. CNSC staff revised section 10 for added clarity.
55.	Page 26 9.1.2	Bruce Power, CNA, OPG, NB Power	This revision of the requirement focusses on the worker, while current version focusses on the training. The proposed wording is not aligned with the Science Fundamentals and Equipment Principles (SF&EP/Generals) training that has been established in accordance with a Systematic Approach to Training (SAT) and accepted by the CNSC. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or	The worker must have successfully completed general training based on a training system and must possess adequate knowledge of the applied science and engineering principles relevant to the design and operation of the reactor(s) and the systems, subsystems, and equipment installed in the reactor facility identified in the licence. covering the science fundamentals and equipment principles relevant to the operation of a reactor facility.	In order to allow the SAT implementation at future facilities, the proposed REGDOC essentially defines science fundamentals in a generic manner without contradicting the current CANDU terminology or imposing the CANDU SAT outcome on non-CANDU facilities. This performance-based description replaces the existing prescriptive list of training topics, and merely clarifies the regulatory intent that should guide the SAT. Furthermore, the generic language proposed in the revised REGDOC is consistent with the terminology used by the World Association of Nuclear Operators (WANO) in describing the operator fundamentals implemented by the industry. Notwithstanding, CNSC staff reviewed the subsection for potential improvement.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			corresponding improvement to nuclear safety.		
56.	Page 26 9.1.2	Bruce Power, CNA, OPG, NB Power	<p>9.1.2 does not address how a licensee confirms a worker “possesses adequate knowledge”, while current version requires formal written evaluations. Section 13.4 does require formal evaluations, but the linkage to 9.1.2 is unclear.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p>	<p>Add: This training shall include formal learner evaluations, mandated in section 13.4, that confirms at the completion of the training, the person has adequate knowledge to perform the duties of the relevant designated position.</p>	<p>Part III already states that all training programs must include formal learner evaluations. This is a training program requirement that only needs to be stated once and will not be repeated throughout the document. Part II is not intended to specify how the licensee should measure trainee progress or confirm that workers possess adequate knowledge. Neither does Part II set licensee program compliance verification criteria (CVC), many of which are specified in complementary documents.</p> <p>Part II describes performance-based worker qualifications relevant to the individual certification basis of each worker, while Part III specifies the support program requirements to be implemented by the licensee as part of the broader licensing basis. In order to facilitate regulatory oversight and improve regulatory clarity, this revised REGDOC decouples qualifications strictly applicable to the worker upon application (which are verified by ECOs at the time of application) from the requirements continuously applicable to the licensee as part of the broader licensing basis (which are verified by various staff members and divisions during inspections).</p> <p>From the perspective of the regulator and certifying body, the worker competency evaluations which confirm that the worker has adequate knowledge to perform the duties of the relevant designated position are the certification examinations administered by examiners, not the formal learner evaluations administered by trainers. This is a fundamental distinction explained in Part III. The relevant series of certification examinations is correctly mandated in Part II, along with the other worker qualifications. The formal learner evaluations are not worker qualifications, but training program components correctly prescribed Part III.</p> <p>Because the document structure departs from previous versions, the scope defined in the introduction includes an overview of the new document structure, including a description of the parts, which description is partially repeated at the start of each part. Given that Parts II and III are published in the same REGDOC and that Part II consistently refers the reader to the associated program requirements specified in Part III, the linkage is sufficiently clear without duplicating content.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
57.	9.1.3 Page 26	Bruce Power, CNA, OPG, NB Power	<p>This revision of the plant experience requirement focusses on a worker’s “knowledge”, while current version focusses on a set period of time.</p> <p>9.1.3 does not address how a licensee confirms a worker “possesses adequate knowledge”. Section 13.4 requires formal evaluations be a component of training, but the linkage to 9.1.3 is unclear.</p> <p>For new facilities, information on physical layout, time to operate, and organizational structure may not be available until commissioning is under way.</p> <p>“Time to operate” and “organizational structure” are not addressed before the start of the station-specific phase of training.</p> <p>MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees’ training system (SAT) process is diminished.</p>	<p>The worker must have successfully completed, prior to the start of the station-specific training specified next in sub-subsection 9.1.4, plant familiarization training based on a training system.</p> <p>Guidance: Plant familiarization training should address: a. the physical layout of the reactor facility identified in the licence, including the location and size of the major systems, subsystems and equipment., and the time and effort required for field personnel to operate, upon direction by certified workers, the systems, subsystems, and equipment located outside of the main control room (MCR); and b. the organizational infrastructure necessary to operate the said reactor facility under normal, abnormal, and emergency conditions, including the mandate, roles and responsibilities of the key personnel and groups of personnel.</p>	<p>The inclusion of training program requirements in Part II has already been addressed – see item #56. Concerns over FOAK technology and new build commissioning have also been addressed – see item #3.</p> <p>The CNSC currently requires (for the relevant candidates) a minimum of two (2) years of prior work experience at the plant (or various equivalencies) prior to their entry in the relevant initial training programs. The proposed REGDOC replaces this prescriptive requirement with an optional consideration as an integral part of a mandatory personnel selection program, which is already implemented at current CANDU sites. This is a flexible approach compared to other regulatory bodies. However, the prior prescriptive approach did not guarantee meaningful employment of the candidates and served to delay, in some cases needlessly, their intake into the initial training programs. CNSC staff therefore recommends the adoption of a performance-based approach allowing for training to be tailored according to individual learner needs.</p> <p>As an integral part of this regulatory change, CNSC staff further proposes: firstly, a clearer purpose for any potential work experience required by the licensee; and secondly, the implementation of just-in-time familiarization training prior to candidate entry in a suitable NPP-specific training program. The greater diversity of candidates seen in recent years means that some candidates have had less exposure to field work than others. Whether plant familiarization is conducted immediately before or as an integral part of NPP-specific training should be of minimal consequence on the SAT, but empirical data suggests that candidates should invest some time familiarizing themselves with the reactor facility infrastructure, physical and organizational, before the start of the NPP-specific training. Candidates will be better prepared for the NPP-specific training and the latter can serve to reinforce the basic knowledge gained during the plant familiarization training.</p> <p>The proposed performance-based approach provides licensees with all the needed flexibility to meet the safety goal of the familiarization training using whatever methodology works best, including any combination of OJT, mentorship, and/or meaningful employment. Notwithstanding, CNSC staff has removed a subset of the original text, which was deemed potentially problematic.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
58.	Page 27 9.1.4	Bruce Power, CNA, OPG, NB Power	<p>9.1.4 does not address how a licensee confirms a worker “possesses adequate knowledge”.</p> <p>Section 13.4 does require formal evaluations be a component of training, but the linkage to 9.1.4 is unclear.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p>	<p>The worker must have successfully completed baseline station-specific training based on a training system and must possess adequate knowledge of the design and the precise operation, under normal, abnormal, and emergency conditions, of the reactor(s) and associated systems, subsystems, and equipment installed in the reactor facility identified in the licence.</p> <p>This training shall include formal learner evaluations, mandated in section 13.4, that confirm, at the completion of the training, the person has adequate knowledge to perform the duties of the relevant designated position.</p>	<p>The inclusion of training program requirements in Part II has already been addressed – see item #56. Part II sets worker qualifications, not licensee program CVC.</p> <p>The term <i>baseline</i> was used to underline the difference between the baseline and supplementary training for shift supervisors. Notwithstanding, it may be omitted here without negative consequence.</p> <p>The term <i>precise</i> is borrowed from WANO’s operator fundamentals, which licensees have implemented at CANDU sites. Operations personnel are expected to precisely control, cool, and contain. This is fundamental part of the job description and the key difference between generally knowing something about nuclear reactor operations and being able to actually, that is precisely, operate a nuclear reactor.</p> <p>The worker must likewise possess <i>adequate</i> knowledge. The safety goal is not to implement SAT-based training programs – that is merely one of the means used to achieve the safety goal. The safety goal is to ensure workers are qualified to carry out the duties of their position, which in this particular case means they must possess adequate station-specific knowledge, depending on the designated position. This safety goal is verified by means of the certification examinations specified shortly after.</p> <p>CNSC staff does not intend to modify the text as suggested.</p>
59.	Page 27 9.1.4 Guidance	Bruce Power, CNA, OPG, NB Power	<p>1) As written, the statement is unclear.</p> <p>2) Typo.</p>	<p>Clarification – The baseline station-specific training covers the station-specific knowledge that, for ASO candidates, is required of a certified ASO or, for RO and shift supervisor candidates, is required of a certified RO. In other words, Shift supervisors are expected to possess station specific knowledge equivalent to that of ROs, in addition to the supplementary station-specific knowledge specified later in subsection 9.29.2</p>	<p>This comment has already been addressed. CNSC staff revised the text.</p> <p>A number of hyperlinks failed and appear as typographic errors in the draft. This technical issue will be corrected before final publication.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
60.	Page 27 9.1.5	Bruce Power, CNA, OPG, NB Power	Implementation of a system's approach to training should ensure nuclear emergency response training is addressed, if required by the analysis. As written, the statement is unclear. MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.	Delete 9.1.5 or; as a minimum, revise as follows: The worker must have successfully completed possess adequate knowledge of training on nuclear emergency response (NER) and the management of beyond-design-basis accidents (BDBA), based on a training system. including the roles and responsibilities of certified workers regarding emergency operating procedures and severe accident management.	It is not sufficient for workers to attend SAT-based training. They must possess adequate knowledge as a result of their training and/or their prior education and experience. That is the safety goal. The emphasis represents a particular CNSC staff concern post-Fukushima, but it does not prevent the licensees from applying the SAT and cover all the relevant knowledge depending on the designated position.
61.	Page 27 9.1.6	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.	The worker must have successfully completed on-the-job training (OJT) based on a training system covering the relevant knowledge and skills (K&S) and safety-related attributes acquired or reinforced most effectively through OJT.	The text specifies a performance-based objective and a natural purpose for OJT, and therefore clarifies the regulatory intent. This purpose does not conflict with the SAT process, since licensees must apply the SAT to determine what K&S and safety-related attributes should be covered by means of OJT. The specified purpose is primarily aimed at future operations and licensees, which may include organizations and personnel less cognisant of first principles than the current, CANDU reactor licensees.
62.	Page 27 9.1.7	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.	The worker must have successfully completed simulator-based training based on a training system covering the relevant K&S and safety-related attributes acquired or reinforced most effectively through simulated scenarios.	This comment has already been partially addressed – see item #61. The revised REGDOC is forward-looking and not written exclusively in reference to CANDU licensees. Future licensees may not automatically recognize the concepts being described. CNSC staff removed the prior prescriptive lists of training topics in order to align the REGDOC with the SAT and REGDOC-2.2.2. These lists in effect defined each training program component without the need for further description. Without the topic lists, the revised REGDOC must describe the mandatory training program components and other requirements in some generic, performance-based manner in order for all potential readers to recognise the concepts and objects being referenced. Accordingly, Part II specifies generic worker qualifications and provides a performance-based safety goal for each qualification. The SAT can be applied to determine the

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					specific topics for each training component and meet the associated safety goal. But the SAT should be guided by these ultimate, performance-based safety goals. Part II does not contain program-level CVC, but worker qualifications verified at the time of application as part of the certification processes described in Part I. Training programs are verified during inspections by a distinct CNSC division using REGDOC-2.2.2 <i>Personnel Training</i> as primary reference.
63.	Page 27 9.1.8	Bruce Power, CNA, OPG, NB Power	In October 2021, OPG/BP/NBP recommended the CNSC allow licensees to conduct science fundamentals, equipment principles and radiation protection training prior to commencing the initial certification training program, and the requirement to conduct a separate general examination be removed. MAJOR Impact: CNSC's initial response was that this proposal would not be addressed for this revision. Industry wants to ensure that this proposal is considered for next revision.	Delete section 9.1.8, such that a separate Knowledge-based General Certification Examination is not required.	Examinations provide an instantaneous, imperfect, and short-live measure of knowledge retention. No examination assesses 100% of the necessary knowledge and none of the certification examinations requires a 100% pass mark. Individual exam results are indicators, not absolute proof of worker competency. Therefore, the removal on any one examination could significantly reduce the validity of the proof of competency overall, which the CNSC relies on to infer sufficient worker competency at the completion of the initial training. The industry has made a compelling argument in favour of the multiple-choice questions (MCQ) methodology for general examinations by arguing that the said methodology allowed a more comprehensive sampling of science fundamentals. The CNSC has approved this methodology based on this argument as well as the current state of the art in support of MCQ as a valid methodology, but the validity of the MCQ methodology is predicated on sufficient sampling; that is, a relatively large number of questions, compared to the modified essay questions (MEQ) methodology. The CNSC has furthermore removed the validity period (aka expiry date) from the knowledge-based exam results in order to allow licensees to administer the general exam at any time, and thereby form pools of suitable candidates well ahead of their eventual or potential entry in the NPP-specific training. Now the industry is proposing to remove the general examination altogether or merge it with the NPP-specific examination, which in either case would reduce the sampling rate of science fundamentals and consequently hamper the effectiveness of the MCQ methodology. CNSC staff presently sees no rationale or necessity that would justify recommending that the CNSC accepts a lesser proof of worker competency at the time of application for certification.
64.	Page 27 9.1.8	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and should be aligned with current wording in CNSC EG1. MAJOR Impact:	The worker must have successfully completed a general knowledge examination that samples topics covered in the training specified in section 9.1.2. confirming that the worker	This comment has already been partially addressed. Furthermore, CNSC-EG1 is currently undergoing a revision and will be made to align with the revised REGDOC-2.2.3 Volume III where necessary. That said, CNSC-EG1 is CANDU-centric and can only apply to CANDU reactors. The proposed REGDOC aims to be technologically-neutral and cannot be in all cases aligned with existing CANDU-specific documentation. Examination and testing methodologies are not specified in this REGDOC, but in CVC

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			Regulatory uncertainty due to the inconsistency with the current examination process as mandated by CNSC EG1	possesses the general knowledge necessary to perform the duties of the pertinent designated position safely and competently.	documents, including CNSC-EG1 and CNSC-EG2. Methodologies relevant to non-CANDU facilities will likewise be specified in other documents. Detailed requirements specified in complementary documents will no be repeated in this REGDOC. Capturing overly prescriptive requirements in this REGDOC would also reduce the flexibility required to deal effectively with future operations, including, but not limited to, SMRs. Notwithstanding, CNSC staff revised the text here and in other parts of the text to reduce the potential uncertainty surrounding the word “confirm”.
65.	Page 27 9.1.9	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and should be aligned with current wording in CNSC EG1. MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current examination process as mandated by CNSC EG1.	The worker must have successfully completed a station-specific knowledge examination that samples topics covered in the training specified in section 9.1.4 confirming that the worker possesses the station-specific knowledge necessary to perform the duties of the pertinent designated position safely and competently.	This comment has already been addressed – see item #64.
66.	Page 27 9.1.10	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and should be aligned with current wording in CNSC EG2. CNSC proposal is a significant change in the scope of the initial simulator-based examination mandated by CNSC EG2. MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current examination process as mandated by CNSC EG2.	The worker must have successfully completed, within two (2) years of the application for certification, a performance-based certification examination conducted in a full-scope simulator or an approved alternative to the full scope simulator. This examination samples topics covered in the training specified in section 9.1.7 and is aimed at providing assurance that, at the time of their certification, workers have the level of knowledge and skills required to respond to abnormal operating conditions at their	This comment has already been addressed – see item #64.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				facility. confirming that the worker can perform the duties of the pertinent designated position safely and competently.	
67.	Page 28 9.1.11	Bruce Power, CNA, OPG, NB Power	The concept of “Work Under Supervision (WUS)” cannot be applied to new facilities. MAJOR Impact: Document cannot be implemented as written for new facilities.	CNSC should develop criteria or an exemption that can be applied to a newly built or first of a kind facility.	The requirement set under subsection 9.1.11 is performance-based and will apply to all future reactor facilities.
68.	Page 28 9.1.12 Page 31 9.4.5 Page 32 9.5.6	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and the Industry suggested revision focusses the requirement on the interview, not the manager. “Authorized” manager is undefined. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	The worker must have successfully undergone a formal management interview conducted by an authorized manager that who thereby confirmed the worker can perform the duties of the pertinent designated position safely and competently.	The CNSC insists that the management interview be carried out by a manager duly authorized, by the licensee, to represent the licensee. It is not the case that anyone who happens to be a manager, regardless of their role and position in the organization, should conduct this interview. CNSC staff has revised the text so as to be more explicit and reduce ambiguity surrounding the word <i>authorized</i> .
69.	Page 28 9.1.12 Page 31 9.4.5 Page 33 9.5.6	Bruce Power, CNA, OPG, NB Power	The following guidance regarding is repeated throughout the document: 1) when the management interview is conducted	Suggest move to Glossary section on Page 69.	The glossary may not be used in the suggested manner. Instead, CNSC staff revised the text to include guidance relevant to entire sections or subsections.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
	Page 28 9.1.10 Page 29 9.3.2/9.3.3 Page 30 9.4.2/9.4.3 Page 32 9.5.3/9.5.4		2) examination and test expiry dates		
70.	Page 28 9.2.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	The worker must have met the supplementary prerequisites for shift supervisors specified in subsection 12.2 as part of the personnel selection program mandated in section 12.	The text was revised as suggested.
71.	Page 28 9.2.2 Page 29 9.2.3	Bruce Power, CNA, OPG, NB Power Bruce Power, CNA, OPG, NB Power	<p>The concept of supplementary training and a subsequent supplementary examination is linked to the operating structure at currently licensed facilities and does not allow for different operating organization structures that may be proposed for future SMRs.</p> <p>Current list of designated positions in section 4 implies these positions and the related training/examinations will be required at all future facilities.</p> <p>MAJOR Impact: Does not allow for different operating organization structures that may be proposed for future SMRs.</p>	Add guidance to explain that this training and examination is only required at licensed facilities that use an operating organization as reflected by Section 4.	<p>As previously stated, the requirements set in REGDOC 2.2.3 Volume III apply to existing designated positions part of existing management systems, as explicitly stated in the scope and in other parts of the REGDOC. LCHs are the appropriate regulatory instrument to document exceptions, not REGDOCs. FOAK concerns have already been largely addressed – see items #3 and #8.</p> <p>REGDOC 2.2.3 Volume III does not prescribe any specific COO. Part II lists generic qualifications that are likely to apply regardless of the COO implemented, and the REGDOC can be amended at later date if required. That said, workers may be trained to the highest level and possess multiple qualifications or an ultimate qualification, but management systems and minimum shift complements (MSC) meeting the requirements of the CNSC will, in all probabilities, entail the presence, local or remote, of: (a) an ultimate decision-maker (i.e., some sort of shift supervisor) overseeing an operator or crew of operators; or (b) a sole or a series of operators having all decision-making powers for the safe and competent operation of their unit. A sound management system entails well-defined roles and responsibilities, including clear delegated authorities. Certified workers on watch as members of the MSC must therefore be qualified to carry the duties of the position they occupy at the time, regardless of whether or not they are qualified to stand duty in other designated positions. The baseline and supplementary qualifications are written so as not to overlap, by design. Therefore, certified workers needing to be qualified for</p>

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					employment in both RO and shift supervisor positions will need to meet all qualifications, regardless of the COO. Personnel certification schemes departing significantly from past practices can be specified in LCHs.
72.	Page 28 9.2.2	Bruce Power, CNA, OPG, NB Power	<p>9.2.2 does not address how a licensee confirms a worker “possesses supplementary knowledge”.</p> <p>Section 13.4 does require formal evaluations be a component of training, but the linkage to 9.2.2 is unclear.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p>	<p>The worker must have successfully completed supplementary station-specific training, based on a training system, and must possess of the supplementary knowledge specifically required of shift supervisors concerning the design and the precise operation, under normal, abnormal, and emergency conditions, of the reactor(s) and associated systems, subsystems, and equipment installed in the reactor facility identified in the licence.</p> <p>This training shall include formal learner evaluations, mandated in section 13.4, that confirm at the completion of the training, the person has adequate knowledge to perform the duties of the relevant designated position.</p>	<p>The inclusion of training program requirements in Part II has already been addressed – see (among others) item #56. Part II sets worker qualifications, not licensee program CVC.</p> <p>REGDOC-2.2.3 Volume III is a personnel certification REGDOC, not a training REGDOC. REGDOC-2.2.2 <i>Personnel Training</i> already details the components of a compliant training system, including learner evaluations. In the personnel certification context, the regulator and certifying body relies on the certification examinations and requalification tests (administered by independent examiners) to confirm adequate knowledge retention, which are therefore correctly specified in Part II. The purpose of learner evaluations (administered by trainers) is explained in part III.</p>
73.	Page 29 9.2.3	Bruce Power, CNA, OPG, NB Power	<p>As written, the statement is unclear and should be aligned with current wording in CNSC EG1.</p> <p>MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current examination process as mandated by CNSC EG1.</p>	<p>The worker must have successfully completed a supplementary station-specific knowledge examination that samples topics covered in the training specified in section 9.2.2 confirming that the worker possesses the supplementary station-specific knowledge specifically required of shift</p>	<p>The inclusion of training program requirements in Part II has already been addressed – see (among others) item #56. Part II sets performance-based worker qualifications, not licensee program CVC.</p> <p>The safety goal for station-specific is not to “sample topics covered during training”. That is merely a means to achieve the safety goal, which is to confirm the candidate possess adequate station-specific knowledge. Part II contains generic descriptions and specify performance-based goals for the training components</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				supervisors to perform their duties safely and competently.	
74.	Page 29 9.3.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	The certified worker must have successfully completed continuing training based on a training system comprising knowledge and performance-based refresher and update components delivered by means of effective instructional methods, including simulator-based training.	The inclusion of training program requirements in Part II has already been addressed – see (among others) item #56. Part II sets performance-based worker qualifications, not licensee program CVC. Furthermore, this requirement is not new and already implemented at all CANDU sites. The typographic error has been corrected.
75.	Page 29 9.3.3	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	... conducted in a full-scope simulator or approved alternative simulator confirming that the worker ...	The word <i>alternative</i> by definition implies the approved alternative is also a simulator.
76.	Page 30 9.3.4	Bruce Power, CNA, OPG, NB Power	For consistency, requirements should be written using “SHALL”.	The certified worker shall must have been sufficiently employed in the pertinent designated position to maintain an adequate competency level.	This concern has already been addressed – see item #41.
77.	Page 30 9.4.1	Bruce Power, CNA, OPG, NB Power	Use of the term “tailored” training is new terminology and expectations are unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	9.4.1 Individual Tailored Training Plan The worker must have successfully completed approved tailored training, comprising of knowledge and performance-based refresher and update training, based on a documented, tailored training needs analysis (TNA) and a documented individual training plan (ITP). At a minimum, this tailored training shall cover any scheduled refresher training and update	The term <i>tailored</i> is used in the proposed REGDOC instead of the term <i>remedial</i> when training must be tailored (synonyms include customized, tailor-made, specialized) to account for the individual training needs of a single worker, as opposed to the training programs designed to meet the needs of cohorts of trainees. The term <i>remedial</i> is avoided in this and other relevant cases because the root-cause may not always be an observed deficiency. The term <i>remedial</i> and <i>remediation</i> are used consistently throughout the proposed REGDOC when the root-cause unequivocally entails an observed knowledge or performance deficiency. Likewise, the meaning of an individual TNA is clear in context. Licensee staffs have no choice but to conduct an individual (as opposed to a program-level) TNA when producing an individual training plan. The scope of this TNA will be commensurate with the specific needs of the individual as situation dictates. The terms tailored training, individual TNA, and ITP have been retained in all cases when the context is individual, rather than group-based, but the usage was verified for consistency throughout the document. A new definition has also been added to the glossary to clarify the term.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				training, including any simulator-based training, that the worker missed during the interim period between the certificate expiry and the application for recertification.	
78.	Page 30 9.4.1	Bruce Power, CNA, OPG, NB Power	<p>An individual training plan includes the completion of a needs assessment and does not need to be mandated.</p> <p>MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.</p>	<p>9.4.1 Individual Tailored Training Plan The worker must have successfully completed approved tailored training, comprising of knowledge and performance-based refresher and update training, based on a documented, tailored training needs analysis (TNA) and a documented individual training plan (ITP).</p> <p>At a minimum, this tailored training shall cover any scheduled refresher training and update training, including any simulator-based training, that the worker missed during the interim period between the certificate expiry and the application for recertification.</p>	This comment has already been addressed – see item #77.
79.	Page 30 9.4.2	Bruce Power, CNA, OPG, NB Power	<p>Not aligned with CNSC document "Requirements for the Requalification Testing of Certified Shift Personnel at Nuclear Power Plants", Revision 2, May 1, 2009.</p> <p>Industry suggested change in wording reflects current testing process as mandated by CNSC document "Requirements for the Requalification</p>	The certified worker must have successfully completed, within two (2) years of the application for recertification, a knowledge-based requalification test or series of tests aimed at demonstrating confirming that the worker has retained the knowledge necessary to perform the duties of the pertinent	CNSC staff revised the draft REGDOC using an alternate wording. However, the proposed REGDOC will not be made to replicate past terminology without due consideration.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>Testing of Certified Shift Personnel at Nuclear Power Plants”, Revision 2, May 1, 2009.</p> <p>MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current process as mandated by CNSC document: Requirements for the Requalification Testing of Certified Shift Personnel at Nuclear Power Plants”, Revision 2</p>	designated position safely and competently	
80.	Page 30 9.4.3	Bruce Power, CNA, OPG, NB Power	<p>Not aligned with CNSC document” Requirements for the Requalification Testing of Certified Shift Personnel at Nuclear Power Plants”, Revision 2, May 1, 2009.</p> <p>Industry suggested change in wording reflects current testing process as mandated by CNSC document ”Requirements for the Requalification Testing of Certified Shift Personnel at Nuclear Power Plants”, Revision 2, May 1, 2009.</p> <p>MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current process as mandated by CNSC document: Requirements for the Requalification Testing of Certified Shift Personnel at Nuclear Power Plants”, Revision 2.</p>	The certified worker must have successfully completed, within two (2) years of the application for recertification, and in a lead role, a comprehensive simulator-based requalification test aimed at demonstrating confirming that the worker can perform the duties of the pertinent designated position safely and competently.	This comment has already been addressed – see item #79.
81.	Page 34 10.1.2	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Irrespective of any applicable prerequisites set by the licensee	The text was revised as suggested.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				as part of the personnel selection program, the worker shall:	
82.	Page 34 10.1.3	Bruce Power, CNA, OPG, NB Power	<p>CNSC has eliminated Section 19, Transfer to another Nuclear Power Plant, for the SHP.</p> <p>Under the current model, a licensee could provide gap training on systems, etc. and then present a candidate for certification.</p> <p>MAJOR Impact: For a new facility, it is unclear how a licensee could certify an SHP (Senior Health Physicist).</p>	<p>Reinstate the requirements given in current REGDOC in Section 19: Transfer to another Nuclear Power Plant</p> <p>A person, who holds a certification as senior health physicist at a given Canadian NPP, seeking certification for the same position after transferring to another NPP shall, at the time of certification at this NPP, meet the requirements specified in subsections 19.1 to 19.3.</p> <p>19.1 Training requirements ... 19.2 Nuclear power plant management interview .. 19.3 CNSC examination ...</p>	<p>The current personnel transfer process, which applies to SHPs only, has been replaced by a universal transfer process applicable to all trainees and certified workers. The improved process states that transferred trainees and certified workers may be exempted from retaking general training, whatever that may be for SHPs, based on the SAT. The revised REGDOC no longer specifies training topics, relying instead on the SAT to determine training program content. The certification requirements for a transferred SHP are therefore the same as for any SHP, as per Section 10. These requirements include initial training, an interview, and an examination, which are the same components comprising the current “transfer process”, save the prescribed training topics. CNSC staff no longer aim to prescribe training topics. Since the training required under 10.1.4 must be SAT-based, the topics to be included is the initial training of transferred SHPs is entirely within the control of the licensee. The management interview and examination administered by CNSC staff remains unchanged in all cases. There may be a need to provide further SHP-specific guidance to fully explain the departure from the current prescriptive approach. This topic could be discussed further during the stakeholder workshop.</p>
83.	Page 34 10.1.3	Bruce Power, CNA, OPG, NB Power	<p>Increases current requirement from six months to two years and it could be written clearer.</p> <p>MAJOR Impact: Increase in burden with no obvious or corresponding improvement to nuclear safety.</p>	<p>Irrespective of any applicable prerequisites set by the licensee as part of the personnel selection program, the worker shall possess at least four (4) years of relevant experience, including two (2) years as a health physicist or an equivalent position at a the reactor facility, with 6 months at the facility identified in the licence.</p>	<p>This topic could be discussed further during the stakeholder workshop.</p>
84.	Page 34 10.1.5	Bruce Power, CNA, OPG, NB Power	<p>Section 10.1.5 should be guidance, or the section removed completely; duplication of sections 10.1.2, 10.1.3 and 10.1.4.</p> <p>MAJOR</p>	<p>Delete section 10.1.5.</p>	<p>Subsection 10.1.5 specifies a regulatory expectation for certified health physicists, which replaces the current prescriptive list of training topics. It provides a performance-based safety goal for the combined activities specified under 10.1.2 (education), 10.1.3 (experience) and 10.1.4 (training). Given that the current licensees already meet this expectation, it cannot be said to add burden. Activities that are</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>Impact: This section is redundant and adds burden with no obvious or corresponding improvement to nuclear safety.</p>		<p>without a clear end goal can easily diverge from the original intent over time. Therefore, CNSC staff prefers to be clear about the expectations of the regulator in relation to the special expertise required of SHPs, which is unique. SHPs play an important role during routine operations and, perhaps more crucially, during non-routine activities and emergency operations.</p>
85.	<p>Page 35 10.1.6 Page 36 10.3.3</p>	<p>Bruce Power, CNA, OPG, NB Power Bruce Power, CNA, OPG, NB Power</p>	<p>Could be written more clearly; Industry suggested revision focusses the requirement on the interview, not the manager.</p> <p>“Authorized” manager is undefined.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p>	<p>The worker must have successfully undergone a formal management interview conducted by an authorized manager who thereby that confirmed that the worker can perform the duties of a SHP safely and competently.</p>	<p>This comment has already been addressed – see item # 68.</p>
86.	<p>Page 35 10.1.7</p>	<p>Bruce Power, CNA, OPG, NB Power</p>	<p>As written, the statement is unclear, and should be aligned with current requirements of REGDOC 2.2.3 Volume III.</p> <p>MAJOR Impact: Regulatory uncertainty due to the inconsistency with the current examination process as mandated by the current version of REGDOC 2.2.3 Volume III.</p>	<p>The worker must have successfully completed an oral knowledge-based examination administered by CNSC staff covering the radiation protection principles, methods, and practices related to the operation of the reactor facility identified in the licence. that samples topics covered in the training specified in section 10.1.4.</p>	<p>The CNSC does not rely on the SAT implementation as sole evidence of competency in relation to the workers certified by the CNSC. Regardless of the SAT, the regulator determines what knowledge areas are to be covered during the certification examinations and requalification tests. CNSC staff has agreed to remove the prior prescriptive training requirements from REGDOC-2.2.3 Volume III, but did not agree to relinquish regulatory control over the certification examination and requalification testing envelopes. The generic knowledge areas listed under subsection 10.1.7 are in fact aligned with the education equivalency and initial training topics currently specified in REGDOC-2.2.3 Volume III, Version 1, as well as the topics covered by the CNSC examination, as per Appendix C – there is no “inconsistency” in the proposed REGDOC version.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					Both licensees and candidates are duly informed of the current, oral methodology, and will likewise be informed if a different methodology is ever adopted.
87.	Page 35 10.1.7 Guidance	Bruce Power, CNA, OPG, NB Power	Appendix C is listed as guidance , but can be interpreted as a mandatory list of training topics, developed outside of a licensees training system; thus requiring it to be trained so it can be examined by CNSC. MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.	Delete the guidance and Appendix C.	This comment has already been addressed – see item #86. The guidance is provided for added clarity and for the sake of completeness. The knowledge areas listed in Appendix C are in fact mandatory, but they also are sufficiently generic to apply now and in the foreseeable future. CNSC staff does not intend to deviate from the listed generic knowledge areas and topics. The SAT process, if properly conducted, should cover, and most likely exceed, these minimum requirements.
88.	Page 36 10.2.3 Guidance	Bruce Power, CNA, OPG, NB Power	Typo	Knowledge Areas – Article A .Appendix C provides a summary of the key knowledge areas ...	This technical issue has already been addressed.
89.	Page 37 11.1, 11.2, 12, Page 40 12.5, Page 47 14.4, Page 48 15 Page 49 16, 17.1 Page 50 18.1Page 57 19 & Page 63 21.5.4	Bruce Power, CNA, OPG, NB Power	Use of the word “effective”, as written, the statements are unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Delete “effective”: For example; The licensee shall establish and document effective policies and procedures... The licensee shall establish and document an effective process to ...	The rationale for the use of qualitative metrics has already been explained – see item #13. The usage and meaning made of the term “effective” in the proposed REGDOC is consistent with the terminology previously adopted in other REGDOCs of the Human Performance Management series, including REGDOC-2.1.1, <i>Management System</i> , REGDOC-2.1.2, <i>Safety Culture</i> , REGDOC-2.2.1 <i>Human Performance</i> , REGDOC-2.2.2 <i>Personnel Training</i> , and REGDOC-2.2.4 <i>Fitness for Duty</i> .

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
90.	Page 37 12.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	As an integral part of the mandated personnel selection program, ...	CNSC staff revised the text as suggested.
91.	Page 37 12.1 d	Bruce Power, CNA, OPG, NB Power	A selection process does not necessarily include formal testing. Candidates are selected by a facilities' operating organization, and the process used may not be developed in accordance with a training system. <i>(Aligns with Section 19.2.c comment 119)</i> MAJOR Impact: Increased burden with no obvious or corresponding improvement to nuclear safety.	d. shall assess if candidates meet the applicable minimum standards of literacy or numeracy; d. shall use standardized tests and proven methods to assess if whether or not candidates selected on the basis of a literacy or numeracy level, or a recognized equivalency, do in fact meet the applicable minimum standards of literacy or numeracy;	The requirement specified under paragraph 12.1.d applies only when the licensee has chosen to set minimum literacy and numeracy levels (i.e., basic reading, writing, and mathematical skills) or allow an equivalency instead of requiring recognized diplomas as proof of sufficient prior education. In that context, candidates must be assessed internally using proven methodologies and standardized tests, in order to ensure that all candidates do in fact meet the required minimum standards, and are treated fairly by means of a standardised personnel selection test that is given to all candidates in similar circumstances. Available methods are well-known and standardized tests are routinely used in many other sectors. The requirement was specified for future licensees who may choose to establish literacy and numeracy levels as part of their personnel selection program, rather than setting minimum education levels. The personnel selection program specified in this revised REGDOC offers a great deal more flexibility to licensee than the current prescriptive approach. However, CNSC staff expects licensees to implement quality alternatives to the prescribed minimum education levels.
92.	Page 37 12.1.c 12.1. f 12.1. h	Bruce Power, CNA, OPG, NB Power	Not written as a requirement; uses "may" and "should". MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Move under Guidance heading.	All "should" regulatory statements made in the REGDOC were moved under guidance headers. However, "may" statements indicates sanctioned optional elements of the whole being described and were maintained in their original location for added regulatory clarity. The meaning of the term "may" is as per the preface and is independent of its location in the document.
93.	Page 38 12.1. g	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	g. shall identify attributes and aptitudes deemed essential to safely and competently perform	This sentence states a regulatory expectation. The added details are consistent with CNSC's concerns post-Fukushima, and the pertinent safety-related attributes should be expected from any person in a position of leadership.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				the duties of the designated position, including integrity, leadership, and resilience, as may be pertinent ; and	
94.	Page 38 12.1 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	b. the management team with an opportunity to evaluate the prospective candidate against the pertinent personal selection criteria, in particular any essential or desirable attribute, including integrity, leadership and resilience.	This sentence states a regulatory expectation. The added details are consistent with CNSC's concerns post-Fukushima, and the pertinent safety-related attributes should be expected from any person in a position of leadership.
95.	Page 38 12.2.2	Bruce Power, CNA, OPG, NB Power	Uncertain how these requirements can be assessed and documented. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Delete 12.2.2.	Leadership is a key safety-related attribute required of leaders working within a healthy safety culture. REGDOC 2.1.2 <i>Safety Culture</i> identifies some key characteristics of good leadership. The subsection does not specify CVC, but a performance-based safety goal.
96.	Page 39 12.3.1 b	Bruce Power, CNA, OPG, NB Power	Uncertain how this requirement can be assessed and documented. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased	Delete 12.3.1 b.	Safety-related attributes are an integral part of the training systems mandated by REGDOC-2.2.2 <i>Personnel Training</i> . The subsection does not specify CVC, but a performance-based safety goal.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			burden with no obvious or corresponding improvement to nuclear safety.		
97.	Page 39 12.3.3 & Page 42 12.5.6	Bruce Power, CNA, OPG, NB Power	This notification is duplication of information provided with the application for certification. MAJOR Impact: Increased administrative burden, with no obvious or corresponding improvement to nuclear safety.	Delete this section.	Some of the information is the same, but the purpose and context differ. The context of subsection 12.3 is that of a certified RO selected for advancement to shift supervisor. The current process requires a minimum of one (1) year of prior work experience as RO. The revised process proposed under subsection 12.3 rescinds the prior, prescriptive requirement and replaces it with a performance-based objective, namely safe and competent performance as RO. This change is partly based on the GBA+ outcome. However, CNSC staff expects to be promptly notified, in lieu of the one-year experience, of the selection and to receive proper assurance prior to the candidate's entry into a shift supervisor training program. The reason is chiefly to ensure that the CNSC's personnel certification records are duly updated, but another reason is to allow CNSC staff with a timely opportunity to intervene if the existing performance record of the certified RO contradicts the licensee assessment. Likewise, subsection 12.5.6 specifies a similar notification requirement as part of an entirely new process designed to deal effectively with personnel transfer.
98.	Page 39 12.4	Bruce Power, CNA, OPG, NB Power	This section implies that a facility must utilize a Senior Shift Supervisor (SSS) if they decide to allow Shift Supervisors to operate the station without utilizing the RO position, and implies the creation of a separate SSS training program. Also implies the CRSS at current facilities must be SSS qualified and the CRSS at a currently licensed facility may not replace the SM during an emergency if the SM is incapacitated. MAJOR Impact:	Delete this section.	Subsection 12.4 implies no such CNSC staff position. Deleting subsection 12.4 would mean abandoning the single certification scheme and retaining the status quo; that is, retaining distinct certifications for Control Room Shift Supervisors (CRSS) and Shift Managers (SM), an option that is simpler from the regulator's perspective, but causes known operational issues, and which no longer aligns with the staffing model adopted at multi-unit CANDU sites. CNSC staff has many times indicated that the new single certification scheme would permit SMs (aka senior shift supervisors) to be employed in all designated shift supervisor positions, but conversely, would not allow CRSSs (aka shift supervisors) to be employed in SM positions. An internal qualification process must therefore be implemented by licensees (in lieu of the distinct CNSC certifications) that distinguishes between the two levels of supervision and qualify shift supervisors prior to their employment as senior shift supervisor. This process differs little from the current certification requirements: the management interview has been eliminated, the WUS is no longer specified, but is performance-based, and a notification was added to replace the application for

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p>		<p>certification, altogether representing a reduction in burden for both CNSC and licensee staffs. The new single certification scheme makes no difference to the training and qualification of SMs, since part of the basis for the regulatory change is the prior knowledge that all shift supervisors are trained to the same degree of technical expertise, with the SM needing only minimum supplementary training, chiefly of an administrative nature.</p> <p>This REGDOC neither defines nor prescribes a COO, but specifies personnel certification requirements for positions designated in operating licences based on the management systems implemented by licensees at existing reactor facilities. Care was taken to define concepts as generically as possible so they would remain applicable in the future. That is the primary reason why the term “senior shift supervisor” is proposed. The new term is at once generic – hence possibly relevant to future multi-unit sites – and indicative of the single certification scheme for shift supervisors. In the event that future COOs depart significantly from the current norms, this REGDOC can be updated accordingly or alternate regulatory tools can be used or developed.</p> <p>Shift supervisors have supervisory responsibilities and some form of ultimate decision-making power. The designation of the positions comprising the MSC should not be confused with the qualification(s) held by the specific persons filling the said positions at any given time. Whether or not each person hold multiple qualifications or an all-encompassing qualification does not change the need for a MSC composed of members assigned clearly defined roles and responsibilities, including documented delegations of authority applicable while on duty. In the event that novel COOs rely on shift supervisors routinely operating instrumentation and controls, or reactor operators with decision-making powers normally delegated to shift supervisors, the licensee merely needs to implement training programs and a management system (including clearly defined roles, responsibilities, and delegations of authority) that permits the implementation of the planned COO in a safe and effective manner.</p> <p>In answer to the specific conclusions reached by the commenter:</p> <p>(1) By definition, there is no “senior shift supervisors” at reactor facilities where the management system does not include two levels of shift supervisors. This is the outcome of section 12.4, including the guidance. The subsection defines,</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					<p>generically, what is considered a senior shift supervisor, where two levels do exist, based on the chief discriminating characteristic, which is the power to exercise authority over other shift supervisors. Nothing is said in the subsection about the necessity to have a second level of supervision, much less what specific authorities should be delegated in each case.</p> <p>(2) Subsection 12.4.2, which is named <i>Supplemental Training</i>, implies that the training for senior shift supervisor is not a distinct program, except for the supplemental portion. It should be noted that Part II refers to the training of shift supervisors, which include those who may later be selected as senior shift supervisor, implying a common training program. By default, one has to be certified as shift supervisor, and have completed the core initial training, before advancing to the senior position.</p> <p>(3) Subsection 12.4 indicates that CRSS are not allowed to act as SMs and therefore need not be qualified as SM. The whole of the document must also be considered; Appendix A removes all doubt about which positions are considered senior shift supervisor positions and which are not.</p> <p>(4) It is understood that CRSSs, during emergency situations or when the SM is unavailable, may have to make safety-critical and time-sensitive decisions normally delegated to the SM. REGDOC-2.2.3 Volume III does not specify roles and responsibilities, nor does it preclude any worker from taking appropriate action as may be necessary to protect the integrity of the plant and the safety of workers, the Canadian public, and the environment.</p>
99.	Page 40 12.4.3	Bruce Power, CNA, OPG, NB Power	The concept of having to “Work Under Supervision (WUS)” for a specified number of complete shifts may be better applied at new facilities by requiring completion of a specified set of tasks, either in the plant or in the full scope simulator.	CNSC should allow for development of criteria that can be applied to a newly built or first of a kind facility.	The task-based approach suggested here is appropriate when implementing on-the-job training (OJT), not work under supervision (WUS). Tasks may be exercised during OJT and other types of performance-based learning, including simulator-based training. The WUS period is not a training activity, but a probation period, and therefore a time-based requirement. The worker undergoing WUS should ideally be fully trained and able (but not permitted) to work without supervision; at the very least, the worker should be trained to a functional level and requires minimal (but continuous) supervision. OJT should be performed under the leadership of the training team, while WUS should be conducted under the leadership of the operations team. The purpose of the WUS period is explained in Part III of the proposed REGDOC. A suitable duration for the WUS period for non-CANDU reactor facilities will be determined during the applicable licensing process and appended to Annex B once known.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
100.	Page 40 12.4.3	Bruce Power, CNA, OPG, NB Power	Individuals will no longer be certified as senior shift supervisors. MAJOR Impact: REGDOC cannot be implemented as written.	The worker must have performed the duties of the senior shift supervisor under the supervision of a worker qualified certified as senior shift supervisor for a number of complete shifts ...	CNSC staff corrected the oversight.
101.	Page 40 12.4.4	Bruce Power, CNA, OPG, NB Power	Prior notification is not necessary. MAJOR Impact: Increased administrative burden, with no obvious or corresponding improvement to nuclear safety.	The licensee shall inform the CNSC, prior to allowing the worker to act as senior shift supervisor , of any senior shift supervisor qualification received by the worker.	CNSC staff agrees that the notification may follow employment without safety consequence and the draft requirement may unnecessarily prevent timely employment of qualified workers. The text has been revised as suggested.
102.	Page 40 12.5	Bruce Power, CNA, OPG, NB Power	As written, section 12.5 requires experienced candidates to retake ALL of the General training and subsequent examination, even if the ceding reactor facility General training is partially aligned with the gaining facility. MAJOR Impact: Inconsistent with current practices. Increased candidate and administrative burden, with no obvious or corresponding improvement to nuclear safety.	CNSC should allow for the use of General SAT based GAP training.	Two subsections explicitly allow exemptions from the general training (12.5.3) and the general exam (12.5.4). Allowing these exemptions was the very purpose of specifying a personnel transfer process, which is otherwise unnecessary. Once the licensee elects to exempt a transferred worker from the general training program and/or the general examination, the licensee is free to conduct (or not) any additional SAT-based training before the worker is integrated in the plant familiarization training and subsequent NPP-specific training program. Licensees remain free at all times to exceed the minimum requirement set by the regulator; REGDOCs do not and cannot explicitly sanction all activities not explicitly prohibited. The current default position for operations personnel is for transferred workers to retake the entire initial training program and all certification examinations. Past occurrences therefore had to be treated on a case-by-case basis by means of special DO decisions, which caused added burden for CNSC staff. The new personnel transfer process aims to establish a sensible standard process that recognizes the prior qualifications of the transferred worker and minimizes the added burden for both CNSC and licensee staffs.
103.	Page 41 12.5.1 b, c, d & e	Bruce Power, CNA, OPG, NB Power	These clauses are written as guidance. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance	Move 12.5.1 b, c, d & e under Guidance.	This comment has already been addressed. The “should” statement was reworded as a “shall” statement, but the “may” clauses were maintained as sanctioned options integral to the whole (the process) being described. The meaning of the term “may” is defined in the preface and is not predicated on its location in the document.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.		
104.	Page 41 12.5.1 a	Bruce Power, CNA, OPG, NB Power	This requirement as written cannot be controlled by the gaining licensee. MAJOR Impact: REGDOC cannot be implemented as written.	a. should obtain, shall request from the licensee of the ceding reactor facility:	CNSC staff revised the text as suggested and added some guidance under the subsequent guidance header.
105.	Page 43 12.5.7	Bruce Power, CNA, OPG, NB Power	This section is related to initial certifications and should be included in section 5.	Move 12.5.7 to section 5.	CNSC staff will consider the suggestion and may modify the text accordingly. The information is narrowly linked to the personnel transfer process, which is the reason for its current location, but it could be stated in Part I. Some explicit linkage between the subsections may also improve clarity.
106.	Page 43 13.1, 13.2	Bruce Power, CNA, OPG, NB Power	Use of the word “distinct” reduces flexibility. MAJOR Impact: Reduced flexibility and increased burden related to conduct of initial training programs with no obvious or corresponding improvement to nuclear safety.	The licensee shall implement and document distinct initial training programs specifically...	CNSC staff revised the text as suggested.
107.	Page 44 13.2.1	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear and should be aligned with current requirements. MAJOR Impact: Change from wording of current REGDOC provides increased burden with no obvious or corresponding improvement to nuclear safety.	All continuing training programs designed to requalify certified workers shall include suitable update training, including formal knowledge and performance-based evaluations, covering any relevant technical or procedural changes implemented at the reactor facility identified in the licence, as well as the relevant	This subsection maintains requirements in effect since 2008. The current CANDU licensees already meet the regulatory intent. The subsection emphasizes the minimum regulatory expectations for clarity and provide a performance-based purpose for the continuing training programs going forward. The terms <i>qualify(cation)</i> and <i>requalify(cation)</i> reflect the language of the Act and Regulation.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				lessons-learned acquired by the industry over time, including, but not limited to:	Notwithstanding, CNSC staff partially revised the subsection for added clarity.
108.	Page 44 13.2.1	Bruce Power, CNA, OPG, NB Power	Potential for misinterpretation. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Delete: The licensee shall deliver the knowledge update training referenced in this REGDOC promptly following the occurrence of the initiating change or event using effective instructional methods, including suitable simulator-based training whenever pertinent.	This subsection maintains requirements in effect since 2008. The current CANDU licensees already meet the regulatory intent. CNSC staff added guidance for added clarity.
109.	Page 44 13.2.2	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	All continuing training programs designed to requalify certified workers shall include suitable refresher training, including formal knowledge and performance-based evaluations, and be based on a training system. covering the essential K&S and safety-related attributes that certified workers acquired during their initial training and which must be periodically reviewed and applied to ensure adequate retention.	The fact that training need to be based on a training system is already specified in REGDOC-2.2.2 and throughout this REGDOC where relevant. Subsection 13.2.2 merely describes a regulatory expectation and a performance-based purpose to guide the SAT going forward.
110.	Page 44 13.2.2	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance	The licensee shall deliver the knowledge refresher training referenced in this REGDOC on a regular basis and according to a training cycle not exceeding five (5) years, using effective	REGDOC-2.2.2 requires that the training programs be effective. As already stated, the term <i>effective</i> appears in most human performance REGDOCs. The simulator-based training is a current requirement for all certified operations personnel.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	instructional methods, including suitable simulator-based training whenever pertinent.	
111.	Page 44 13.2.3	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	All continuing training programs designed to requalify operations personnel shall include suitable simulator-based training based on a training system. designed to ensure that operations personnel maintain their qualification by applying their K&S and safety-related attributes through recurrent performance-based training covering varied simulated scenarios under normal, abnormal and, to the extent possible, emergency conditions.	This comment has already been addressed – see item #107.
112.	Page 45 13.3	Bruce Power, CNA, OPG, NB Power	Management of Contractors must be in accordance with REGDOC 2.1.1, Management System, and duplication of this topic should not be included in REGDOC 2.2.3. Per the guidance given in REGDOC 2.2.3 section 3.1, a licensee is fully responsible for the competency of all workers employed at their reactor facility, even if the licensee decides to contract out any aspect of the training programs.	Delete the second paragraph from section 13.3, or revise: In the event that the licensee intends to contract out, in whole or in part, the responsibility for any aspect of the training referenced in this REGDOC, the licensee shall obtain prior approval from the CNSC and, if such approval is granted, shall ensure that the requirements and guidance specified in this and any relevant complementary REGDOC	This comment has already been partially addressed – see item #1. In this case, CNSC staff revised the text as suggested, except for the reference to complementary REGDOC, which was retained; many requirements relevant to personnel certification and applicable to certified workers are specified in other REGDOCs.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>Direct CNSC involvement in the conduct of a licensee’s management system is an over-reach of regulatory responsibilities and may result in significant delays in conduct of the licensee’s training programs.</p> <p>MAJOR Impact: Duplication with other REGDOCs may lead to instances of regulatory uncertainty.</p> <p>Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p> <p>CNSC involvement may result in a reduction in safety due to delays in conduct of training programs.</p>	<p>are complied with by the contracted party or parties.</p>	
113.	Page 45 13.3 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Instructional Strategies and Methods – In implementing and administering the initial and continuing training referenced in this REGDOC, the licensee is free to employ any effectual instructional strategies and any combination of recognized instructional methods., including	<p>The use of qualitative metrics has already been addressed. In addition, the statement is made under a guidance header, and therefore sets no requirement.</p> <p>The added details were included specifically to address past uncertainties expressed by licensee staff members wanting to optimize training, and who assumed the current regulatory framework disallowed the listed instructional methods. The guidance makes it clear these methods are optional.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				self paced learning, remote learning, and e-learning.	
114.	Page 46 13.3 - Guidance	Bruce Power, CNA, OPG, NB Power	Typo	Training Program Samples – Article A. Appendix D contains examples	This technical glitch has already been noted.
115.	Page 47 14.2, 14.3	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	... applicable CNSC requirements specified or referenced in the licence or accompanying licensing documentation.	The wording is a generic catch-all in order to remain applicable in all cases going forward. In past instances, overly-specific statements became obsolete, pointing to superseded references. “Accompanying licensing documentation” currently refers to the LCH and CVC documents without being specific, in the event that alternate regulatory instruments are produced to replace or supplement these documents. This will allow the REGDOC to remain applicable in time with minimum amendment. The detailed certification examination and requalification testing requirements applicable to CANDU workers are currently specified in CVC documents referenced in the LCH. However, this is not the case for all reactor facilities, and may not be the case for SMR operations. Likewise, the CANDU CVC are being revised and may ultimately take a different form. In any case, the proposed REGDOC is written in context of a wider regulatory framework. The suite of documents relevant to each licensee is unequivocally identified via the relevant licence, removing all ambiguity. Nonetheless, CNSC staff partially revised the text by deleting the word “licensing” since any document accompanying the licence is licensing documentation by default.
116.	Page 47 14.4, Page 48 15 & Page 49 16	Bruce Power, CNA, OPG, NB Power Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Delete “effective & mandatory”: For example; The licensee shall establish and document effective procedures for preparing and conducting the various management interviews referenced in this REGDOC. Each mandatory management interview shall serve an evaluation function and:	The text refers to mandatory activities and program components specified in the REGDOC by means of “shall” statements. The word “mandatory” was deleted in this case since it is redundant and has no impact of regulatory oversight. The need for qualitative metrics has already been addressed. The word <i>effective</i> implies that the programs and procedures must meet the safety goal and produce the expected outcome. As previously stated, the term is used consistently with other key REGDOCs of the <i>Human Performance Management SCA</i> .

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
117.	Page 49 16 d.	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	d. be documented recorded in writing or via any other retrievable medium, ...	Using the term <i>documented</i> would imply that the record must maintained in writing. Paragraph 16.d allows the licensee to keep a record in any preferred form, including in writing, but also using other means, including audiovisual recording. The term <i>recorded</i> is the correct technical term.
118.	Page 49 17 & 17.1	Bruce Power, CNA, OPG, NB Power	<p>Significant increase in requirements and regulatory burden.</p> <p>While main requirement may be acceptable, the details should be given as guidance.</p> <p>MAJOR Impact: Reduced flexibility and increased burden related to conduct of initial training programs with no obvious or corresponding improvement to nuclear safety.</p>	<p>17. Administrative Policies and Procedures Applicable to Workers in Training The policies and procedures specified in this section apply to any worker, whether certified or not, who is attending one of the initial training programs referenced in this REGDOC, in the context of, and in relation to, the said training.</p> <p>17.1 Reintegration of Worker in Initial Training Following a Prolonged Training Interruption The licensee shall establish and document an effective process to manage the case of any worker reintegrating into an initial training program after a prolonged training interruption. Any worker who is absent from an initial training program for a period of six (6) months or more shall undergo a formal reintegration process.</p> <p>Guidance: As an integral part of this process, the licensee should shall: a. perform a formal evaluation, ...;</p>	<p>CNSC staff will consider revising Section 17, in particular paragraph 17.1.a. However, CNSC staff does not see the need for any other significant change.</p> <p>The introduction to Section 17 is meant to indicate that adequate reintegration is required for all workers reintegrating an applicable initial training program after a prolonged period of absence. The introduction may arguably be redundant, but added clarity does not cause ambiguity.</p> <p>There is no need to lengthen the subsection header since the text points to initial, rather than continuing, training. The case of certified workers returning to work is already covered by the existing removal and reinstatement processes, as implied by the different titles used for Sections 17 and 18. The training reintegration process is essentially a scaled-down reinstatement process.</p> <p>Section 17 is meant to be mandatory, and not guidance. The requirements are generic and represent an effort commensurate with the duration of the absence. This section was added to the proposed REGDOC in context of other regulatory changes providing licensees with added training flexibility; the added burden must therefore be assessed accordingly. Since the revised REGDOC no longer imposes validity periods on knowledge-based examinations, future candidates may be returning to training after several years of absence. In order to mitigate the resulting risk, CNSC staff is proposing the implementation of a formal and mandatory training reintegration process. The added burden is more than amply counter-balanced by the unprecedented flexibility afforded to licensees in managing initial training at both group and individual bases.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				<p>b. determine the need for remedial training ...; c. formulate and implement a remedial ...; d. ensure that the worker, at a minimum, ...; and e. determine a suitable point of re-entry</p> <p>At a minimum, any worker who is absent from an initial training program for a period of six (6) months or more shall undergo a formal reintegration process meeting the requirements specified in this subsection.</p>	
119.	Page 50 18.1	Bruce Power, CNA, OPG, NB Power	<p>Fitness for Duty must be in accordance with CNSC REGDOC-2.2.4, Fitness for Duty: Managing Worker Fatigue and REGDOC-2.2.4, Fitness for Duty, Volume II: Managing Alcohol and Drug Use, and duplication of this topic should not be included in REGDOC 2.2.3.</p> <p>MAJOR Impact: Duplication with other REGDOCs may lead to instances of regulatory uncertainty, leading to potential increased administrative burden, with no obvious or corresponding improvement to nuclear safety.</p>	<p>Delete section 18.1 or revise:</p> <p>18.1 Fitness for Duty</p> <p>The licensee shall implement and document effective fitness-for-duty policies and procedures providing the CNSC with reasonable assurance that certified workers are free of any physical or mental impairment that could hinder their ability to perform the duties of the pertinent designated position(s) safely and competently.</p> <p>The fitness-for-duty policies and procedures applicable to certified workers shall be implemented</p>	<p>The fitness-for-duty program for certified workers has always been more stringent than similar requirements applicable to the general worker population. Subsection 18.1 does not introduce any new requirement, but merely clarifies the existing regulatory framework. The text was also modernized to be consistent with REGDOC-2.2.4. CNSC staff was careful to ensure that the proposed REGDOC was aligned with REGDOC-2.2.4 and neither duplicated nor contradicted existing requirements. Personnel certification exists for the very purpose of exercising increased regulatory oversight regarding workers employed in designated positions.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				<p>consistently with the requirements and guidance specified in this and complementary REGDOCs regarding fitness for duty , including those related to the management of worker fatigue and the management of alcohol and drug use.</p> <p>Guidance</p> <p>Complementary Regulatory Documents – Further requirements and guidance pertaining to the management of worker fatigue and the management of alcohol and drug use, including testing, can be found in the applicable complementary REGDOCs listed as additional information at the end of this REGDOC.</p>	

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
120.	Page 51 18.2.1	Bruce Power, CNA, OPG, NB Power	<p>A licensee’s staffing complement must be in accordance with CNSC REGDOC 2.2.3, Minimum Staff Complement. Adherence to this REGDOC requires that the available number of certified operation’s staff be greater than those who are in a lead role. As per current practice, these additional certified staff should be able to count all worked shifts towards satisfying any mandated minimum employment requirement.</p> <p>Suggested wording of 18.2.1 also implies that shifts worked during station outage (VBO) cannot be counted.</p>	<p>18.2.1 Minimum Shift Requirement for Operations Personnel</p> <p>Any worker certified for employment as ASO, RO or shift supervisor shall perform the duties of a lead ASO, RO or shift supervisor for a minimum number acceptable to the CNSC of complete shifts per calendar quarter amounting to a minimum number acceptable to the CNSC of hours of shiftwork per calendar quarter, as accepted as part of the licensing basis. Each worker shall perform the mandated minimum employment as the lead incumbent, as opposed to a back-up or supernumerary capacity, and, to the fullest extent possible, in relation to a fuelled and operating reactor or group of reactors.</p>	The CNSC staff position is that the minimum employment requirement must be met while acting in a lead position. All other comments have already been addressed.
121.	Page 51 18.2.1 Guidance	Bruce Power, CNA, OPG, NB Power	<p>MAJOR Impact:</p> <p>Increased requirement from current practice, leading to potential increased administrative and staffing burden, with no obvious or corresponding improvement to nuclear safety.</p>	<p>Guidance</p> <p>Complete Shift – A complete shift means a minimum of four (4) consecutive hours of work in a designated position as a lead operator or shift supervisor that is preceded by a formal turnover of the responsibilities for the shift with an outgoing counterpart, and is concluded by an equal turnover with an incoming counterpart.</p>	The CNSC staff position is that the minimum employment requirement must be met while acting in a lead position.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
122.	Page 51 18.2.1 Guidance	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Compliance Scheme – Article A. Appendix B specifies the minimum shift requirements acceptable to the CNSC for the pertinent reactor facilities in service at the time of publication of the current version of this REGDOC	The technical glitch has been noted. The term <i>pertinent</i> is used here and throughout the document as warranted because REGDOC-2.2.3 Volume III does not apply to all Class I reactor facilities. The pertinent reactor facilities are identified in the applicable operating licences.
123.	Page 52 18.2.1 Guidance	Bruce Power, CNA, OPG, NB Power	Typo	... supervisor positions listed in Article A. Appendix A, and may therefore stand...	The technical glitch has been noted.
124.	Page 53 18.4.3	Bruce Power, CNA, OPG, NB Power	Fitness for Duty must be in accordance with CNSC REGDOC-2.2.4, Fitness for Duty: Managing Worker Fatigue and REGDOC-2.2.4, Fitness for Duty, Volume II: Managing Alcohol and Drug Use, and duplication of this topic should not be included in REGDOC 2.2.3. MAJOR Impact: Duplication with other REGDOCs may lead to instances of regulatory uncertainty, leading to potential increased administrative burden, with no obvious or corresponding improvement to nuclear safety.	The worker is deemed unfit, by the licensee, to perform the duties of a designated position safely and competently, for any reason. The worker was the subject of a verified positive alcohol or drug test administered in accordance with the fitness-for-duty program mandated by the CNSC, or is otherwise deemed unfit, by the licensee, to perform the duties of a designated position safely and competently, for any reason, including, but not limited to: a. a medical or physical condition, be it permanent or temporary; b. a mental health condition, be it permanent or temporary; c. inadequate performance while on duty, including any action or decision that puts at risk the	The fitness-for-duty program for certified workers has always been more stringent than similar requirements applicable to the general worker population. Subsection 18.4.3 does not introduce any new requirement, but clarifies the existing regulatory framework. The text was also modernized to be consistent with REGDOC-2.2.4. The addition of the “verified positive alcohol and drug test” as new cause for removal from duty is consistent with the first version of REGDOC-2.2.3 Volume III and the latest version of REGDOC-2.2.4. CNSC staff was careful to ensure that the proposed REGDOC was aligned with REGDOC-2.2.4 and neither duplicated nor contradicted existing requirements. Certified workers removed from duty may be reinstated once adequate remedial action has been taken. The proposed REGDOC does not specify what form the remediation should take, which is to be determined by the licensee.

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
				health and safety of workers, the public, or the environment; d. a demonstrated unwillingness or failure to take the necessary precautions to protect the health and safety of workers, the public, or the environment; and e. a demonstrated lack of integrity or trustworthiness.	
125.	Page 53 18.4.5	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	18.4.5 Proposed Decision to Not Renew a Certification Not to Certify or to Decertify The worker was identified by the CNSC as the worker concerned in a proposed decision not to renew a certification certify or a proposed decertification, while a final certification decision by the Commission or a DO remains pending.	The suggested wording is not consistent with the Class I Regulations. This comment is addressed in more details under item #127. The CNSC may refuse to issue certifications, and not merely certification renewals.
126.	Page 18.6.2	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	This supplementary requalification test must be equivalent in all respects, ...	The term <i>supplementary</i> was added to indicate that the test in question is in addition to the scheduled test. CNSC staff revised the text for added clarity.
127.	Page 56 18.6.5	Bruce Power, CNA, OPG, NB Power	The licensee cannot reinstate a worker to the duties of the pertinent designated position who is not certified. MAJOR Impact: Cannot be implemented as written.	The licensee may reinstate a worker to the duties of the pertinent designated position who was the subject of a proposed decision not to renew a certificate certify or to decertify once officially informed of the Commission or DO's decision to certify, or not to decertify , the worker.	Subsection 18.6.5 is linked to the removal cause specified under 18.4.5, namely a proposed decision to decertify or not to certify the worker. The description of the cause for removal under subsection 18.4.5 indicates that the worker must be removed from duty while the decision "remains pending". In that context, the worker was not decertified when removed from duty and therefore may, as indicated in subsection 18.6.5, be reinstated by the licensee, but only once informed of the Commission or DO's final decision to certify (including a renewal) or not to decertify the worker, contrary to the proposal. This requirement has been in effect since 2008. The Act and Regulations obligate the CNSC to offer an opportunity to be heard before making a final certification decision. The commission or a DO must therefore make a

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					<p>proposal first. However, the worker must be removed from duty as soon as a proposal is made, while the worker remains certified and the decision remains pending. The outcome of the opportunity to be heard is not yet known at the time of removal, and the final decision may differ from the proposed decision. Decertification is not a cause for removal from duty, which is why the case of a decertified worker is not covered in subsections 18.4 and 18.6. A worker decertified by the CNSC is not permitted to work in a designated position, as per Section 3.</p> <p>Finally, the language used by CNSC staff in subsection 18.6.5 reflects, as it must in this particular case, the legal language of the Class I Regulations. The legislation refers to a “proposed decision not to certify the person” and a “proposed decision to decertify the person”. There is no reference to any proposed decision “not to renew” a certification, which is implicitly covered by the proposal “not to certify”.</p>
128.	Page 57 19.1.2	Bruce Power, CNA, OPG, NB Power	<p>As written, the statement is unclear.</p> <p>Licensee should have the flexibility to manage their organization’s operating documentation.</p>	<p>The licensee shall retain, and make available to the CNSC upon request, a copy of the latest version of the licensee and station-specific policies, procedures, and technical diagrams referenced by certified workers to perform the duties of the designated positions. safely and competently, including those related to:</p> <ul style="list-style-type: none"> a. operating policies and principles; b. worker performance expectations; c. radiation protection; d. normal and abnormal operations; e. abnormal incidents; f. power reduction actions; and g. severe accident management. 	<p>The documentation is necessary for CNSC staff to discharge their duties under the Act. More precisely, CNSC staff cannot carry out effective inspections of the certification examinations and requalification tests without access to the operational and technical documentation which form the basis for operational actions and decisions. These documents have been made available to the regulator upon request for many years. The documents are referenced generically and the requirement does not prevent licensees from managing their operating documentation, as long as it is made available to CNSC staff tasked with verifying licensee compliance post-exam transfer. The list is also specified to provide sufficient guidance to future licensees.</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
129.	Pages 58 and 59 19.2 b, c, d, e, f, g, h & n.	Bruce Power, CNA, OPG, NB Power	Use of the word “Comprehensive” in the requirement’s statements. MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance instead of the well-defined requirement(s) of the approved licensing basis. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.	Delete “comprehensive” in 19.2 b, c, d, e, f, g, h & n.	This comment has already been addressed. The requirements for records to be comprehensive and retrievable are fundamental principles of sound information management (IM) practices. Adequate records must be maintained by licensees whether or not CNSC staff can successfully list all the relevant records.
130.	Pages 58 19.2 c	Bruce Power, CNA, OPG, NB Power	Per the comment on section 12.1 d, a selection process does not necessarily include formal testing. Candidates are selected by a facilities’ operating organization, and the process used may not be developed in accordance with a training system. Detailed record keeping of such activities is not required. (Aligns with Section 12.1.d comment 80) MAJOR Impact: Increased burden with no obvious or corresponding improvement to nuclear safety.	Delete 19.2 c.	This comment has already been addressed – see item #91. Furthermore, as implied by the text, paragraph 19.2.c applies only if the licensee has conducted personnel selection interviews and tests. Future licensees may choose to administer personnel selection interviews and tests. The requirement is therefore always relevant and appropriate records must be maintained according to paragraph 19.2.c as applicable.
131.	Page 60 20	Bruce Power, CNA, OPG, NB Power	Per the guidance given in REGDOC 2.2.3 section 3.1, a licensee is fully responsible for the competency of all workers employed at their reactor facility, and therefore responsible for	Delete second paragraph of section 20. All knowledge-based training, certification examinations, and	This comment is addressed in more details under item #132. References to training have been removed from the section, but the text has been revised to apply as a certification examination and requalification testing program requirement. CNSC staff has also revised the text as proposed in this particular case, because the remainder of the text, including the guidance, will suffice to meet the regulatory intent. Again, this

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>all aspects of the training programs, including the training facilities.</p> <p>Actual CNSC involvement in the conduct of a licensee’s training programs is an over-reach of regulatory responsibilities and may result in significant delays in conduct of the licensee’s training programs.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance of training facilities. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p> <p>CNSC involvement may result in a reduction in safety due to delays in conduct of training programs.</p>	<p>requalification tests referenced in this REGDOC shall be delivered in facilities acceptable to the CNSC.</p>	<p>requirement is forward-looking in preparation for future operations, which may not necessarily have access to facilities equal to that of CANDU sites. The revised REGDOC is not intended as a CANDU-centric document.</p>
132.	Page 60 21	Bruce Power, CNA, OPG, NB Power	<p>Per the guidance given in REGDOC 2.2.3 section 3.1, a licensee is fully responsible for the competency of all workers employed at their reactor facility, and therefore responsible for all aspects of the training programs, including the simulator facilities.</p> <p>Actual CNSC involvement in the conduct of a licensee’s training programs is an over-reach of regulatory responsibilities and may</p>	<p>Delete second paragraph of section 21.</p> <p>All performance-based training, certification examinations, and requalification tests referenced in this REGDOC shall be delivered using simulator facilities or systems acceptable to the CNSC.</p>	<p>The Class I Regulations require that applicants submit a description of the full-scope training simulator for analysis during the licensing process. Because the proposed REGDOC allows alternatives to the full-scope simulator, any “partial-scope” simulator proposed by applicants will need to be analyzed by CNSC staff and approved by the Commission.</p> <p>CNSC staff concurs that the SAT requirements specified in REGDOC-2.2.2 are, in principle, sufficient to ensure adequate use of the full-scope simulator in the training context. All references to training have been removed from Section 21.</p> <p>That said, this REGDOC is interested in the full-scope simulator, not only as a training instrument, but primarily as a means to conduct performance-based certification examinations and requalification tests. In that context, and in order to ensure that all candidates are fairly treated and thus face equal chances of success or failure, the</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
			<p>result in significant delays in conduct of the licensee’s training programs.</p> <p>MAJOR Impact: Regulatory uncertainty results from the use of potential subjective criteria/expectations for acceptance of simulator facilities. This leads to increased burden with no obvious or corresponding improvement to nuclear safety.</p> <p>CNSC involvement may result in a reduction in safety due to delays in conduct of training programs.</p>		<p>CNSC staff position is that adequate facilities are to be available to examiners tasked with administering certification examinations and requalification tests on behalf of the Commission. Moreover, the requirement is forward-looking, in anticipation of future operations located at sites where access to adequate facilities may be an issue. The requirement is minimal, performance-based, and the current licensees are fully compliant. The regulatory statement will therefore have no impact on current licensees. Section 21 has been revised to apply strictly in the certification examination and requalification testing context.</p>
133.	Page 61 21.5	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	<p>In order to facilitate the conduct and grading of the performance-based certification examinations and requalification tests referenced in this REGDOC, the simulator shall be equipped with adequate data-recording systems and equipment meeting the minimum requirements specified next in this subsection.</p>	<p>The statement introduces the very purpose of the data-recording system in the present context, which is certification examination and requalification testing. This purpose is further explained under the guidance header. The added information may also be useful to future applicants and licensees in guiding the design and development of new full and partial-scope simulators. This stated purpose, from the perspective of the regulator, does not prevent licensees from using the data-recording for any other purpose neither specified nor prohibited explicitly in this or other REGDOCs. Finally, the purpose is further clarified in CVC documentation that specifies exactly how the performance-based examinations and requalification tests are to be designed, developed, conducted, and graded.</p>
134.	Page 62 21.5.3 d	Bruce Power, CNA, OPG, NB Power	<p>Significant increase from current requirements.</p> <p>MAJOR Impact: Significant increase in cost and regulatory burden for the current accepted practice as documented in CNSC-EG2 with no obvious or corresponding improvement to nuclear safety.</p>	<p>d. the identification, live and during replay, with the aid of the corresponding control panel photographs, of the controls and instruments used by the candidate(s) being evaluated of the operating controls, instruments, and electronic or printed references used by the candidate(s) being evaluated;</p>	<p>CNSC staff concurs that the added segment “live and during replay” may be misconstrued. That portion of the text was therefore deleted.</p> <p>However, the rest of the text duplicates the current requirement and since these capabilities are essential to the purpose of the videorecording system, CNSC staff sees no reason to modify the text further.</p> <p>The segment “with the aid of the corresponding control panel photographs” has been deleted from the proposed REGDOC since it prescribes a means to meet the regulatory expectation. Including this detail would make photographs mandatory, which is not the</p>

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					intent of the requirement. The revised REGDOC and future revisions of related CVC documentation (namely CNSC-EG1, CNSC -EG2, and the requalification testing document) will avoid unnecessarily prescribing technical solutions, but set performance-based outcomes instead. This will provide licensees with maximum flexibility to adopt optimum technical solutions meeting the regulatory intent, and will help ensure that requirements remain relevant over time, regardless of technological developments.
135.	Page 65 Appendix B	Bruce Power, CNA, OPG, NB Power	Typo	Sub-Subsection 9.1.119.1.11	This technical glitch has been noted already.
136.	Page 65 Appendix B	Bruce Power, CNA, OPG, NB Power	By specifying 360 hours, the REGDOC does not allow for simplifications in technology at new facilities where the analysis demonstrates that such a number of hours is more than required. MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees' training system (SAT) process is diminished.	Delete reference to 9.1.11 or, The worker must have successfully performed 360 hours of WUS, as specified by the licensee, in the pertinent designated position, under the supervision of a qualified worker certified to work in the said designated position.	The title of the table enclosed in Appendix B reads <i>Mandatory Personnel Certification Schemes for CANDU Reactor Facilities</i> . Moreover, the introduction to Appendix B c states that the compliance schemes specified in Annex B apply to the relevant reactor facilities in operation at the time of publication, which are CANDU reactors. The associated requirement set under subsection 9.1.11 is technologically-neutral and performance-based for the very purpose of remaining applicable to all future operations. Appendix B will be updated as new compliance schemes are developed during licensing processes. Applicants will have to propose a substantiated case for a preferred WUS period. In the CANDU context, the proposed 360 hours represents a significant reduction from the previous 480 hours. The change was made in parallel with an improved definition of WUS versus OJT. As previously communicated to the industry, the remaining 120 hours are to be covered by means of OJT, although the CNSC will not regulate OJT duration. CNSC staff sees no reason to further modify the CANDU compliance scheme.
137.	Page 65 Appendix B	Bruce Power, CNA, OPG, NB Power	As written, the statement is unclear.	Any worker certified for employment as ASO, RO or shift supervisor shall perform the duties of a lead ASO, RO or shift supervisor/senior shift supervisor, respectively, for a minimum of four (4) complete shifts per calendar quarter amounting to a minimum of 48 hours of shiftwork per calendar quarter.	Under the single certification scheme proposed by CNSC staff, there is no distinct certification for senior shift supervisors. The suggested change would imply that all shift supervisors may perform shifts in the senior shift supervisor position, contrary to the regulatory intent. Instead, CNSC staff revised Appendix B to include a distinct regulatory statement for each designated position and qualification level. Although this solution introduces repetition, it removes all potential ambiguity. The CNSC staff position is for certified workers to meet the minimum quarterly requirement in a lead position. This requirement applies only to the mandatory 48

#	Section	Organisation	Comments Commentaires	Suggested changes Modifications proposées	CNSC staff responses Réponses du personnel de la CCSN
					hours of shiftwork per quarter, as explained under the guidance header. CNSC staff will raise this topic during the follow-up stakeholder workshop.
138.	Page 66 Appendix C	Bruce Power, CNA, OPG, NB Power	<p>Appendix C is listed as guidance, but can be interpreted as a mandatory list of training topics, developed outside of a licensees training system; thus requiring it to be trained so it can be examined by CNSC.</p> <p>The appendix also includes new topics related to “international standards” that may be examined.</p> <p>MAJOR Impact: By retaining too fine a level of detail in the requirements, the effectiveness of the licensees’ training system (SAT) process is diminished.</p>	<p>Clarify intent of C.2 Radiation Protection and revise: The relevant topics include, but are not limited to: e. standards, including those of the International Commission on Radiological Protection (ICRP).the relevant international</p>	<p>The list of knowledge areas and topics reflect recent certification examinations. Paragraph C.2 (e) was revised to be more generic.</p>
139.	Page 70 Abbreviations	Bruce Power, CNA, OPG, NB Power	Missing abbreviations used in the document.	<p>BDBA Beyond-Design-Basis Accidents NER Nuclear Emergency Response</p>	The abbreviation list was updated.

Table B – Workshop/Tableau B – Atelier

Comment #	Summary of issue	CNSC staff response
#60 Page 27, 9.1.5	<p>Related to Qualifications for Operations Personnel, CNSC has stated that it is not sufficient for workers to attend SAT-based training. Industry needs to understand the CNSC staff’s concept of safety goals vs use of a training system (SAT).</p> <p>Summary of discussion:</p> <ul style="list-style-type: none"> • Requested clarification about the expectations to provide more than SAT-based training. • Requested clarification about the post-Fukushima concerns mentioned in the comments table. • For the new requirements on nuclear emergency management, industry considers that if training is based on SAT, it should satisfy the requirement to meet the safety goal. • Request confirmation if competency will be part of the inspection criteria? Industry believes the SAT should be the basis for examination and are concerned the examination might introduce topics that are not included in the SAT 	<ul style="list-style-type: none"> • CNSC staff previously stated that the CNSC does not rely exclusively on the SAT in a broader context than the focus of the present industry comment and issue summary; that is, the proof of worker competency required by the CNSC encompasses the outcome of many activities, in addition to the implementation of SAT-based training. • The SAT process is important, but merely one of the specific means (the how) used to meet the safety goal, but the safety goal (the what) is to ensure nuclear safety, and more specifically in this case, to achieve worker competency through the demonstration of adequate knowledge, skills, and safety-related attributes. • The revised requirements are more performance-based than in Version 1; therefore, CNSC needs to provide more details on the regulatory expectations. Version 1 includes lists of mandatory training topics; in that context, there was no need to specify a purpose for each training component, since that latter was implied by the topic list. Since Version 2 does not specify any topics for the various training components, it must instead specify performance-based objectives, essentially generic, technologically-neutral, program descriptions. Version 2 is also less focused on NPPs and the new requirements will be more readily applicable to other facilities; the generic program descriptions and performance-based safety goals will help guide SAT implementation at new sites in agreement with the regulatory expectations, without interfering with SAT-based programs already implemented at CANDU sites. • CNSC will allow the SAT to take its course, as long as it is found compliant with REGDOC-2.2.2 by the CNSC’s Training Program Evaluation Division (TPED) and the desired outcome remains satisfactory – that is, no evidence of inadequate worker competency is observed. • The intent is not for CNSC to tell licensees how to train their personnel, nor is the intent to insert training items outside of SAT. CNSC will ensure EG1/EG2 revisions are aligned with the SAT programs; however, CNSC staff will retain control over the certification examination topics at the knowledge area level. • Staff do not have any particular concerns with worker competency. The post-Fukushima comment was made to explain why the current, indirect emergency management training requirement was revised. The analysis of the REGDOC

Comment #	Summary of issue	CNSC staff response
<p>#14, several sections</p> <p>#56 Page 26</p> <p>9.1.2</p> <p>#57, Page 26 9.1.3</p>	<p>Regulatory uncertainty results from the use of potential subjective criteria/expectations. For example:</p> <ul style="list-style-type: none"> • Use of the word “suitable”. • Use of the words “confirm/confirming worker possesses adequate knowledge” <p>Summary of discussion:</p> <p>The term “suitable” does not add clarity to the requirements and opens the door to subjectivity during CNSC inspections</p>	<p>started not long after the Fukushima event and CNSC staff found the existing requirement was not strong enough</p> <ul style="list-style-type: none"> • Given the departure from the past prescriptive regulatory approach in favour of increased reliance on performance-based personnel certification requirements, the revised REGDOC contains qualitative metrics where quantitative metric are inexistent or undesirable. The usage of “subjective” language is unavoidable and necessary when prescriptive language is removed. Prescriptiveness was reduced as part of the revision to maximize REGDOC shelf life and relevancy while providing licensees with flexibility to implement best practice regardless of technology. However, CNSC staff must retain the ability to disagree with licensee staffs in order to discharge their duties under the Act. Some measure of professional judgment is necessary to assess what is “safe”, “adequate”, “effective” or indeed, “suitable”, to cite a few examples. This usage is consistent with other REGDOCs. • The writing team has made significant efforts to minimize the chances of varying regulatory interpretation by adding extensive guidance, which is currently inexistent in Version 1, and by including new or improved definitions of terms in the glossary, where needed. • Furthermore, no REGDOC exists in a regulatory vacuum. This REGDOC sets high-level requirements and is meant to be read in conjunction with other documents, including the detailed compliance verification criteria (CVC) set in CNSC-EG1 and EG2 and the requalification testing document, applicable requirements specified in complementary REGDOCs, and site-specific regulatory interpretations and potential exemptions documented in licence condition handbooks (LCH). • Finally, this and other terms are mainly meant for future licensees and not necessarily for those that have currently mature training and examination programs in place. • Terminology was revised throughout the document and some instances revised or deleted.
<p>#93, #94, #95</p> <p>Page 38</p> <p>12.1</p>	<p>Related to Personnel Selection Criteria, industry seeks clarification of the regulatory expectations related to the pertinent safety-related attributes expected of any person in a position of leadership, (i.e.: integrity, leadership, and resilience), including an explanation of the CNSC’s concerns post-Fukushima.</p>	<ul style="list-style-type: none"> • CNSC staff will consider the comments and review the draft for potential revision. • Personnel certification encompasses all relevant qualifications and all aspects of worker competency, including leadership and personnel selection evaluations.

Comment #	Summary of issue	CNSC staff response
	<p>Summary of discussion:</p> <ul style="list-style-type: none"> Concerned with the requirement to evaluate attributes (e.g., integrity, resilience) and having standardized tests. Unsure how attributes can be tested and or demonstrated by licensees. Licensees have leadership programs in place to evaluate the attributes, but they are not tied to minimum staff complement positions. Perceived overlap between certification, evaluation and leadership. 	<ul style="list-style-type: none"> The personnel selection criteria in question are easily met and express a regulatory expectation, not a detailed set of CVC. The revised REGDOC stresses the importance of ensuring that candidates put in leadership positions have the proper safety-related attributes and that licensees have programs or processes to identify essential skillsets. This emphasis is directly related to the Fukushima event and the associated recommendations. The REGDOC has been revised to remove prescriptive prior education and experience requirements potentially eliminating suitable candidates. However, the CNSC expects licensees to implement quality performance-based personnel selection programs (which are already implemented at CANDU sites) as alternative to the current prescriptive approach. Standardized tests are mandatory only when candidates are selected that do not meet the minimum education or experience requirements set by the licensee, and who are therefore exempted based on an equivalency. In that case, the candidates should be formally assessed using standardized tests to ensure the validity of the assumed equivalency. CNSC staff does not intend to intervene unless extreme circumstances dictate an intervention, including decertification as warranted.
<p>#97, Page 39, 12.3.3 & Page 42 12.5.6</p>	<p>Related to <i>Notification of Selection for Shift Supervisor Training</i> and <i>Notification of Personnel Transfer</i>, industry seeks clarification of the purpose of these requirements and of CNSC staff’s understanding of their role in management of a licensee’s training program</p> <p>Summary of discussion:</p> <ul style="list-style-type: none"> Industry were not able to find a scenario where the notification of selection of a shift supervisor candidate would apply and request clarification on its purpose. If a candidate would not have performed their duties safely or competently or would not have the proper attributes, they would not be part of the selection process for leadership position. Candidates could successfully pass all the training and exams, but not have the correct attributes, in which case the licensee would not request certification. It is expected that CNSC staff would let them know if they have concerns on candidate or staff. Issue with the requirement to notify CNSC “prior to allowing the worker to enter an initial training program”. Industry expressed concern that licensees 	<ul style="list-style-type: none"> The new notifications serve a regulatory purpose (and are therefore not merely administrative in nature) as part of a series of new and amended processes designed to address known regulatory gaps or to simplify past compliance schemes, all of which have caused extreme regulatory and administrative burden for both licensee and CNSC staffs in the past. The “added” burden introduced by the notifications and other new requirements must be assessed in the broader revision context, which has overall eliminated far more burden than it has introduced; the net regulatory and administrative burden is much less than that arising from the current requirements and known regulatory gaps. Reduction of burden was one of the key objectives of the revision. The rationale for the new notifications includes: <ul style="list-style-type: none"> adequate record-keeping – the CNSC must maintain accurate candidate records as part of its mandate (e.g., SSIT candidates already certified as RO often cause file duplication because CNSC staff is not informed of their selection for training);

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	<p>would be non-compliant if they notifies the CNSC after candidates had started the training program. Industry usually contacts the CNSC in case of concerns.</p> <ul style="list-style-type: none"> Request to clarify that the CNSC only needs to be notified and will not be accepting or rejecting candidatures. Agree that there might be benefits to notifying CNSC, since licensees only report when staff resume work in a certified position, but do not report when staff are undergoing training for another position. 	<ul style="list-style-type: none"> licensee confirmation of minimum safe performance on shift in lieu of the prior mandatory one-year of experience as certified RO – this represents a non-trivial reduction in net burden and a significant increase in operational flexibility; timely verification by CNSC staff of newly possible exemptions (i.e., general training completion and general examination pass); early engagement with the regulator (e.g., CNSC staff may disagree with assumed technological equivalencies and granted exemptions) allowing for timely CNSC staff intervention, which is not possible unless duly informed – candidates should not complete demanding training programs only to find out, months to years later, that they do not qualify for CNSC certification. CNSC wants to be notified of personnel transfers, in order to confirm that, where used as basis for granting training and examination exemption(s), the two reactor facilities have similar designs. All non-routine personnel selections are a concern, particularly for future operations, where a potentially more fluid workforce may require added regulatory oversight. CNSC staff does not intend to intervene in personnel selection unless obvious shortcomings are observed. Version 2 is less focused on CANDU reactors and the new requirements will make it easier to apply the REGDOC to other facilities. Licensee staffs also change with time and apply different standards; present industry practices and norms cannot reliably serve as primary basis for long-term, fundamental requirements. Non-CANDU facilities might not have the same processes in place.
#134, Page 62, 21.5.3 d	<p>Related to <i>simulator video-recording equipment</i>, industry seeks clarification of the purpose of this system and how the CNSC staff believes the revised requirement will be implemented, in particular the need to identify “... <i>the operating controls, instruments, and electronic or printed references used by the candidate(s)</i>...”.</p> <p>Summary of discussion:</p> <p>Industry would like to know if the CNSC believes we currently meet this new requirement or not?</p>	<ul style="list-style-type: none"> The simulator requirements remain unchanged and are nearly verbatim reproduction of the current text. The only meaningful change was the addition of the “electronic or printed references” used by candidates, to the existing video capture capability, which Version 1 fails to specify. Based on past observations, CNSC staff believes the current setups already have this capacity. Audiovisual recording requirements exist merely to allow for the candidate action capture for later reference during grading – CNSC staff understands this is not always possible based on candidate movement and posture.

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	Clarification is requested for the audio-video requirement and if CNSC has issues with the current practices.	<ul style="list-style-type: none"> <li>• The current full-scope simulators are, to the knowledge of the writing team, adequate and no further simulator systems upgrades should be required, if all the current licensees are compliant with the existing requirements.