



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

REGULATORY
GUIDE

Security Programs for Category I or II Nuclear Material or Certain Nuclear Facilities

G-274

March 2003

REGULATORY DOCUMENTS

The Canadian Nuclear Safety Commission (CNSC) operates within a legal framework that includes law and supporting regulatory documents. Law includes such legally enforceable instruments as acts, regulations, licences and orders. Regulatory documents such as policies, standards, guides, notices, procedures and information documents support and provide further information on these legally enforceable instruments. Together, law and regulatory documents form the framework for the regulatory activities of the CNSC.

The main classes of regulatory documents developed by the CNSC are:

Regulatory policy: a document that describes the philosophy, principles and fundamental factors used by the CNSC in its regulatory program.

Regulatory standard: a document that is suitable for use in compliance assessment and describes rules, characteristics or practices which the CNSC accepts as meeting the regulatory requirements.

Regulatory guide: a document that provides guidance or describes characteristics or practices that the CNSC recommends for meeting regulatory requirements or improving administrative effectiveness.

Regulatory notice: a document that provides case-specific guidance or information to alert licensees and others about significant health, safety or compliance issues that should be acted upon in a timely manner.

Regulatory procedure: a document that describes work processes that the CNSC follows to administer the regulatory requirements for which it is responsible.

Document types such as regulatory policies, standards, guides, notices and procedures do not create legally enforceable requirements. They support regulatory requirements found in regulations, licences and other legally enforceable instruments. However, where appropriate, a regulatory document may be made into a legally enforceable requirement by incorporation in a CNSC regulation, a licence or other legally enforceable instrument made pursuant to the *Nuclear Safety and Control Act*.

REGULATORY GUIDE

**Security Programs for
Category I or II Nuclear Material
or Certain Nuclear Facilities**

G-274

Published by the
Canadian Nuclear Safety Commission
March 2003

Security Programs for Category I or II Nuclear Material or Certain Nuclear Facilities
Regulatory Guide G-274

Published by the Canadian Nuclear Safety Commission

© Minister of Public Works and Government Services Canada 2003

Extracts from this document may be reproduced for individual use without permission provided the source is fully acknowledged. However, reproduction in whole or in part for purposes of resale or redistribution requires prior written permission from the Canadian Nuclear Safety Commission.

Cat. No. CC173-3/2-274E
ISBN 0-662-33763-8

Également publié en français sous le titre de
Les programmes de sécurité pour les matières nucléaires de catégorie I ou II, ou pour certaines installations nucléaires.

Document availability

This document can be viewed on the Canadian Nuclear Safety Commission website (www.nuclearsafety.gc.ca). To order a print copy of the document in English or French, please contact:

Communications and Information Management Directorate
Canadian Nuclear Safety Commission
280 Slater Street
P. O. Box 1046, Station B
Ottawa, Ontario K1P 5S9
CANADA

Telephone: (613) 995-5894 or 1-800-668-5284 (Canada only)
Facsimile: (613) 992-2915
E-mail: publications@cnsccsn.gc.ca

TABLE OF CONTENTS

1.0	PURPOSE	1
2.0	SCOPE	1
3.0	BACKGROUND	1
3.1	Regulatory framework	1
3.2	CNSC licensing process	2
3.3	Legislative basis	2
4.0	SECURITY INFORMATION	4
4.1	General	4
	4.1.1 Administrative information	4
	4.1.2 Site or facility location and relevant features	4
	4.1.3 Applicant's corporate security policy	5
4.2	Security organization	5
	4.2.1 Security roles within the facility organization	5
	4.2.2 Structure and organization of the nuclear security guard service	5
	4.2.3 Selection criteria for nuclear security guards	6
	4.2.4 Training of nuclear security guards	6
	4.2.5 Drills	6
	4.2.6 Equipment and vehicles for nuclear security guards	6
	4.2.7 Records	6
	4.2.8 Prescribed information	7
4.3	Protected and inner areas	7
	4.3.1 Protected areas	7
	4.3.2 Inner areas	8
4.4	Security monitoring rooms, and on-site and off-site communications equipment, systems and procedures	9
	4.4.1 Security monitoring rooms	9
	4.4.2 On-site communications equipment, systems and procedures	9
	4.4.3 Off-site communications equipment, systems and procedures	9
4.5	Access and identification systems	10
	4.5.1 General	10
	4.5.2 Control of identification badges or access cards	10
	4.5.3 Use of identification badges or access cards	10
4.6	Access controls	10
	4.6.1 General	10
	4.6.2 Vehicles	10
	4.6.3 Packages and equipment	11
	4.6.4 Access devices and access information	11

4.7	Security systems, technical devices and equipment	11
4.7.1	Design and performance characteristics	11
4.7.2	Maintenance, testing and inspection programs	12
4.8	Contingency plans and procedures	12
4.9	Availability and duties of nuclear security guards	13
4.10	Sabotage or attempted sabotage	13
4.10.1	Site	13
4.10.2	Nuclear facility	13
4.11	Protection arrangements with off-site response forces	13
4.12	Security awareness	14
REFERENCES		15
APPENDICES		
A	Preparing, submitting and revising the security program description	16
1.	General	16
2.	Physical specifications	16
3.	Confidentiality and security	16
4.	Style, structure and layout	17
5.	Revising the security program description	19
B	Category I, II and III nuclear material	20

SECURITY PROGRAMS FOR CATEGORY I OR II NUCLEAR MATERIAL OR CERTAIN NUCLEAR FACILITIES

1.0 PURPOSE

The purpose of this regulatory guide is to help applicants for a Canadian Nuclear Safety Commission (CNSC) licence in respect of Category I or II nuclear material — other than a licence to transport —, or a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation, prepare and submit the security information to be included with the application, pursuant to the *Nuclear Safety and Control Act (NSCA)*.

Category I and II nuclear material are defined in Appendix B to this guide.

2.0 SCOPE

This guide describes:

- the security information that should typically be included with the application for any licence referred to above;
- how the security information may be organized and presented in a separate document (hereinafter “the security program description”), in order to assist CNSC review and processing of the application; and
- the administrative procedures to be followed when preparing, submitting or revising the security program description.

3.0 BACKGROUND

3.1 Regulatory framework

The CNSC is the federal agency that regulates the use of nuclear energy and material to protect health, safety, security and the environment, and to respect Canada’s international commitments on the peaceful use of nuclear energy.

The *NSCA* requires persons or organizations to be licensed by the CNSC for carrying out the activities referred to in section 26 of the *NSCA*, unless otherwise exempted. The associated regulations stipulate prerequisites for CNSC licensing, and the obligations of licensees and workers.

3.2 CNSC licensing process

The CNSC typically applies a phased process to its licensing of nuclear facilities and activities. For major facilities, this process begins with a consideration of the environmental impacts of the proposed project, and proceeds progressively through site preparation, construction, operation, decommissioning and abandonment phases.

The *NCSA* and its regulations require applicants to provide certain information at each licensing stage. The type and level of detail of this information will vary to accommodate the licensing stage and specific circumstances.

At all licensing stages, applications may incorporate (directly or by reference) new or previously submitted information, in accordance with legislated requirements and the best judgement of the applicant. An application that is submitted at one licensing stage can become a building block for the next stage.

Upon receipt of an application that is complete, the CNSC reviews it to determine whether the applicant is qualified to carry on the proposed activity, and has made adequate provision for the protection of the environment, the health and safety of persons, and the maintenance of national security and measures required to implement international obligations to which Canada has agreed. If satisfied, the CNSC may issue, renew, amend or replace a licence that contains relevant conditions. Typically, this licence will incorporate the applicant's undertakings and will contain other conditions that the CNSC considers necessary, including those that relate to security.

3.3 Legislative basis

Security-related requirements regarding licences in respect of Category I or II nuclear material, or a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation, are mainly set out in:

- Section 3 of the *Nuclear Security Regulations*, which requires that applications for such licences contain the following security information:
 - “(a) a copy of the written protection arrangements made with a response force, referred to in section 35;
 - (b) the site plan referred to in section 16;
 - (c) a description of the proposed security equipment, systems and procedures;
 - (d) a description of the proposed on-site and off-site communications equipment, systems and procedures;
 - (e) a description of the proposed structure and organization of the nuclear security guard service, including the duties, responsibilities and training of nuclear security guards; and

- (f) the proposed plan and procedures to assess and respond to breaches of security.”
- Section 3 of the *General Nuclear Safety and Control Regulations*, which requires that applications for all CNSC licences contain the following security information:
 - the proposed measures to ensure compliance with the Radiation Protection Regulations and the Nuclear Security Regulations (paragraph 3(1)(e));
 - the proposed measures to control access to the site of the activity to be licensed and the nuclear substance, prescribed equipment or prescribed information (paragraph 3(1)(g));
 - the proposed measures to prevent loss or illegal use, possession or removal of the nuclear substance, prescribed equipment or prescribed information (paragraph 3(1)(h)); and
 - at the request of the Commission, any other information that is necessary to enable the Commission to determine whether the applicant will, in carrying on the activity to be licensed, make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed (subparagraph 3(1)(n)(ii)).
 - Paragraph 3(i) of the *Class I Nuclear Facilities Regulations*, which refers applicants for a licence in respect of a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation, to section 3 of the *Nuclear Security Regulations*.
 - Paragraph 6(l) of the *Class I Nuclear Facilities Regulations*, which stipulates that an application for a licence to operate a Class I facility shall contain, in addition to the information required by section 3 of the same regulations, information on the proposed measures to prevent acts of sabotage or attempted sabotage at the nuclear facility, including measures to alert the licensee to such acts.

In addition to the above sections of the regulations that pertain directly to the security information that is to be contained in certain licence applications, the same regulations contain various post-licensing requirements with respect to nuclear security. To provide adequate assurance, at the licence application stage, that post-licensing requirements will be met if the proposed facility or activity is licensed by the CNSC, the CNSC may request that the applicant provide information on how the post-licensing requirement will be met. Some of the recommendations contained in section 4.0 of this guide address such situations.

4.0 SECURITY INFORMATION

This section describes the security information that should typically be included with the application for a licence in respect of Category I or II nuclear material — other than a licence to transport —, or a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation.

Applicants may consolidate this security information in the security program description. The inclusion with the licence application of such a document, that follows the recommendations of Appendix A to this guide and that adopts the subject headings of the following sections, will assist CNSC review and processing of the application.

Throughout the security “program description, applicants should, whenever possible, name the key persons involved, provide their position titles, and describe their associated roles, responsibilities, authorities and accountabilities.

The following sections detail the information that should be included in the security program description.

4.1 General

4.1.1 Administrative information

- the complete legal name and business address of the applicant;
- the complete names and addresses of three individuals who are to be authorized to act as emergency contacts for the licensee;
- the telephone and fax numbers, or e-mail addresses, where the applicant and the emergency contacts may be contacted;
- a description of the licence application to which the security information pertains; and
- evidence showing that the applicant is the legal owner or occupier of the site, premises or facility where the activity to be licensed is to be conducted.

4.1.2 Site or facility location and relevant features

- an accurate site location, specified in terms of its coordinates (longitude and latitude), and described by a site-drawing, done to scale, indicating its features and the surrounding topography;
- topographical details, including all access roads, all rail, water and air access routes, the locations of the nearest communities, and the natural features of the area;
- written descriptions to support the illustrations, where necessary;

- pursuant to paragraph 3(b) of the *Nuclear Security Regulations*, information on the site plan referred to in section 16 of the *Nuclear Security Regulations* indicating, as applicable, the location of:
 - the perimeter of the proposed nuclear facility referred to in paragraph 2(b) of the *Nuclear Security Regulations*;
 - the proposed barrier to enclose every proposed protected area;
 - the proposed protected areas;
 - the proposed unobstructed areas;
 - the proposed structure or barrier to enclose every proposed inner area; and
 - the proposed inner areas;
- additional information, indicating, as applicable:
 - the location of any proposed security post that is to be fixed;
 - any proposed route that is to be patrolled by mobile security forces;
 - the location of the security monitoring room;
 - the location of any other secondary security monitoring room outside the inner area; and
 - any other feature that is pertinent to the maintenance of nuclear security.

4.1.3 Applicant's corporate security policy

- a description of the applicant's existing, or proposed, corporate security policy.

4.2 Security organization

4.2.1 Security roles within the facility organization

- a description of the proposed duties and responsibilities of those persons who are to have direct responsibility for the management of the proposed security program, and for the associated decisions during the activity to be licensed; and
- a description of a proposed single, designated point of contact for communication with the CNSC on physical security matters.

4.2.2 Structure and organization of the nuclear security guard service

- a description, in accordance with paragraph 3(e) of the *Nuclear Security Regulations*, of the proposed structure and organization of the nuclear security guard service, including:
 - the duties and responsibilities of the nuclear security guards;
 - the levels of authority and accountability for the security guard service;

- an organization chart of the proposed or actual facility that shows the reporting relationships between management and nuclear security guards; and
- the size of the security force, the number and scheduling of security shifts, the minimum complement of security guards for each shift, and the number and location of guard posts for all shifts.

4.2.3 Selection criteria for nuclear security guards

- a description of the criteria and procedures for recruiting, screening and appointing new nuclear security guards.

4.2.4 Training of nuclear security guards

- a description of the proposed plan for training, in accordance with section 34 of the *Nuclear Security Regulations*, nuclear security guards, including the course content, the hours of training per subject and the testing methodologies for orientation training and follow-up “refresher” training, respectively.

4.2.5 Drills

- a description of the security drills, to be conducted at least every six months under section 36 of the *Nuclear Security Regulations*, by the licensee in order to test the operation of the security equipment, systems and procedures at a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation, including:
 - how and when such drills will be conducted;
 - how the effectiveness of the drills will be evaluated; and
 - how the results of a drill will be taken into account in subsequent drills.

4.2.6 Equipment and vehicles for nuclear security guards

- a description of the proposed number and specifications, and the conditions for use, of the equipment and vehicles to be provided to nuclear security guards, including any vehicle-related equipment, portable communications devices, night-vision aids, physical and radiation protection equipment, weapons or search devices.

4.2.7 Records

- a description of the proposed system and procedures for keeping, retaining and making available records, in order to meet section 37 of the *Nuclear Security Regulations*, including those to be used to record:
 - the name of each person to whom an authorization to enter a protected or inner area has been issued;

- the duties and responsibilities of nuclear security guards;
- the training received by each nuclear security guard;
- the security procedures;
- the reporting of security events; and
- the monitoring of the performance of nuclear security guards.

4.2.8 Prescribed information

- a description of the proposed measures to control access to prescribed information, as defined in section 21 of the *General Nuclear Safety and Control Regulations*, and to prevent loss or illegal use, possession or removal of such prescribed information.

4.3 Protected and inner areas

4.3.1 Protected areas

- a description of the proposed measures to meet the requirements concerning protected areas that are stated in sections 9, 10 and 11 of the *Nuclear Security Regulations*, including:
 - the proposed physical barriers, including entry portals, exit portals and guard posts, and all proposed intrusion-detection devices that are to be located at the boundaries to, or in, any proposed protected area;
 - the proposed equipment, including illumination and assessment devices, to detect and assess the cause of an annunciating alarm in any protected area; and
 - the unobstructed area that is to surround any proposed protected area;
- a description of the proposed entry and exit control procedures for persons who are authorized, pursuant to subsection 17(3) of the *Nuclear Security Regulations*, to access a protected area when accompanied by an authorized escort, including:
 - the procedures pertaining to authorizations and identification requirements, badges and records;
 - the procedures to be followed by escorts;
 - the procedures to establish who may be authorized to escort;
 - the procedures to establish the training and qualifications required of escorts; and
 - the allowable ratio of visitors to escorts during the activity to be licensed;
- a description of the proposed entry and exit control procedures for persons who are authorized, pursuant to subsection 17(2) of the *Nuclear Security Regulations*, to access a protected area unescorted, including the procedures pertaining to identification requirements, badges and records;

- a description of the proposed measures to meet the requirements concerning protected areas that are stated in sections 25, 26 and 27 of the *Nuclear Security Regulations*, including any related provision for searching persons for concealed firearms, explosives or any other weapon that could be used to commit a crime;
- a description of the location of all emergency exits from any proposed protected area; and
- a description of the security measures, under both emergency and non-emergency conditions, that are to be provided at emergency exits from any proposed protected area.

4.3.2 Inner areas

- a description of the proposed location and function of any inner area that, pursuant to section 12 of the *Nuclear Security Regulation*, is to be located within a protected area;
- a description of the proposed measures to meet the requirements concerning inner areas of sections 13 and 14 of the *Nuclear Security Regulations*, including:
 - the proposed physical barriers and all proposed intrusion-detection devices that are to be located at the boundaries to, or in, any proposed inner area; and
 - the proposed equipment, including illumination and assessment devices, to detect and assess the cause of an annunciating alarm in any inner area;
- a description of the proposed entry and exit control procedures for persons who are authorized, pursuant to section 20 of the *Nuclear Security Regulations*, to enter an inner area unescorted, including the procedures pertaining to authorizations and identification requirements, badges and records;
- a description of how the requirements concerning inner areas that are stated in sections 25, 26 and 27 of the *Nuclear Security Regulations* are to be met, including any related provision for searching persons for concealed firearms, explosives or any other weapon that could be used to commit a crime;
- a description of the location of all emergency exits from any proposed inner area; and
- a description of the security measures, under both emergency and non-emergency conditions, that are to be provided at emergency exits from any proposed inner area.

4.4 Security monitoring rooms, and on-site and off-site communications equipment, systems and procedures

4.4.1 Security monitoring rooms

- a description of how the proposed security monitoring room will meet the requirements of section 15 of the *Nuclear Security Regulations*, including a description of:
 - the proposed location and function of any proposed security monitoring room;
 - the proposed design and construction of any proposed security monitoring room;
 - the proposed measures to control access to any proposed security monitoring room;
 - the proposed security equipment associated with any proposed security monitoring room; and
 - the proposed staffing of any proposed security monitoring room.

4.4.2 On-site communications equipment, systems and procedures

- a description of the type and specifications of the proposed on-site communications equipment and systems that nuclear security guards will use to communicate with one another and with the security monitoring room during the activity to be licensed, including the proposed arrangements for maintaining the operation of non-portable communications equipment during a power outage; and
- a description of the procedures that nuclear security guards will follow to communicate with one another and with the security monitoring room during the activity to be licensed.

4.4.3 Off-site communications equipment, systems and procedures

- a description of the type and specifications of the proposed off-site communications equipment and systems that nuclear security guards, including those in the security monitoring room, will use to communicate with off-site agencies, and, in particular, with emergency services such as off-site armed-response forces during the activity to be licensed, including the proposed arrangements for maintaining the operation of non-portable communications equipment during a power outage; and
- a description of the procedures and arrangements that nuclear security guards, including those in the security monitoring room, will follow to communicate with off-site agencies, and, in particular, with emergency services such as off-site armed-response forces during the activity to be licensed.

4.5 Access and identification systems

4.5.1 General

- a description of the proposed identification badge or access card system for identifying employees, contractors and visitors, and for controlling their entry to protected or inner areas, including the information that is to appear on each type of proposed identification badge or access card, such as a colour code, photo, security clearance, name, personal description, expiration date and entry restriction.

4.5.2 Control of identification badges or access cards

- a description of the proposed system for issuing, accounting for and storing identification badges or access cards; and for keeping relevant records.

4.5.3 Use of identification badges or access cards

- a description of the proposed requirements for wearing and displaying identification badges or access cards while on the site of the activity to be licensed, including the proposed procedures for surrendering an identification badge or access card when terminating employment or leaving the site.

4.6 Access controls

4.6.1 General

- a description of the proposed measures to control access, in accordance with paragraph 3(1)(g) of the *General Nuclear Safety and Control Regulations*, to the site of the activity to be licensed and Category I or II nuclear material.

4.6.2 Vehicles

- a description of the proposed methods or procedures to control, under normal and emergency conditions, all points of vehicle movement to and from protected or inner areas, including:
 - the written procedures to help nuclear security guards identify the vehicles that are authorized to enter protected or inner areas; and
 - any proposed procedure for tagging vehicles, or for conducting vehicle searches at entry or exit points.

4.6.3 Packages and equipment

- a description of the proposed methods or procedures to control, under emergency and non-emergency conditions, all points of access whereby packages and equipment could enter a protected or an inner area, including:
 - the written procedures to help nuclear security guards identify the packages and equipment that are to be allowed into protected or inner areas; and
 - any proposed procedure for tagging or authorizing packages and equipment, or for implementing searches upon entry or exit.

4.6.4 Access devices and access information

- a description of the proposed methods or procedures to control access devices and access information — keys, locks, lock combinations, card keys, passwords or biometric identification systems, for example — that could be used to enter, or exit from, a protected or an inner area, including the make, type, design, and manipulation and pick-resistant features, for each device type; and
- a description of any proposed procedure to control the custody and use of keys to enter protected or inner areas, and to respond to any loss or theft of such keys, including the proposed response when an access device is lost or stolen, and the precautions to be taken when an employee with access devices or access information terminates employment.

4.7 Security systems, technical devices and equipment**4.7.1 Design and performance characteristics**

- a description, in accordance with paragraph 3(c) of the *Nuclear Security Regulations*, of the proposed security equipment, systems and procedures, including:
 - the purpose, function, design and performance of all security-related technical devices and their associated systems;
 - the detailed specifications of all security-related technical devices (such as the data supplied by the manufacturers of the devices);
 - a block diagram showing how the security systems integrate;
 - the operating procedures for all security-related technical devices; and
 - the operating procedures for each security system.

4.7.2 Maintenance, testing and inspection programs

- a description of the proposed maintenance, testing and inspection programs for the security systems, technical devices and equipment to be provided, in accordance with requirements of paragraph 12(1)(d) of the *General Nuclear Safety and Control Regulations*, including for:
 - the proposed intrusion alarms;
 - the proposed detection devices;
 - the proposed emergency exit alarms;
 - the proposed lighting devices; and
 - the proposed communications equipment;
- a description of the proposed procedures, including schedules, for performing repairs and maintenance on security systems, technical devices and equipment, during the activity to be licensed;
- for scheduled maintenance activities, a listing of the security systems, technical devices and equipment to be maintained, a brief description of the work to be performed, a listing of the proposed service providers and a description of the proposed service schedule (equipment service manuals should not be provided);
- a description of the proposed preventive maintenance program or security systems, subsystems and components, including the corrective actions or compensating measures to be implemented in the event of failure of an essential component of the security system; and
- a description of the proposed program for the testing and inspection of security systems, technical devices and equipment during routine operation, including the program's purpose, frequency and required thoroughness.

4.8 Contingency plans and procedures

- the proposed plan and procedures to assess and respond to breaches of security, in accordance with paragraph 3(f) of the *Nuclear Security Regulations*, including information on:
 - the proposed method to be used to assess a breach of security during the activity to be licensed;
 - the proposed responses to security incidents, such as intrusions, threats, theft of nuclear material, sabotage or civil disturbance, during the activity to be licensed;
 - the proposed procedures for responding to potential or actual breaches of security during the activity to be licensed;
 - the proposed command structure of the security force that will respond to breaches of security during the activity to be licensed;

- the proposed procedures for transferring responsibility or command to an off-site force that is to respond to any breach of security during the activity to be licensed; and
- any other contingency plan that may require the involvement of the proposed security force.

4.9 Availability and duties of nuclear security guards

- a description of the times when, and the circumstances under which, the proposed nuclear security guards are to be on call or on duty, the proposed method for calling in additional nuclear security guards, and the proposed duties of nuclear security guards during emergency and non-emergency situations.

4.10 Sabotage or attempted sabotage

4.10.1 Site

- a description of the proposed measures to alert, in accordance with paragraph 12(1)(h) of the *General Nuclear Safety and Control Regulations*, the licensee to acts of sabotage or attempted sabotage anywhere at the site of the licensed activity.

4.10.2 Nuclear facility

- for a licence to operate a Class I nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation, a description, in accordance with paragraph 6(l) of the *Class I Nuclear Facilities Regulations*, of the proposed measures to prevent acts of sabotage or attempted sabotage at the nuclear facility, including measures to alert the licensee to such acts.

4.11 Protection arrangements with off-site response forces

- a copy, in accordance with paragraph 3(a) of the *Nuclear Security Regulations*, of the proposed protection arrangements — such as detailed in a Memorandum of Understanding or some other document of commitment — made with an off-site response force pursuant to section 35 of the same regulations, that is signed and dated, in the presence of an attesting witness, by the applicant or the applicant's delegated representative, as well as by a delegated representative of the off-site response force;

- a description of how the proposed protection arrangements will address section 35 of the *Nuclear Security Regulations*, and includes:
 - estimates of the strengths of the proposed off-site response forces that are to be applied for situations ranging from an initial response to full activation of a response team;
 - estimates of the lengths of time required to deliver various levels (“initial” to “full”) of planned responses;
 - the assessment, in consultation with the proposed off-site response force, of the types of security threats that the response force will be capable of handling with respect to the activity or facility to be licensed; and
 - a description of the proposed off-site response force’s arrangements for requesting and receiving support from another response force such as a police force.

4.12 Security awareness

- a description of the proposed measures to instruct, in accordance with paragraph 12(1)(j) of the *General Nuclear Safety and Control Regulations*, workers — employees, contractors and others — on the physical security program at the site of the licensed activity and on their obligations under that program, including by making them aware of the following:
 - the legal requirement for a person to immediately report to the nearest nuclear security guard, anyone who is not authorized to be in an area, pursuant to subsection 24(2) of the *Nuclear Security Regulations*; and
 - the legal obligations of workers:
 - o pursuant to paragraph 17(b) of the *General Nuclear Safety and Control Regulation*, to comply with the measures established by the licensee to maintain security;
 - o pursuant to subparagraph 17(c)(ii) of the *General Nuclear Safety and Control Regulations*, to promptly inform the licensee or the worker’s supervisor of any situation in which the worker believes there may be a threat to the maintenance of security or an incident with respect to security;
 - o pursuant to subparagraph 17(c)(iv) of the *General Nuclear Safety and Control Regulations*, to promptly inform the licensee or the worker’s supervisor of any situation in which the worker believes there may be an act of sabotage, theft, loss or illegal use or possession of a radioactive nuclear substances, prescribed equipment or prescribed information; and
 - o pursuant to paragraph 17(e) of the *General Nuclear Safety and Control Regulations*, to take all reasonable precautions to ensure the maintenance of security.

REFERENCES

Canada, *Class I Nuclear Facilities Regulations*, SOR/2000-204.

-----, *General Nuclear Safety and Control Regulations*, SOR/2000-202.

-----, *Nuclear Safety and Control Act*, R. S. C. 1997, c. 9.

-----, *Nuclear Security Regulations*, SOR/2000-209.

International Atomic Energy Agency (IAEA), *Guidance and Considerations for Implementation of INFCIRC/225/Rev. 4 (Corrected), The Physical Protection of Nuclear Material and Nuclear Facilities*, TECDOC-967/Rev. 1. Vienna: IAEA, July 2000.

-----, *The Physical Protection of Nuclear Material and Nuclear Facilities*, INFCIRC/225/Rev. 4 (Corrected). Vienna: IAEA, June 1999.

APPENDIX A
Preparing, submitting and revising the
security program description

The following recommendations are provided to help applicants and licensees prepare and submit, or revise, a document (hereinafter, “the security program description”) that consolidates the security information that is to be included in an application for a licence — other than a licence to transport — in respect of:

- Category I nuclear material;
- Category II nuclear material; or
- a nuclear facility consisting of a nuclear reactor that may exceed 10 MW thermal power during normal operation.

1. General

- The information contained in the security program description should be clear and concise.
- The definitions and abbreviations used should be consistent throughout the security program description.
- The specialized terms used in the security program description should conform to those defined or used for comparable purposes in relevant regulations.
- Any drawing and sketch included in the security program description should be large enough so as to be clearly legible.
- To minimize duplication, information that is provided in one section of the security program description may be cross-referenced for the purposes of other sections of the document.

2. Physical specifications

- The security program description should be printed on standard 8½ x 11 inch paper.
- For convenience or to ensure clarity, drawings and sketches that are part of the security program description may be submitted on paper larger than 8½ x 11 inch.
- The pages of the security program description should be punched for standard 3-ring binders.
- The text of the security program description should be single-spaced.

3. Confidentiality and security

Pursuant to sections 21 and 23 of the *General Nuclear Safety and Control Regulations*, the security program description is “prescribed information” and must be protected to prevent any unauthorized access. This requires that the security program description, and

all correspondence between the Canadian Nuclear Safety Commission (CNSC) and licence applicants or licensees that concerns the security program description, be treated as confidential or protected information, as follows.

- The top right hand corner of each page of the security program description should bear the security classification level of the document, i.e. “**CONFIDENTIAL**” or “**PROTECTED — SECURITY**”, in bold, upper case letters.
- The security program description and the related correspondence may be forwarded to the CNSC by mail or courier.

For delivery to the CNSC, the security program description and the related correspondence should be “double-enveloped”, with the security program description and correspondence contained within the inner envelope or package. The inner envelope or package should be addressed to the “CNSC Nuclear Security Advisor”, sealed and clearly marked “**CONFIDENTIAL**” or “**PROTECTED — SECURITY**”, labelled “**TO BE OPENED BY THE ADDRESSEE ONLY**”, and inserted into an outer envelope or package. The outer envelope or package should be sealed and addressed to:

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

Upon receiving the security program description or the related correspondence, the CNSC will protect it from unauthorized disclosure, in accordance with the *General Nuclear Safety and Control Regulations* and the *Access to Information Act*.

4. Style, structure and layout

- The security program description should include a title page, a table of contents and a glossary of any specialized term used in the document.
- The pages of the security program description should be numbered sequentially, using a numbering convention that indicates the total number of pages contained in the document (e.g., “Page 1 of 5”).
- The top left hand corner of each page of the security program description should display a unique identifier, such as **SPD YYYY-MM-DD VN**, where:

SPD	=	Security program description
YYYY-MM-DD	=	Date of preparation in numeric forms: (Year-Month-Day)
VN	=	Version number (“V1”, “V2”,...)

- Information items should be numbered and identified, as appropriate, according to the sequence and headings given in section 4.1 of this guide, i.e.:
 1. General
 - 1.1 Administrative information
 - 1.2 Site or facility location and relevant features
 - 1.3 Applicant's corporate security policy
 2. Security organization
 - 2.1 Security roles within the facility organization
 - 2.2 Structure and organization of the nuclear security guard service
 - 2.3 Selection criteria for nuclear security guards
 - 2.4 Training of nuclear security guards
 - 2.5 Drills
 - 2.6 Equipment and vehicles for nuclear security guards
 - 2.7 Records
 - 2.8 Prescribed information
 3. Protected and inner areas
 - 3.1 Protected areas
 - 3.2 Inner areas
 4. Security monitoring rooms, and on-site and off-site communications equipment, systems and procedures
 - 4.1 Security monitoring rooms
 - 4.2 On-site communications equipment, systems and procedures
 - 4.3 Off-site communications equipment, systems and procedures
 5. Access and identification systems
 - 5.1 General
 - 5.2 Control of identification badges or access cards
 - 5.3 Use of identification badges or access cards
 6. Access controls
 - 6.1 General
 - 6.2 Vehicles
 - 6.3 Packages and equipment
 - 6.4 Access devices and access information
 7. Security systems, technical devices and equipment
 - 7.1 Design and performance characteristics
 - 7.2 Maintenance, testing and inspection programs
 8. Contingency plans and procedures
 9. Availability and duties of nuclear security guards

10. Sabotage or attempted sabotage
 - 10.1 Site
 - 10.2 Nuclear facility
11. Protection arrangements with off-site response forces
12. Security awareness

5. Revising the security program description

CNSC licensees must comply with the applicable regulations and licence conditions, including any condition of their licence that requires them to adhere to a referenced security program description. To modify the referenced security program description, the licensee must first obtain CNSC approval of the proposed changes.

When requesting CNSC approval to revise an existing security program description, the licensee should identify, and explain the reasons for, the proposed changes. The request for approval should include a single, complete, copy of the new version of the security program description. To assist CNSC review, the proposed revisions or revised sections should be underlined or highlighted. The proposed security program description should follow the above recommendations, and be clearly identified, using the convention described in section 4 above (i.e., SPD YYYY-MM-DD VN).

APPENDIX B
Category I, II and III nuclear material

Category I, II and III nuclear material are defined as follows in section 1 of the *Nuclear Security Regulations*, and in its Schedule.

- **Category I nuclear material** means “a nuclear substance listed in column 1 of the schedule [*see below*] that is in the corresponding form set out in column 2 and the corresponding quantity set out in column 3 of the schedule.”
- **Category II nuclear material** means “a nuclear substance listed in column 1 of the schedule [*see below*] that is in the corresponding form set out in column 2 and the corresponding quantity set out in column 4 of the schedule.”
- **Category III nuclear material** means “a nuclear substance listed in column 1 of the schedule [*see below*] that is in the corresponding form set out in column 2 and the corresponding quantity set out in column 5 of the schedule.”

	<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>	<i>Column 5</i>
Item	Nuclear substance	Form	Quantity (Category I) ¹	Quantity (Category II) ¹	Quantity (Category III) ¹
1	Plutonium ²	Unirradiated ³	2 kg or more	Less than 2 kg, but more than 500 g	500 g or less, but more than 15 g
2	Uranium 235	Unirradiated ³ — uranium enriched to 20% ²³⁵ U or more	5 kg or more	Less than 5 kg, but more than 1 kg	1 kg or less, but more than 15 g
3	Uranium 235	Unirradiated ³ — uranium enriched to 10% ²³⁵ U or more, but less than 20% ²³⁵ U	N/A	10 kg or more	Less than 10 kg, but more than 1 kg
4	Uranium 235	Unirradiated ³ — uranium enriched above natural, but less than 10% ²³⁵ U	N/A	N/A	10 kg or more
5	Uranium 233	Unirradiated ³	2 kg or more	Less than 2 kg, but more than 500 g	500 g or less, but more than 15 g

1. The quantities listed refer to the aggregate of each kind of nuclear substance located at a facility, excluding the following (which are considered separate quantities):
 - (1) any quantity of the nuclear substance that is not within 1000 m of another quantity of the nuclear substance; and
 - (2) any quantity of the nuclear substance that is located in a locked building or a structure offering similar resistance to unauthorized entry.
2. All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.
3. Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 1 Gy/h at 1m unshielded.

6	Fuel consisting of depleted or natural uranium, thorium or low-enriched fuel (less than 10% fissile content) ⁴	Irradiated	N/A	More than 500 g of plutonium	500 g or less, but more than 15 g of plutonium
---	---	------------	-----	------------------------------	--

Source: *Nuclear Security Regulations, Schedule.*

4. Other fuel that by virtue of its original fissile content is classified as Category I or II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 1 Gy/h at 1 m unshielded.