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Technical Briefing

Exposé technique

Financial guarantee program for nuclear substance, prescribed equipment and Class II nuclear facility licences

Programme de garanties financières pour les permis de substances nucléaires, d'équipement réglementé et d'installations nucléaires de catégorie II.

Public Meeting

Réunion publique

Scheduled for :

21 August 2014

Prévue pour :

21 août 2014

Submitted by:

CNSC Staff

Soumis par :

Le personnel de la CCSN

Summary

- This CMD is being presented by staff to explain and familiarize the proposed financial guarantee program for CNSC licences issued in respect of nuclear substances, prescribed equipment and Class II nuclear facilities. Staff will return with a subsequent CMD requesting the Commission to amend all of the above licences, with some exceptions, to include a licence condition requiring a financial guarantee based on this proposed program.

There are no actions requested of the Commission at this time. This CMD is for information only

The following items are attached:

- Discussion paper DIS-11-01, *Implementation of Financial Guarantees for Licensees*, published by the CNSC in March 2011.

Résumé

- Le présent CMD est présenté par le personnel afin d’expliquer le programme de garanties financières proposé pour les permis de la CCSN délivrés pour des substances nucléaires, de l’équipement réglementé et des installations nucléaires de catégorie II. Le personnel reviendra avec un CMD ultérieur demandant à la Commission de modifier tous les permis mentionnés ci-dessus, sauf quelques exceptions, afin d’inclure une condition de permis exigeant une garantie financière fondée sur le programme proposé.

Aucune mesure n’est requise de la Commission à ce moment-ci. Ce CMD est fourni à titre d’information seulement.

Les pièces suivantes sont jointes :

- Document de travail DIS-11-01, *Mise en œuvre de garanties financières pour les titulaires de permis*, publié par la CCSN en mars 2011.

Signed/Signé

July 30, 2014/ Le 30 juillet 2014

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EXECUTIVE SUMMARY

A financial guarantee is a tangible commitment by a licensee that there will be sufficient resources to terminate licensed activities. When a licensee terminates their activities they must properly account for the safe disposal of all licensed material and must demonstrate that all locations associated with the licence are free of radioactive contamination. Failure to properly terminate licensed activities can result in risk to the health and safety of persons and the environment.

Pursuant to the *Nuclear Safety and Control Act* (NSCA), the CNSC has the authority to require a financial guarantee in respect of facilities and activities that it regulates. Since promulgation of the NSCA in 2000, the Commission has required financial guarantees for all major nuclear facilities across Canada, including nuclear power plants, uranium mines and mills, research reactors and major waste facilities. In 2011, the Commission published the discussion paper DIS-11-01 with the stated policy that all licensees must now have a financial guarantee acceptable to the Commission.

CNSC staff has addressed the issues associated with the original proposal for a financial guarantee program that would have required licensees to segregate funds. As an alternative option, CNSC staff has worked through an insurance consultant to develop an insurance policy for the CNSC that would protect the CNSC against losses arising from the failure of licensees to pay for safe termination of their licensed activities. This would satisfy the CNSC's requirement for all licensees to have a financial guarantee. Under this proposed program, licensees will have the option to adhere to this program by means of a contribution to the insurance plan in lieu of providing any other form of financial guarantee. Adherence to this program will require licensees to contribute directly through annual payments, for the cost of the insurance instrument that the CNSC is obtaining. Licensees will continue to have the obligation to safely terminate their licensed activities and CNSC staff will continue to use the appropriate enforcement tools options available and this proposed insurance program will provide further protection for the CNSC, and by extension, the taxpayers of Canada.

As part of the plan to implement the proposed financial guarantee program through the CNSC insurance policy, the CNSC will propose to extend the financial guarantee policy objective to all holders of licences that are issued by the CNSC Directorate of Nuclear Substance Regulation (DNSR) in respect of nuclear substances, prescribed equipment and Class II nuclear facilities for industrial, commercial, medical and academic applications. This will be done by way of a recommendation that the Commission amend on its own motion all affected licences to incorporate a licence condition requiring a financial guarantee acceptable to the Commission. The proposed financial guarantee program, through the CNSC insurance policy, would then be implemented at that time.

1 OVERVIEW

1.1 Background

Since promulgation of the NSCA in 2000, the Commission has required financial guarantees for all major nuclear facilities across Canada, including nuclear power plants, uranium mines and mills, research reactors and major waste facilities. In 2011, the Commission published Discussion Paper DIS-11-01 with the stated policy that all licensees provide financial guarantees in respect of their regulated facilities and activities.

A basic principle in Canadian environmental legislation, affirmed by the Supreme Court of Canada in 2003, is the “polluter pays” principle. The *Nuclear Safety and Control Act* (NSCA) recognizes this principle by authorizing the Canadian Nuclear Safety Commission (CNSC) to establish a licence condition that requires a financial guarantee, in a form acceptable to the Commission, in respect of facilities and activities that it regulates. While CNSC licensees must meet their regulatory requirements at all times, including the safe termination of licensed activities, the establishment of an appropriate financial guarantee would ensure that there are sufficient funds available for the safe disposal of all licensed material and the restoration of all licensed premises in the event that the licensee was not available to do so as a result of bankruptcy and/or abandonment. Failure to safely terminate CNSC licensed activities represents a potential risk to the health and safety of persons and the environment.

Pursuant to subsection 24(5) of the NSCA, a financial guarantee may be imposed by the Commission on any licensee, to ensure that such funds are available. The financial guarantee exists for this sole reason and can only be used, as directed by the Commission, in the event that a licensee does not have sufficient resources to complete the safe termination of its activities. If a licensee is able to effect a safe termination of licensed activities using its own resources, then any unused funds must be returned to the licensee pursuant to subsection 24(7) of the NSCA.

The Directorate of Nuclear Substance Regulation (DNSR) issues approximately 2500 licences for the academic research, medical, commercial and industrial application of nuclear substances and prescribed equipment. These licensees are composed of private and public sector organizations. The majority of these licensees are currently not required to provide a financial guarantee to ensure safe termination of their licensed activities. This represents a potential liability for the Crown in the event that a licensee is unable to safely terminate its activities or if the CNSC would want to take possession/physical control of, and assume responsibility for the disposal of, the licenced material. The safe and proper disposal of CNSC licensed material speaks to one of the essential objectives of the Canadian Nuclear Safety Commission, that being subsection 9(i) of the NSCA.

1.2 Development of the Financial Guarantees

An initial model for a financial guarantee program

Following direction on financial guarantees from the Commission in December 2010, CNSC staff began to examine options for the implementation of financial guarantee requirements for all licensees, in addition to those for which financial guarantees are already in place (ie. nuclear power plants, mines, etc.).

In March 2011, the CNSC published discussion paper DIS-11-01, *Implementation of Financial Guarantees for Licensees*, which set out an approach for establishing financial guarantees based on the segregation of funds by licensees. The amount of the financial guarantee proposed for any specific licensee was based on the number of sealed sources or radiation devices, the number of rooms in which unsealed nuclear substances were handled and included a fixed administrative fee.

Discussion Paper DIS-11-01 proposed a model for a financial guarantee program that was sufficiently robust to cover the necessary cost but sufficiently flexible to account for the differences in licensees.

With the large number of licences affected by such a program (approximately 2500), it was essential that a mechanism be developed that allowed for the ease of calculation of a financial guarantee. Based on consultation with service providers and direct experience, CNSC staff developed a formula calculation that provided for a unit cost for each sealed source (within or external to a radiation device) as well as for each room where unsealed nuclear substances were used. Additionally, there was a proposed administrative fee to cover the unexpected costs to the CNSC related to licensing and compliance activities for which it would not be compensated for by the licensee.

CNSC staff evaluated disposal and remediation options (again based on consultation with service providers and direct experience) and arrived at the value of $3000 for disposal of a sealed source or radiation device and $4000 for the remediation of a room where unsealed nuclear substances were handled. These represented the costs to the CNSC based on a third party carrying out the work and for disposal of all nuclear substances, the only option available under the NSCA. The fixed administrative cost was set at $10,000 and represented CNSC staff time and operational costs to manage the remediation of a licensed location. A formula was developed by CNSC staff to allow for the calculation of the financial guarantee for any licensee.

Licensees would, after implementation of the program, be expected to set aside funds as part of the financial guarantee requirements through a financial instrument acceptable to the Commission. Within Discussion Paper DIS-11-01 there was the flexibility to apply risk-informed principles in establishing a threshold below which a sealed source would not be considered as part of the financial guarantee program as lower activity sources represent lower radiological risks. The proposal in DIS-11-01 suggested a minimum threshold value of the financial guarantee of $75,000. A proposed financial guarantee below $75,000 meant that the licensee would not have to segregate specific funds through a financial instrument but would only have to demonstrate that funds were available.

Recognizing differences in licensees

Discussion Paper DIS-11-01 recognized that there is a fundamental difference between licensees from the private sector versus the public sector. A public sector licensee is one that is backed or supported by some level of federal, provincial or municipal government and there are not the same financial risks associated with such a licensee. In other words, there is sufficient confidence that in the event a public sector licensee cannot assume the cost of safe termination of its licensed activities the respective supporting government would intervene to cover for the cost. As part of the proposal in DIS-11-01, it was therefore recommended that public institutions be exempt from the requirement to segregate funds and such institutions would only have to demonstrate that they had recognized their financial obligations for safe termination of their licensed activities and planned for the required funds to be available.

Finally, it was recognized that there would be a very small number of licensees who, due to their unique business model, would not fit into the proposed formula based system. For these licensees DIS-11-01 included an option for the licensee to propose their own financial guarantee for consideration.

Outreach and responding to comments from consultation

Following the publication of DIS-11-01 in March 2011, CNSC staff conducted unprecedented outreach efforts to consult with licensees on the proposed approach. Beginning in September 2011 and ending in November 2011, CNSC staff conducted cross-Canada outreach to licensees located in various cities to explain the proposed financial guarantee program as well as to encourage discussion and feedback on the proposal. In total, outreach meetings were held in 21 physical locations. In addition, four Webinars were offered for licensees who were unable to attend an in-person meeting. Where necessary, the presentations were offered in both official languages.

Following the closing of the comment period on DIS-11-01 on 30 November 2011, CNSC staff reviewed the 87 comments received from individuals and groups in respect of the proposed financial guarantee program. Although there was implicit support for the idea that licensees were responsible for the safe termination of licensed activities, there was an overwhelming lack of support for the financial guarantee program as proposed in the Discussion Paper. Commenters were of the view that overall the risk of a licensee being unable to safely terminate a licensed activity was small and that the amount of the financial guarantee being required was excessive for the perceived risk.

In general, comments received pointed to concerns over the program fundamentals, that the values being proposed for disposal and remediation were excessive and that having a licensee sequester a large amount of money would be detrimental to the licensee’s business. Furthermore, commenters felt that there was not sufficient risk or history that would require such a large investment in a financial guarantee.

CNSC staff evaluated the responses received during the consultation phase and also set up working groups with some industry associations to evaluate other options for financial guarantees. Associated with the comments were suggestions to the CNSC on how it could meet the requirements for a financial guarantee without the obligation of licensees to segregate large amounts of funds in the unlikely need of use. The frequent comment made in the outreach sessions and again in the formal comments is that the CNSC should consider the establishment of some kind of centralized funding, to which licensees would all collectively contribute, and that would be utilized to ensure safe termination in the case of bankruptcy and or abandonment.

As part of the overall review, CNSC staff re-evaluated the cost factors and recognized that there were some radioactive sources that were small enough to represent only a minimal radiological risk, mainly those with an activity below the 50 MBq threshold for leak testing requirements. It was also realized that certain large devices (e.g. self-shielded irradiators) represented a large radiological risk which could not be adequately disposed of using the sealed source unit cost ($3000) that was to apply to other devices. Such prescribed equipment required a higher level of financial commitment to remediate, in the order of $90,000 per unit.

Consideration of alternatives

Beginning in the fall of 2012 CNSC staff began consideration of additional tools or instruments that would address both the needs of the CNSC while respecting the concerns of the licensees. The result of this has led the CNSC to initiate the development of an insurance program with a third party. This insurance is solely to cover the direct costs in the event that the CNSC has to exercise its regulatory responsibility to ensure the safe termination of licensed activities. This program would ensure that the financial exposure to the Crown would be minimized while having a minimal impact on the operations of a licensee.

In 2013, the CNSC started work on the development of an insurance approach to financial guarantees. CNSC staff considered that this approach would address the main comments received during the consultation process, namely the cost of the financial guarantee and the segregation of those funds.

Working with an insurance consultant under a Government of Canada standing offer, the CNSC developed a proposal for an insurance system under which the CNSC would be covered for its costs in case of licensee default. The CNSC issued a *Request for Interest* proposal to the insurance industry. Of the two companies interested, one was selected by CNSC staff following an evaluation of both proposals. Over the intervening period, CNSC staff worked with the insurance consultant and the insurance provider to refine the wording of the insurance policy to ensure that it met the requirements of the CNSC. These discussions were complex and difficult in that this was a unique product that had never been previously offered in Canada.

A new model for the proposed financial guarantee program

As a result of this effort, CNSC staff, in concert with the insurance consultant and the insurance provider, has agreed on the wording for an insurance policy that would provide payments to the CNSC in the event of a licensee default (e.g. bankruptcy, abandonment of the site, seizure of material by the CNSC). The CNSC is the sole insured party and licensees are not able to access the funds from this policy.

Under this policy, the CNSC would be insured against the costs required to safely terminate licensed activities in the event of a licensee default up to the specific licensee's calculated liability with a maximum of one million dollars (total or aggregate) over a two year period. The amount payable for each licensee would be determined through the application of a modification of the formula originally proposed in DIS-11-01. According to the modified formula, the financial guarantee payable would be the sum of:

(# of sealed sources [≥50 MBq] or radiation devices x $3000)

+ (# of rooms in which unsealed nuclear substances [half-life ≥3 days) are handled x $4000)

+ (# of self-shielded irradiators x $90,000)

= Total Financial Guarantee for a CNSC Licensee

This modified formula includes modifications to the costs that were heard from commenters during the consultation for DIS-11-01. For example, sealed sources less than 50 MBq do not require leak testing under the CNSC regulations. They are mostly considered to be check sources whose disposal cost would be minimal. Furthermore, rooms in which unsealed nuclear substances are solely those with a half-life of less than 3 days (e.g. F-18, Tc-99m) would self-eliminate within one month due to radioactive decay. On the other hand, the cost to dispose of a self-shielded irradiator is much more than that for a sealed source and therefore a higher amount was proposed for this prescribed equipment.

As noted, the CNSC would be the sole insured party in the event that access was required for the financial guarantee funds. Through a claim from the CNSC under the insurance policy, the insurance company would pay the funds to the CNSC to cover the remediation work to be carried out. The funds would be available to the CNSC in the event that the licensee is unable to complete the remediation work. The CNSC could retain specialist consultants to undertake the work, as needed. As the sole authority the CNSC would determine the extent of the remediation work required or necessary. In other words, the CNSC would not be constrained by any other party from carrying out the necessary work in order to safely remediate a licensed location.

Regardless of the existence of a financial guarantee licensees would still retain the obligation under the NSCA and regulations to safely terminate licensed activities and the CNSC will continue to use the appropriate compliance and enforcement tools under the NSCA to ensure that a licensee complies with its regulatory obligations. A financial guarantee would only be used after regulatory actions had been exhausted.

Application of the new proposed financial guarantee program

CNSC staff is now proposing to extend the requirement for financial guarantees to all holders of nuclear substance and prescribed equipment licences as well as those of Class II nuclear facility licences.

As an economical alternative to traditional financial guarantees the CNSC has developed an insurance policy where the CNSC itself would be the sole insured party. Licensees who are not public institutions would have the option to participate in this program by means of a contribution to the insurance plan in lieu of providing any other form of financial guarantee acceptable to the Commission. The contribution would represent their respective portion for the cost of the CNSC insurance premium.

The amount of the financial contribution that a licensee would have to pay is based on the fraction of the cumulative financial guarantee which is represented by the licensee. In general, the value of the contribution of a licensee to the total premium is proposed to be set at 0.4437% of their total proposed financial guarantee (to a maximum of one million dollars – the coverage of the insurance policy) and the minimum premium payment would be set at $25. Therefore, a licensee with a financial guarantee of more than $1 million would only have to pay the maximum premium contribution of $4,437 per year. A licensee with one radiation device would pay the minimum premium contribution of $25 per year. As an example, using the formula described above and the contribution rate, a licensee with three radiation devices and one laboratory for handling unsealed sources would pay an annual premium contribution of $57.68, instead of the $23,000 that this same licensee would have had to sequester based on the financial guarantee program envisaged in DIS-11-01. Thus the range of premium contributions for all licensees would be from a minimum of $25 per year to a maximum of $4437 per year.

For licensed public institutions, such as hospitals, universities and government departments, the licensee would have to acknowledge their financial obligations through a signed declaration to the CNSC and this information could be included on their public statements accounting. Therefore, licensed public institutions would not have to set aside any specific funds or financial instrument for the purposes of meeting their financial guarantee obligation since it is recognized that they are supported by a federal, provincial or municipal government which would be expected to assume the cost for safe termination of licensed activities.

Licensees with complex activities, facilities and equipment that do not fit the model formula described above would still be able to propose an alternate financial guarantee that would have to be evaluated by the CNSC for acceptance. Such a financial guarantee would generally be expected to meet the criteria of adequacy and certainty of value, continuity and liquidity, as outlined in section

5.1 of CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*.

Planned next steps

In order to make the new proposed financial guarantee program applicable to all licensees, CNSC staff plans to submit a recommendation for consideration by the Commission in December 2014 to amend on the Commission's own motion all affected licences to include a licence condition requiring the licensee to provide a financial guarantee acceptable to the Commission. Licensees who pay their financial contribution to the CNSC in accordance with the calculation method explained above (under the insurance model) would satisfy the licence condition. Those licensees who propose an alternate financial guarantee which would be found acceptable to the CNSC, also as explained above, would also satisfy the licence condition.

1.3 Overall Conclusions

The CNSC has the authority under the *Nuclear Safety and Control Act* (NSCA) to impose any licence condition including a licence condition requiring a financial guarantee.

The CNSC is proposing a new financial guarantee program that addresses the concerns raised by licensees during the consultation on the Discussion Paper DIS 11-1 published in March 2011.

The new proposed financial guarantee program would be an insurance based system where the CNSC is the sole insured, and the licensees covered by this system would contribute financially to cover the premium required for the CNSC insurance policy.

An insurance based system will provide licensees with an effective, low cost approach to meeting their obligation to have a financial guarantee.

CNSC staff plans to return to the Commission in December 2014 to request that the Commission amend on its own motion all affected licences to include the requirement for a financial guarantee. CNSC staff would implement the new insurance based financial guarantee program under this licence condition.