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**Re: Consultation on Draft RegDoc-2.10.1 Emergency Management and Fire Protection
Volume II: Framework for Recovery After a Nuclear Emergency**

INTRODUCTION

The Canadian Environmental Law Association (CELA) provides the following comments in response to the Canadian Nuclear Safety Commission's (CNSC) draft "Emergency Management and Fire Protection, Volume II: Framework for Recovery After a Nuclear Emergency, RegDoc – 2.10.1" (herein "draft RegDoc").¹

Given the impact of sudden and potentially disastrous nuclear and radiological events, the purpose of the draft RegDoc should be to proactively take action through the adoption of a resilience-based approach to disaster recovery. The draft RegDoc as currently proposed, does not achieve this goal as it fails to consider the interrelated principles of resiliency and adaptation.

CELA's recommendations to the CNSC are set out below. These comments build on CELA's related concerns about the sufficiency of emergency planning and preparedness, as highlighted in our recent submissions to the CNSC for the relicensing hearings of the Bruce and Pickering nuclear generating stations.²

¹ CNSC, "REGDOC-2.10.1 Emergency Management and Fire Protection Volume II: Framework for Recovery After a Nuclear Emergency," online: <https://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/history/regdoc2-10-1-vol2.cfm> [Draft RegDoc]

² See Canadian Environmental Law Association, "Submission on Pickering Licence Renewal," (2018) online: <http://www.cela.ca/pickering-licence-renewal>; "Submission on Bruce Licence Renewal," (2018) online: <http://www.cela.ca/publications/brucepower-refurb-emergprep> [CELA Submissions]

COMMENTS ON THE DRAFT REGDOC PROVISIONS

1. Scope (1.3)

CELA submits the scope of the draft RegDoc, which is defined as guidance that decision makers may need in planning for and executing offsite recovery operations following a nuclear emergency, is too narrow. Many of the provisions in the draft RegDoc directly build upon the licensee guidance in RegDoc 2.10.1. Furthermore, there is an accompanying paucity of federal³ and provincial⁴ recovery plans. Thus, CELA submits RegDoc-2.10.1(II) should form part of the basis for licensing. This approach would mirror the scope and applicability of RegDoc 2.10.1, which forms part of a licence’s Compliance Verification Criteria for Emergency Planning.”⁵

RECOMMENDATION 1: CELA recommends RegDoc-2.10.1(II) form part of the basis for licensing, in the same way that RegDoc 2.10.1 forms part of a license’s Compliance Verification Criteria.

Secondly, there is a conflict between the matters listed as ‘out of scope’ in section 1.3 and statements made later in the text. For instance, section 1.3 states onsite recovery activities are out of scope, yet section 2.1 defines recovery as including “short-term and long-term actions taken both onsite and offsite” (emphasis added). Similar to RegDoc 2.10.1 - which references onsite and offsite emergency response measures, where relevant - CELA recommends the draft RegDoc include onsite considerations within the document’s scope. This would remove the conflict which currently exists among the text’s provisions.

RECOMMENDATION 2: CELA recommends the draft RegDoc include onsite considerations within its scope. This approach would align with the scope of RegDoc 2.10.1 and remove the conflict which currently exists among the draft RegDoc’s provisions.

2. International Standards, Requirements and Recommendations (s 1.4)

Section 1.4 of the draft RegDoc states that “Canada’s framework for recovery after a nuclear emergency reflects international standards, requirements and recommendations.” Unfortunately, the text does not specify the references supporting this statement, with the exception of two IAEA standards. Therefore, to increase the informational capacity of the

³ Draft RegDoc, *supra* note 1, p 8

⁴ As noted in past discussions to the CNSC, while the provincial emergency response plan in Ontario mentions recovery, neither the Implementing Plans for the Bruce or Pickering provide detailed guidance. *See* CELA Submissions, *supra* note 2.

⁵ CNSC, RegDoc-2.10.1, s 1.2

RegDoc, we request it include a list of international treaties or standards which informs the recovery strategy.

To further advance the intent of the draft RegDoc to reflect international standards, we recommend the text incorporate by reference the United Nations' International Law Commission's "Draft Articles on the Protection of Persons in the Event of Disasters."⁶ Among the purposes of the Articles, is the facilitation of adequate and effective response to disasters which meets affected persons' essential needs, with full respect for their rights.

As a result of nuclear and radiological accidents impacts on human and ecological communities, nuclear disasters would be encompassed within the Article's definition of the term, which is defined as a "calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society."

Having fulfilled the threshold definition of "disaster", the Articles further provide a range of principles which are applicable to the draft RegDoc. For instance, in the event of a disaster, the inherent dignity of persons shall be respected (Article 4), response to disasters shall take into account the needs of the particularly vulnerable (Article 6) and States must seek to reduce the risk of disasters (Article 9). For ease of reference, the full text of the UN Articles is appended in Appendix I.

RECOMMENDATION 3: CELA requests the draft RegDoc incorporate by reference the United Nations' International Law Commission's "Draft Articles on the Protection of Persons in the Event of Disasters." Not only are the Articles specific to disaster response, they provide a greater range of humanitarian protections than those currently reflected in the draft RegDoc.

3. Nuclear Emergency Management (s 2)

While the text in section 2 provides discussion of the goals and measures which inform emergency response planning, an equivalent discussion is not provided for accident or disaster recovery. Given the impact of sudden and potentially disastrous nuclear and radiological events, CELA submits the draft RegDoc should explicitly state how the related theories of resilience and adaption informed the draft RegDoc's recovery elements. Unfortunately, neither the terms resilience nor adaption appear in the text. These are critical omissions.

⁶ International Law Commission, "Draft articles on the protection of persons in the event of disasters" (2016), online: http://legal.un.org/ilc/texts/instruments/english/draft_articles/6_3_2016.pdf

Resiliency is defined as the capacity of a system to absorb disturbances and reorganize while undergoing change.⁷ As noted by architect and planner William Galloway, “continual surprise from disasters and crises is becoming a normal state. The question to answer is how to act with that context.”⁸ Building resilience into human-environment is an effective way to respond to change and unknowable risks. Not only does resilience reduce the vulnerability of a system, it increases the capacity of the system to absorb and adapt, so that individuals and communities are less sensitive to unanticipated shocks and stressors.⁹

Adaptation likewise, refers to an action that allows a form or structure to better cope with a stressful condition.¹⁰ Accordingly “adaptation activities that are taken before a risk turns into a hazard is called proactive, often taking the form of disaster risk reduction. The other end of the scale is occupied by reactive adaptation, which takes place during or after an event or a disaster.”¹¹ For example, evacuating people from the 10 km Detailed Planning Zone in Pickering, Ontario, would be reactive adaptation, even if planned for in advance. Ensuring nuclear power plants are not built next to densely populated areas, as recommended by the IAEA’s siting guide and ensuring the periodic reviews of existing plant suitability, would be proactive adaptation.¹²

RECOMMENDATION 4: Given the impact of sudden and potentially disastrous nuclear and radiological events, the draft RegDoc should explicitly state how the theories of resilience and adaptation guide the draft RegDoc’s recovery elements.

4. Return to a new normal (s 4.2)

While section 4.2.2 of the RegDoc emphasizes that time spent in temporary evacuation should be minimized (and it is also an objective repeated in s. 5.6 that populations return home “as soon as possible”), there is no mention of the availability of emergency shelters and ensuring that during their use, they meet the physical, social and physiological needs of evacuees.

While planning emergency shelters in advance is a recognized, effective approach to mitigating the effects of disasters,¹³ understanding post-disaster shelter demand is crucial to ensuring

⁷ Yan, W. and Galloway, W. “Rethinking Resilience, Adaptation and Transformation in a Time of Change” (Springer: 2017), p 5
[Rethinking Resilience]

⁸ *Ibid*

⁹ Brooks, N. “Vulnerability, risk and adaptation: a conceptual framework” (2003)

¹⁰ Rethinking Resilience, *supra* note 7, p 6

¹¹ *Ibid*

¹² IAEA, “Site Survey and Site Selection for Nuclear Installations” (2015)

¹³ L. Zhao et al. “Planning Emergency Shelters for Urban Disaster Resilience: An Integrated Location-Allocation Modeling Approach,” (2017) Sustainability 9(11).

resilience.¹⁴ Prior to the 2011 Tohoku earthquake and tsunami, Japan was ready for disaster in some important ways, including the preconstruction of 53,000 housing units.¹⁵ Despite Japan's apparent readiness, there were too few prefabricated shelters, their livable design life much too short, and their location not conducive to maintaining community structures.¹⁶

For these reasons, the draft RegDoc should be amended to build upon licensee emergency planning criteria, as set out in RegDoc 2.10.1 section 2.2.4, and require collaboration among municipal, regional and provincial authorities to establish appropriate offsite housing for the potentially millions of people which could be affected in the event of a large-scale, offsite radiological release.

Currently, the draft RegDoc emphasizes promptly returning home without due regard to the increased dangers this may pose to evacuated populations. Due to the lack of consideration to the adequacy of evacuation shelters, it appears the draft RegDoc has overlooked a crucial feature of recovery efforts which requires much advance planning and coordination among decision makers.

RECOMMENDATION 5: CELA recommends that the draft RegDoc be amended to build upon licensee emergency planning requirements, as set out in RegDoc 2.10.1 section 2.2.4. Section 4.2 of the draft RegDoc should be amended to require collaboration among municipal, regional and provincial authorities in establishing appropriate offsite housing, with capacity for millions of evacuees.

5. Mitigation of psychosocial effects (s. 4.2.2) and self-help actions (s 5.1.2)

Section 4.2.2 lists a range of mitigation measures aimed at reducing psychosocial effects of disaster recovery. These include having 'open communication lines,' providing 'quality information' (s 4.2.2) and providing effective education (s 5.1.2) to encourage self-help actions (s 4.2.2). However, the draft RegDoc fails to consider how timing will determine the efficacy of these actions. As s 4.2.2. frames these mitigation efforts as *following* a nuclear accident, the draft RegDoc should be amended to require the public awareness of these mitigation efforts, which are crucial in alleviating the psychosocial effects discussed in the text, *in advance* of a disaster.

¹⁴ William Galloway, "Planning for disaster – the Case of the 2011 Tohoku Disaster" presented at Regional Nuclear Non-Proliferation and Disposal Conference (2018).

¹⁵ *Ibid*

¹⁶ See online: <https://www.japantimes.co.jp/community/2017/04/02/how-tos/temporary-disaster-housing-unforeseen-permanence/#.W6wttmhKjIU>; and <https://qz.com/448959/japanese-prefab-tiny-homes-could-change-the-way-we-think-about-disaster-housing/>

CELA again reiterates that public awareness is not an emergency response or recovery measure which can be accomplished at the time of the accident. Instead, it requires that preventative measures be taken in advance of an emergency to ensure potentially affected communities have a requisite degree of preparedness and recovery knowledge. This recommendation builds on s 2.3.4 of RegDoc 2.10.1, which requires licensees pre-distribute emergency plans through a public information program. Like s 2.3.4 of RegDoc 2.10.1 which is a licensing requirement, we recommend the measures in s 4.2.2 (and their related discussion in section 5) be made requirements of licensing.

RECOMMENDATION 6: Like s 2.3.4 of RegDoc 2.10.1 which requires licensees pre-distribute emergency plans through a public information program, we recommend public knowledge of the mitigation measures discussed in draft RegDoc s 4.2.2 (and their counterparts in s 5) be made requirements of licensee’s public information and disclosure programs.

6. Remediation (s 5.7)

Remediation is listed as a ‘key recovery element’ in Section 5 of the draft RegDoc. The text defines remediation as a measure to remove the physical contamination in the environment “to an acceptably low level.” Due to the condition, “to an acceptable low level,” the definition of remediation used in the text does not align with international environmental law.

First, we recommend the draft RegDoc adopt a definition of remediation which is substantively similar to the following: “any remedial measure that returns the damaged natural resources to their baseline condition.”¹⁷ Secondly, should a return to baseline conditions not be achieved (as contemplated by the draft RegDoc’s statement that the environmental contamination be removed *to an acceptably low level*), then complementary or compensatory remediation should be required.

‘Complementary remediation’ refers to the provision of a similar level of natural resources and services which would have been provided, if the damaged site had been restored. Likewise, ‘compensatory remediation’ refers to the compensation of interim loss of natural resources and services, pending recovery.¹⁸

RECOMMENDATION 7: The draft RegDoc requires a definition of remediation that aligns with international environmental law. Currently, the definition does not reflect the intent of remediation, which is the return of an environment to its baseline conditions.

¹⁷ Telesetsky, A. et al, “Ecological Restoration in International Environmental Law” (Cambridge: 2017)

¹⁸ *Ibid*

7. Protection of workers (s 5.9)

The draft RegDoc envisions that during the recovery phase, workers who work at licensed facilities and involved in recovery efforts may be occupationally exposed to radiological hazards. The draft RegDoc, however, does not discuss maximum exposure limits or, the provision of consent prior to recovery efforts being undertaken. Therefore, methods to review risks and obtain consent from workers to exceed those limits should be explicitly required in the draft RegDoc.

RECOMMENDATION 8: Methods to review risks and obtain consent from workers to exceed maximum radiation exposure limits should be explicitly required by the draft RegDoc.

CONCLUSION

When the scale of an accident is large, there is a tendency to work reactively – taking action only *after*, when there is urgent need.¹⁹ This is the short-sighted approach currently reflected in the draft RegDoc. We strongly encourage the CNSC to revise its approach to recovery planning and incorporate a resilience-based approach to disaster response, which would shift the draft RegDoc to a proactive stance in the form of prevention and mitigation strategies.

We appreciate this opportunity to comment and would welcome further submission opportunities in subsequent iterations of the draft RegDoc.

Truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Kerrie Blaise, Counsel

¹⁹ Resilience Thinking, *supra* note 7, p 4

**Draft articles on the
protection of persons in the event of disasters**

2016

Adopted by the International Law Commission at its sixty-eighth session, in 2016, and submitted to the General Assembly as a part of the Commission's report covering the work of that session (A/71/10), para. 48. The report will appear in *Yearbook of the International Law Commission, 2016*, vol. II, Part Two.



Protection of persons in the event of disasters

Bearing in mind Article 13, paragraph 1 (a), of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification,

Considering the frequency and severity of natural and human-made disasters and their short-term and long-term damaging impact,

Fully aware of the essential needs of persons affected by disasters, and conscious that the rights of those persons must be respected in such circumstances,

Mindful of the fundamental value of solidarity in international relations and the importance of strengthening international cooperation in respect of all phases of a disaster,

Stressing the principle of the sovereignty of States and, consequently, reaffirming the primary role of the State affected by a disaster in providing disaster relief assistance,

Article 1

Scope

The present draft articles apply to the protection of persons in the event of disasters.

Article 2

Purpose

The purpose of the present draft articles is to facilitate the adequate and effective response to disasters, and reduction of the risk of disasters, so as to meet the essential needs of the persons concerned, with full respect for their rights.

Article 3

Use of terms

For the purposes of the present draft articles:

(a) “disaster” means a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society;

(b) “affected State” means a State in whose territory, or in territory under whose jurisdiction or control, a disaster takes place;

(c) “assisting State” means a State providing assistance to an affected State with its consent;

(d) “other assisting actor” means a competent intergovernmental organization, or a relevant non-governmental organization or entity, providing assistance to an affected State with its consent;

(e) “external assistance” means relief personnel, equipment and goods, and services provided to an affected State by an assisting State or other assisting actor for disaster relief assistance;

(f) “relief personnel” means civilian or military personnel sent by an assisting State or other assisting actor for the purpose of providing disaster relief assistance;

(g) “equipment and goods” means supplies, tools, machines, specially trained animals, foodstuffs, drinking water, medical supplies, means of shelter, clothing, bedding, vehicles, telecommunications equipment, and other objects for disaster relief assistance.

Article 4

Human dignity

The inherent dignity of the human person shall be respected and protected in the event of disasters.

Article 5

Human rights

Persons affected by disasters are entitled to the respect for and protection of their human rights in accordance with international law.

Article 6

Humanitarian principles

Response to disasters shall take place in accordance with the principles of humanity, neutrality and impartiality, and on the basis of non-discrimination, while taking into account the needs of the particularly vulnerable.

Article 7

Duty to cooperate

In the application of the present draft articles, States shall, as appropriate, cooperate among themselves, with the United Nations, with the components of the Red Cross and Red Crescent Movement, and with other assisting actors.

Article 8

Forms of cooperation in the response to disasters

Cooperation in the response to disasters includes humanitarian assistance, coordination of international relief actions and communications, and making available relief personnel, equipment and goods, and scientific, medical and technical resources.

Article 9

Reduction of the risk of disasters

1. Each State shall reduce the risk of disasters by taking appropriate measures, including through legislation and regulations, to prevent, mitigate, and prepare for disasters.
2. Disaster risk reduction measures include the conduct of risk assessments, the collection and dissemination of risk and past loss information, and the installation and operation of early warning systems.

Article 10

Role of the affected State

1. The affected State has the duty to ensure the protection of persons and provision of disaster relief assistance in its territory, or in territory under its jurisdiction or control.
2. The affected State has the primary role in the direction, control, coordination and supervision of such relief assistance.

Article 11

Duty of the affected State to seek external assistance

To the extent that a disaster manifestly exceeds its national response capacity, the affected State has the duty to seek assistance from, as appropriate, other States, the United Nations, and other potential assisting actors.

Article 12

Offers of external assistance

1. In the event of disasters, States, the United Nations, and other potential assisting actors may offer assistance to the affected State.

2. When external assistance is sought by an affected State by means of a request addressed to another State, the United Nations, or other potential assisting actor, the addressee shall expeditiously give due consideration to the request and inform the affected State of its reply.

Article 13

Consent of the affected State to external assistance

1. The provision of external assistance requires the consent of the affected State.

2. Consent to external assistance shall not be withheld arbitrarily.

3. When an offer of external assistance is made in accordance with the present draft articles, the affected State shall, whenever possible, make known its decision regarding the offer in a timely manner.

Article 14

Conditions on the provision of external assistance

The affected State may place conditions on the provision of external assistance. Such conditions shall be in accordance with the present draft articles, applicable rules of international law and the national law of the affected State. Conditions shall take into account the identified needs of the persons affected by disasters and the quality of the assistance. When formulating conditions, the affected State shall indicate the scope and type of assistance sought.

Article 15

Facilitation of external assistance

1. The affected State shall take the necessary measures, within its national law, to facilitate the prompt and effective provision of external assistance, in particular regarding:

(a) relief personnel, in fields such as privileges and immunities, visa and entry requirements, work permits, and freedom of movement; and

(b) equipment and goods, in fields such as customs requirements and tariffs, taxation, transport, and the disposal thereof.

2. The affected State shall ensure that its relevant legislation and regulations are readily accessible, to facilitate compliance with national law.

Article 16

Protection of relief personnel, equipment and goods

The affected State shall take the appropriate measures to ensure the protection of relief personnel and of equipment and goods present in its territory, or in territory under its jurisdiction or control, for the purpose of providing external assistance.

Article 17

Termination of external assistance

The affected State, the assisting State, the United Nations, or other assisting actor may terminate external assistance at any time. Any such State or actor intending to terminate shall provide appropriate notification. The affected State and, as appropriate, the assisting State, the United Nations, or other assisting actor shall consult with respect to the termination of external assistance and the modalities of termination.

Article 18

Relationship to other rules of international law

1. The present draft articles are without prejudice to other applicable rules of international law.
2. The present draft articles do not apply to the extent that the response to a disaster is governed by the rules of international humanitarian law.

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