Dear CNSC

Please see below CCNB Action's (CCNB) comments and feedback on the Fukushima Omnibus project.

Our overriding opinion on nuclear power is that it is inherently unsafe due to the fact that decay heat can't be turned off and that the waste generated has to be managed for essentially forever. CCNB believes the only way to make nuclear power truly safe is to not partake in its use. Until we can convince our elected officials that nuclear power is not safe, we feel it is our duty to take every opportunity to mitigate the possibility of a disaster like Fukushima.

CCNB generally agrees with most of the changes proposed, and feel that any strengthening of regulations is Fukushima related. We oppose the industry's notion that not all of these changes are Fukushima related, and we also oppose postponing any of the proposed changes. Our specific comments are on S-294, but as stated above we support any changes to any of the regulatory documents that strengthen regulation, and feel any changes that do so should not be postponed. It would be nice however if the CNSC could have one more consultations after they have commented on the feedback.

Our specific comments on the changes are noted below.

S-294 Comments

1.0 Purpose

No Comment

2.0 Scope

No Comment

3.0 Relevant Legislation

Section 9(b) of the NSCA should be introduced as relevant legislation to the S-294 standard. Section 9(b) states:

9. The objects of the Commission are

(*b*) to disseminate objective scientific, technical
and regulatory information to the public
concerning the activities of the Commission
and the effects, on the environment and
on the health and safety of persons, of the
development, production, possession and use
referred to in paragraph (*a*).

We feel that this should be added because we ask that the PSA's, their methodologies, and screening criteria be made available to the public under the licensee's public information program. These things are all part of license conditions imposed on the licensee, and are therefore regulatory information.

We cannot currently review the PSA's and methodologies for the PSA's from Point Lepreau because they were written by AECL who will not release them. These studies are used by NB Power to ensure that they have taken adequate provision for the public's safety under the NSCA. The Fukushima accident and its cause, collusion between the government, regulator and the licensee, have spread much distrust of the nuclear industry. Making the documents, used to make the licensee's safety case, available for public scrutiny and not kept secret will go a long way in gaining the trust of the public. Being more transparent will help prevent complacency as well as promote a healthy safety culture, if the public can scrutinize regulatory information.

4.0 Background

We disagree with the industry that this is not Fukushima related. If Tepco followed these international guidelines the accident could have been prevented. We disagree with putting this into a guidance document. We support using the most up to date standards.

5.0 PSA Requirements

No Comment

Section 5.1

We ask that a Level 3 PSA be included as a requirement for the licensee's, so that the consequences of a severe accident can be determined. The CNSC can't limit to a reasonable level, the risk to the health and safety of the public and the environment without this information.

Item 1

We strongly support the "requirement" of meeting the safety goals referenced in RD-337. We recommend that the wording of item 1 be changed to the following for clarity.

1. a systematic analysis, to give confidence that the design is compliant with the general safety objectives of RD-337

The rational for our support of this change comes from Section 3 Relevant Legislation in S-294 which it cites section 3 of the NSCA which states:

3. The purpose of this Act is to provide for

(*a*) the limitation, to a reasonable level and

in a manner that is consistent with Canada's

international obligations, of the risks to national

security, the health and safety of persons

and the environment that are associated

with the development, production and use of

nuclear energy and the production, possession

and use of nuclear substances, prescribed

equipment and prescribed information;

and

There is no relevance to this legislation in the S-294 standard, if there are no required safety goals or limits that "limit to a reasonable level" the safety of persons and the environment associated with the production and use of nuclear energy. Simply requiring a licensee to perform a safety study without establishing clearly defined safety goals to be compliant with, does not limit to reasonable level the health and safety of persons and the environment. In order for this section of the NSCA to be relevant, clearly defined safety goals, that the licensee shall be compliant with, for the level 1 and level 2 PSA's should be stated.

This would also hold true for section 24(4) (b) of the NSCA which states:

(4) No licence may be issued, renewed,

amended or replaced unless, in the opinion of

the Commission, the applicant

(*b*) will, in carrying on that activity, 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.

Section 24(4) (b) is also not relevant legislation if there is no "adequate provisions" taken by the licensee without clearly defined safety goals that the licensee shall be compliant with for the Level 1 and Level 2 PSA's

We also request that the draft RD-152 "Guidance on the Use of Deterministic and Probabilistic Criteria in Decision-making for Class I Nuclear Facilities" continue with public consultation, and be referenced in the S-294 standard.

This would legally enforce the licensee's to not be complacent. Also many of the Action Items from the Fukushima Action Plan state "to the extent practicable". If RD-152 was finalized and implemented into the licenses of the Class 1 nuclear facilities, it would legally enforce "to the extent practicable" or the ALARP principle.

The commission made a decision in an April 29 2009 public meeting to proceed with public consultation for RD-152. Its decision on this item directed the staff to proceed with the consultation process for RD-152. http://nuclearsafety.gc.ca/eng/ /pdf/Notice-RD-152-CommissionMeeting-2009-04-29-EDOCS-3373004-e.pdf

On July 17 2012 we wrote to the CNSC asking them the status of the draft version of RD-152. We were told that there was no plan to finalize RD-152 and that from a Dec 10 2009 public meeting, new regulatory framework was presented to the commission, and that based on that, RD-152 was going to become a staff review guide. We have not found anything in any public meeting documents informing the commission of this decision to make RD-152 a staff review guide instead of a regulatory document. Since the commission's decision is final and can only be reviewed by the Supreme Court, the CNSC staff should proceed with the consultation of RD-152 as directed by the commission.

We asked for a copy of the staff review guide and were told it was in production and not yet available. We then followed up on the Dec 10 2009 public meeting and found no mention of this updated regulatory framework. This is a link to the agenda http://nuclearsafety.gc.ca/eng/commission/pdf/2009-12-09-10-MeetingAgendaUpdate-09-M46C.pdf and this is a link to the minutes of the

meeting http://nuclearsafety.gc.ca/eng/commission/pdf/2009-12-09-10-Minutes-e-Edocs3486980-Final.pdf

We followed up with why there was no mention of this updated regulatory framework in the Dec 10 2009 public meeting. We were told that the decision to make it into a staff review guide was made in a January 2010 meeting by senior management rather than the commission. We were also told that we would have to get the minutes that detailed the decision through the ATIP office.

We have concerns that the nuclear industry and not nuclear safety played a role in this becoming a "Draft" staff review guide instead of Regulatory Document. RD-152 did go out for the first round of consultation and all of the industry comments where the same, opposing much of the content of RD-152 and the need for it.

In the 2009 IAEA IRRS mission it notes

The PSA focuses on evaluating the risk arising from various events to confirm that safety
goals are met whereas the deterministic safety analysis focuses on evaluating the consequence of various events to confirm that the dose acceptance criteria are met. The
CNSC is currently developing a guide "Guidance on the Use of Deterministic and Probabilistic Criteria in Decision-making for Class I Nuclear Facilities (RD-152)".

This shows that the international community agrees that there is a need for such guidance.

Item 2

CCNB supports this change. We agree with the industry that "balanced design" needs clarification. We suggest using Robert Kennedy's approach in **RSP-0255 Independent Review of Staff Review Guides Related to Engineering Aspects of Protections Against Malevolent Acts, Seismic Hazard, External Hazards Other Than Seismic, and Internal Hazards, R. P. Kennedy, Structural Mechanics Consulting.** We also agree with Robert Kennedy that it should be stated that the results be mean risk and not median risk. It is our understanding that this is the case, but it is not being explicitly stated, and has led to some confusion with NB

Power's technical assessments to give confidence to the CNSC that their PSA based SMA methodology is compliant with its safety limits and goals. This should be cleared up in this revision of S-294.

Item 3

We support the use of "cliff-edge effects". It is used in both SSG-3 and SSG-4, and is internationally supported.

Item 4

We support this change.

Item 5

We support this change.

Item 6

We support this change.

Item 7

We support this change.

Item 8

We support this change.

Section 5.2

We support this change. Licensee's should have to be compliant with all of the latest safety standards, to prevent complacency.

Section 5.3

We support this change.

Section 5.4

In our opinion this is the only change that is not Fukushima related. The change from 3 years to 5 years for updating is unacceptable. PSA's, according to SSG-3, is supposed to be a living PSA, therefore always up to date. This change promotes complacency which was one of the main lessons learned from the Fukushima accident, and the Commission has made public pledges to not be complacent. To

make this change in the guise of lessons learned from the ongoing Fukushima accident is immoral. A lot of the industry comments state that most of the changes to S-294 are not Fukushima related, but not one of them mentions this as being not Fukushima related, which in our opinion is the only change not related to Fukushima. Due to Canada's aging fleet of reactors and age related degradation of mechanisms, waiting 5 years for an update is not safe.

This section also needs more clarification for the triggers of updating. We request bringing S-294 in line with RD-310 triggers. Please see a modified excerpt below from RD-310.

5.6.2 Update of Safety Analysis

The safety analysis shall be periodically reviewed and updated to account for changes in NPP configuration, conditions (including those due to aging), operating parameters and procedures, research findings, and advances in knowledge and understanding of physical phenomena, in accordance with CNSC regulatory standard S-99, *Reporting Requirements for Operating Nuclear Power Plants*.

In addition to periodic updates, the safety analysis shall also be updated following the discovery of information that may reveal a hazard that is different in nature, greater in probability, or greater in magnitude than was previously presented to the CNSC.

We took out that it had to be presented in licensing documents. Anything that reveals a hazard that is different in nature, greater in probability or greater in magnitude should have to be considered even if it is not in a licensing document. Just because it wasn't previously in a licensing document does not mean that it does not impose a greater risk, and needs to be considered.

This should also state that the methodologies and screening criteria should also be updated to take into account any new state of the art methodologies, and knowledge. It should also state that the CNSC will again have to review and accept the updated methodologies and screening criteria. This should be put into place to protect the public from complacency of the regulator and licensee.

Section 5.5

We support this change.

Section 5.6

We support this change.

Section 5.7

We agree with the industry that some things need clarification. The industry asked for clarification on the following things. We have provided our comments on these clarifications underneath.

 Do the methodologies have to be updated and resubmitted for acceptance at the routine 5-year PSA updates?

Yes they should have to update the methodologies to prevent complacency and promote a good safety culture.

 Do the computer codes have to be resubmitted for acceptance at the routine 5-year PSA updates?

Yes they should have to resubmit computer codes to prevent complacency and promote a good safety culture.

 If one utility has gained acceptance for a computer code, do other utilities also have to gain acceptance?

Yes

 What is the range of computer codes that require CNSC acceptance? For example, does it include only PSA specific codes and exclude design codes and safety analysis codes?

We agree this should be clarified.

 The reference to CSA N286.7-99 is not required. See our comment on section 5.2

We disagree with the industry and think the reference is required.

Section 5.8

We agree with the changes except that if an alternate analysis method is chosen, it should be reviewed using Independent calculations using alternate tools and methods to the extent practicable to verify a balanced design and that safety goals are met. An example of this would be using Robert Kennedy's Simplified Hybrid Methodology to verify PSA based SMA methodologies ensure safety goals are met.

Section 5.9

We agree with the proposed change.

Section 5.10

We agree with the proposed change.

Section 5.11

We agree with the proposed change.

Section 5.12

We agree with the proposed change, but feel that it should also include that the PSA's, methodologies, and screening material be made public through the licensee's public information system.

Proposed Section 5.13

There are currently no requirements for review of the PSA's as there are in RD-310. We consider this to be a huge gap in S-294. It is well known in the nuclear industry that truly independent reviews of safety studies are needed. Please see below for our suggestion.

The licensee shall systematically review the safety analysis results to ensure that they are correct and meet the objectives set for the analysis. The results shall be assessed against the relevant requirements, applicable experimental data, expert judgment, and comparison with similar calculations and sensitivity analyses.

The licensee shall review the analysis results using one or more of the following techniques, depending on the objectives of the analysis:

1. Independent review by qualified individuals; and
2. Independent calculations using alternate tools and methods to the extent practicable.

To support this below is an excerpt from a Document called

"***Potential Areas for Enhancement of the PSA Methodology based on Lessons Learned from the Fukushima Accident***

by A. Lyubarskiy, I. Kuzmina, M. El-Shanawany

International Atomic Energy Agency"

THE ROLE OF INDEPENDENT PSA REVIEW

PSAs can provide useful insights on safety-related issues dealing with plant design and operation. It is important that PSA quality is provided in terms of its technical consistency of the data and assumptions, comprehensiveness of the analysis, correctness of the results and insights, etc. The main instrument for PSA quality provision is a comprehensive, truly independent peer review, and its role should be re-emphasized.

When I sent a copy of this to Dr. Greg Rzentkowski his reply was "I couldn't agree more with the recommendations of this discussion paper which is consistent with the Canadian practice. Dr. M. El-Shanawany , a co-author of thei paper, is a former employee of the CNSC." Dr. Rzentkowski also supports independent review of the PSA's.

Thank you for taking the time to review our comments and feedback on comments.

Regards

Chris Rouse

CCNB Action