

Comments received from public consultation / Commentaires reçus dans le cadre du processus de consultation
GD-360, Guidance on Life Management of Nuclear Power Plants / Document d'orientation sur la gestion de la durée de vie des centrales nucléaires

First consultation: July 18 – September 19, 2011; Second consultation October 14 - October 28, 2011
 Premier consultation le 18 juillet – le 19 septembre 2011, deuxième consultation le 14 octobre – 28 octobre 2011

Note that comments are posted and answered in the language in which they were submitted / notez que les commentaires sont affichés dans leur langue d'origine à la réception.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
1	Ontario Power Generation & Énergie NB Power	General		<p>A new, prescriptive GD is being introduced giving the appearance that licensees are required to comply with the GD rather than the RD.</p> <p>The SCA review content referred to in RD 360 and described in GD 360 are very inconsistent. They need to be corrected for internal consistency, e.g., some SCAs such as "Human Factors in Design" and "Radiation Protection" include the requirement to demonstrate that the NPP meets the requirements of RD 337, and in the case of the Radiation Protection SCA that it also meet RD/GD 369, Licence Application Guide: Licence to Construct a Nuclear Power Plant.</p> <p>Consultation of the GD should be delayed to a later stage after resolution of the major issues of the RD.</p> <p>Until the comments on the RD are satisfactorily resolved; it would be premature to issue a draft GD for consultation. Therefore the GD consultation should be deferred to a later stage.</p>	<p>Disagree. In the merged document requirements and guidance are clearly delineated. The guidance provides information on recommended approaches on how the requirements might be met. The licensee may employ alternative approaches to meeting the requirements as long as it can demonstrate equivalence to the outcomes associated with the requirements. See guidance section of Section 2.</p> <p>The details of SCA reviews have been removed.</p> <p>Additional consultation is planned for July 2012. RD-360 and GD-360 have been merged and stakeholders will have the opportunity to review both the requirements and guidance during consultation.</p>
2	Bruce Power	General		<p>A prescriptive oriented GD is introduced. Our initial review has identified inconsistencies between the RD and GD. There are also fundamental differences from the current refurbishment review process, which we believe is sound and consistent with international practice.</p> <p>Until the comments on the RD are satisfactorily resolved it would be premature to complete a review of the accompanied GD. Therefore the GD should be deferred to a later stage.</p>	<p>Noted, inconsistencies between requirements and guidance were resolved through the merging of RD-360 and GD-360.</p> <p>SCA approach is consistent with NS-G-2.10. Licensee may reference previously submitted materials, such as those provided in safety factor reports, by mapping to the applicable SCA.</p> <p>Additional consultation is planned for July 2012. RD-360 and GD-360 have been merged and stakeholders will have the opportunity to review both the requirements and guidance during consultation.</p>
3	Ontario Power Generation & Énergie NB Power	General		<p>Due to the major changes in concept and scope as currently proposed in draft RD-360 and given the lack of sufficient, prior consultation with the CNSC staff to understand their basis for their proposed changes, it is very challenging within the prescribed timescale to provide detailed constructive comments on GD-360. Therefore, though there are numerous comments listed below, they do not represent a full suite of comments on GD-360. That is not possible until RD-360 has been revised and issued.</p>	<p>The draft was revised prior to posting for public consultation and industry has had an opportunity to comment during the public consultation period. CNSC staff has taken all comments received into consideration in the subsequent revision of the document.</p> <p>See also response to comment 1.</p>

Long-term Operation Management for Nuclear Power Plants

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
4	Ontario Power Generation & Énergie NB Power	General		Much of the requirements of GD-360 has little to do with LTO, plant life extension, refurbishment or aging management (many of the requirements pertain to normal operation)	Any long term operation will require significant planning to ensure that safety is maintained, thus much of the planning activity must be done in advance.
5	Ontario Power Generation & Énergie NB Power	General		Define return to service testing vs commissioning.	The section on commissioning has been moved to Appendix C and has been revised to read return-to-service activities. A definition of commissioning has been added to the Glossary
6	Ontario Power Generation & Énergie NB Power	General		The guide is overly prescriptive. It does not recognize that NPPs going into Refurbishment have been in operation 20 to 30 years. Hence, they have a very robust management system, processes and programs, addressing all aspects identified in RD360 Section 2.6, including execution of work during outages. The programs have been accepted by the CNSC and are routinely monitored by the CNSC. The areas of interest should be limited to changes to program documents, or addition of new program documents, required to address some of the unique aspects of Refurbishment. Licensees are already obliged under their PROLs to submit revisions to documents, or new documents, to the CNSC.	Agree in part. Much of the prescriptive text of the guidance information has been revised or deleted. The focus of RD/GD-360 version 2 is to describe the activities the licensee must do to provide the technical basis and demonstrate that adequate provisions are made for each of the SCA covered by the PROL for long-term operation or end of operation. Power reactor operation licence (PROL) renewal process is dependant on reviewing changes that have already occurred and fitness for service over the next renewal period.
7	Ontario Power Generation & Énergie NB Power	General		There are numerous references to business/economic (\$) processes or decisions that seem inappropriate for inclusion in GD-360. Remove sections providing instruction on business/economic processes	No change. RD/GD-360 does not provide instruction on business/economic processes. Life extension of an NPP is also a business decision. To focus only on technical aspects of long term operation or end of operation would give no indication of the reasoning behind the licensees' selection of one modification or improvement over another.
8	Ontario Power Generation & Énergie NB Power	General		The requirements to provide reports and seek review and approvals will have a big impact on timelines and burden to the organization. Streamline processes	No change, experience with previous ISRs has shown that these timelines are necessary to have a complete and comprehensive review of the work proposed and completed.
9	Ontario Power Generation & Énergie NB Power	General		The guidance document often prescribes what should be considered part of the normal licensing process for an operating NPP, e.g., the need to prepare a method for managing document changes. Remove duplication of processes	No change, where there is duplication, the licensee may reference previous submissions.
10	Ontario Power Generation & Énergie NB Power	General		Currently instruction is to "initiate this process at least five years before NPP reaches the end of its assumed design life". Industry interprets this as meaning we just need to start planning the process. This would not leave sufficient time to complete the ISR, IIP and the COP to support continued operations beyond end of assumed design life. The submission timeline should recognize that some activities will occur prior to entering into a specific operational phase, and hence the plans should be formulated in advance.	Agreed, text has been revised in section 2: <i>"The licensee shall initiate this process proactively, in a reasonable time, in order to complete the required safety reviews, plans and activities as specified in this regulatory document before the NPP reaches the end of its nominal design life."</i>

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				Suggest that initial plans should be provided at least 5 years prior to the life cycle timeframe. Recognition should be given to the fact that the plans will evolve as the life cycle phase approaches and the plans mature. Need to grandfather units where the 5 year milestone has already passed.	
11	Ontario Power Generation & Énergie NB Power	General		Approval requirements are unclear. Identify throughout, perhaps in a summary table, which plans require CNSC acceptance or approval and which do not.	New text added to the General Requirements (Section 2): <i>"The plans that are specified in this regulatory document require the approval of the Commission Tribunal before they are implemented. Updates or changes to the plans must be submitted to CNSC for review."</i>
12	Ontario Power Generation & Énergie NB Power	General, Sections 2.3 and 3.2		<p>Continuity and consistency of requirements to support SCA reviews. Expectation and content discrepancies exist between RD, GD, & CMDs. While we understand the CMDs are not regulatory in nature, the fact that there are discrepancies suggests the process is still evolving. There must be alignment between the documents.</p> <p>Language around Safety and Control Area review is inconsistent and unclear.</p> <p>Clarify that "SCA Review" has a distinct meaning that is distinct from "addressing all elements of SCAs".</p> <p>Industry does not support applying the SCA Review process (ie ISR review) for SOP, SAP, SSP or DDP. Rationale: The 14 SCAs are reviewed annually by CNSC, and in licence submissions. These form the framework for operations. Only changes which impact SCAs should be addressed.</p> <p>Add term "SCA Review" to the Glossary as it seems to have a special meaning with respect to the ISR process.</p> <p>For long term operation and continued operation, a COP [continued operation plan] identifying the utility strategic focus and commitments for maintaining a valid safety design and analysis basis with high safety standards and practices in plant, people and process will suffice.</p>	<p>Text has been added to the Preface and 1.2 regarding mandatory and guidance terms: <i>"In this document "shall" is used to express a requirement, i.e., a provision that a licensee or licence applicant is obliged to satisfy in order to comply with the requirements of this regulatory document. "Should" is used to express guidance, or that which is advised but not required. "May" is used to express an option or that which is permissible within the limits of this regulatory document. "Can" is used to express possibility or capability."</i></p> <p>Guidance information is clearly identified at the end of each section and subsection.</p> <p>SCA review details (sections 2.3.1 to 2.3.14) have been removed from the guidance information. The SCA approach is aligned with the CNSC SCA framework. The licensee has the option to demonstrate that the requirements are met by performing a mapping exercise and/or covered by other existing plans, procedures or analyses. The following statement has been added to Section 2: <i>"The CNSC will consider alternative approaches to the requirements and guidance in this document. Any alternative approach should demonstrate equivalence to the outcomes associated with the use of the requirements set out in the regulatory document."</i></p> <p>In response to industry comments an ISR is required for life extension (a period of greater than 10 years.)</p>
13	Ontario Power Generation & Énergie NB Power	General		Need to clarify that the assumed design life may be re-set through analysis, or refurbishment. The licensee shall provide the regulator with	The term "assumed design life" has been replaced with "nominal design life". Nominal design life is defined as :

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				the end of design life for each facility. The licensee must provide the regulator with justification for the specified design life.	<p><i>“The period of operation that was originally anticipated at the design phase for the NPP. It is used as a reference or target for planning activities including the design of SSCs that can affect the safe operation of the NPP. For the purposes of this regulatory document and for the current operating CANDU power reactors, unless otherwise stated, the “nominal design life” of an NPP is 30 years, based on 0.8 capacity factor of nominal full power.”</i></p> <p>The licensee may operate beyond the nominal design life if an approved continued operation plan is in place.</p> <p>Nominal design life may be reset after completion of life extension activities. See Appendix A process diagram.</p>
14	Ontario Power Generation & Énergie NB Power	General		<p>Concept of SOP, SAP, and SSP should be to identify the changes to SCAs, the rationale and justification for those changes, and the timeline for the major milestones. This is not clear in the descriptions in the RD or the GD.</p> <p>Change the descriptions to better capture the objective of these plans, and what needs to be communicated to the CNSC.</p>	No change; both requirements and guidance are clear that planning for end of operation involves more than the changes to SCAs and major milestones.
15	Ontario Power Generation & Énergie NB Power	General		<p>RD & GD-360 do not address permanent placement of individual units in Safe Storage nested within an operating station.</p> <p>Some wording should be integrated into both documents to explain that if a unit is out of step with the rest of the plant (i.e. one or more units has been placed in safe storage well before the rest of the units), the submission of the SOP/SAP/SSP should be provided for the out of step unit based on the applicable position in the life cycle. As well, some of the plans, such as DDP [detailed decommissioning plan], are a facility specific plan.</p>	<p>No change. Section 5.2 states:</p> <p>“The licensee shall ensure that the sustainable operations plan describes the arrangements and activities required to demonstrate that safe and reliable operation of the NPP will be maintained and sustained, for each SCA covered under the PROL, for the period of operation up until each reactor unit is permanently shut down.”</p> <p>In the case where one unit of a multi-unit station is put into safe storage for a prolonged period, the licensee’s SOP should reflect this.</p>
16	Ontario Power Generation & Énergie NB Power	Section 1.1	1.1	<p>“This document provides guidance regarding activities a licensee must undertake to support...”</p> <p>As this document provides guidance only, revise sentence to read “This documents provides guidance regarding activities undertaken to support ...”</p>	The purpose statement has been reworded as a result of the merging of RD-360 and GD-360.
17	Ontario Power Generation & Énergie NB Power	Section 2.1	4.2	<p>The bullets here (4 of them) are not consistent with the section 3.1 of RD360 document (it only had 3 bullets).</p> <p>Make documents consistent</p>	In the final draft the discrepancy no longer exists.
18	Ontario Power Generation & Énergie NB Power	Section 2.1	2	<p>“If an extended outage for refurbishment is necessary then a refurbishment and project execution plan is also required.” Ambiguous guidance, clarify what “an extended outage” means</p>	Noted, the text was deleted when RD-360 and GD-360 were merged.

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19	Ontario Power Generation & Énergie NB Power	Section 2.1, 2nd paragraph	4.2	<p>“...to establish corrective actions and safety improvements to be included in the IIP...”</p> <p>This suggests a distinction between corrective actions and safety improvement. A distinction that needs to be defined or clarified.</p> <p>“Corrective action – an action or change that remedies a deficiency with respect to current requirements applicable to the plant?</p> <p>Safety Improvement – an action or change that remedies a gap against modern codes and standards?”</p>	<p>Agree the two terms have been added to the Glossary.</p> <p>corrective actions: <i>Measures that are taken and documented to resolve the cause of deficiencies or non-conformances with respect to the current requirements applicable to the NPP.</i></p> <p>safety improvements <i>Measures taken that result in the more effective implementation of the safety goals of the NPP.</i></p>
20	Ontario Power Generation & Énergie NB Power	Section 2.2	4.2.1	<p>It is stated that: “A high level project plan should be laid out in the ISR basis document and the following should be established: “</p> <p>Traditionally, the project plan is separate from the ISR basis. This option should be acknowledged since the project execution plan (PEP) should normally precede the Basis.</p> <p>“A high level project plan should be prepared. It can be included or referenced in the ISR basis document and the following should be established:”</p>	<p>No change. Operational experience shows that having a high level project plan for the whole ISR allows a review of the licensee’s timeline to ensure realistic goals and milestones. The project execution plan does not precede the basis document because it is establishes what needs to be done to achieve the desired outcome of the integrated implementation plan which is turn based on the ISR.</p>
21	Ontario Power Generation & Énergie NB Power	Section 2.2	4.2.1	<p>Section 3.2 of RD-360 and Section 2.2 of GD-360 are not consistent. According to Sections 3.2 [ISR basis document] and 3.2.9 Change control]of RD-360: “The licensee shall submit updates or changes to the ISR basis document to the CNSC for review” only whereas according to Section 2.2 of GD-360:</p> <p>i) “To ensure the licensee and regulator have the same expectations for the scope and results of the project, the licensee should prepare and submit the basis document to the CNSC for review prior to any work on the SCA reviews”, and</p> <p>ii) “As part of basis document, the licensee should prepare a method for proposing, tracking and documenting any change. Additionally, guidelines on the type of changes that would require the basis documents to be revised should be prepared.”</p> <p>Improve consistency</p>	<p>Duplication of the requirement is noted; the requirement is retained under the section 4.2.1 “Change control”.</p> <p>No Change to the guidance information.</p> <p>Item i) refers to the original ISR basis document.</p> <p>Item ii) is concerned with tracking updates and changes after the ISR document has been accepted.</p>
22	Ontario Power Generation & Énergie NB Power	Section 2.2.1	4.2.1.1	<p>It is stated that: The proposed period of LTO can span from a minimum of ten years,</p> <p>What applies if it is intended to extent the operation beyond its assumed design life by only 2-3 years, without refurbishing?</p> <p>The licensee should retain the liberty to define additional scope beyond that required by RD-360.</p>	<p>LTO is defined as operation beyond the nominal design life of an NPP, which includes continued operation and/or life extension.</p> <p>Continued operation is now defined as the operation of the NPP for a limited period, less than 10 years beyond the nominal design. The licensee must complete a continued operation plan (COP) to demonstrate that the plant is capable of maintaining safe operation under normal and accident conditions during the proposed period of operation.</p> <p>The main objective of the COP is to</p>

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					provide assurance that all SSCs important to the safe operation have been evaluated for effects of aging for the proposed period of continued operation, such that overall safety margins remain consistent with current safety requirements and that SSCs meet fitness for service criteria in accordance with the licensing basis.
23	Ontario Power Generation & Énergie NB Power	Section 2.2.1	4.2.1.1	<p>“When scoping the ISR, the licensee should be conservative and scope several years beyond the proposed LTO period; if the decision is made to continue operating beyond the LTO period, the preparatory work is in place to identify upgrades and modifications required to continue safe operation.”</p> <p>Is this a ‘nice to have’ or is it required to achieve compliance with RD-360. Detailing it here as ‘should’ rather than ‘may’ implies that it is required (strongly recommended) to achieve compliance.</p> <p>Insert definition of continued operation, which is: operation for up to 10 years past the design life without refurbishment.</p> <p>Revise the LTO definition to state: the operation for more than 10 years beyond the assumed design life ...</p>	<p>No change; guidance provides a recommended approach only.</p> <p>Continued operation and LTO definitions have been provided in section 1.2, Scope :</p> <p><i>LTO is operation beyond the nominal design life of an NPP, which includes:</i></p> <p><i>1. continued operation: operation for a limited period, less than 10 years beyond the nominal design life of the NPP, which has been justified and supported by a continued operation plan (COP), or</i></p> <p><i>2. life extension: operation for a longer period beyond the nominal design life of the NPP, which has been justified and supported by an integrated safety review (ISR), an integrated implementation plan (IIP) and, when applicable, a project execution plan (PEP)”</i></p>
24	Ontario Power Generation & Énergie NB Power	Section 2.2.1, Page 4, 1st two para.	4.2.1.1	Again LTO & Continued Operation are being interchanged. But LTO has minimum of 10 years. -continued again could likely be much smarter. Please clarify.	Text has been clarified. See Response to comment 22 and 23.
25	Ontario Power Generation & Énergie NB Power	Section 2.2.4	4.2.1.3	Review elements identify a specific review task not code reviews, and as such high level or clause by clause reviews do not apply. Remove “(clause by clause, high level)”	Agreed, text deleted
26	Ontario Power Generation & Énergie NB Power	Section 2.2.5	4.2.1.4	<p>It is stated that: An agreed upon code effective date</p> <p>In order to avoid confusion with the code effective date that may be selected for the engineering of the refurbishment changes, suggest to say: “An agreed upon ISR code effective date”</p> <p>Not clear why this is required for the Continued Operation Plan. Request is only to continue to demonstrate Fitness of Service.</p> <p>Rewrite of section 3.6 in RD-360.</p>	<p>Agreed, text revised to: “ISR code-effective date”.</p> <p>Agreed, The requirement is now for extension of the nominal design life beyond ten years.</p> <p>Section on Continued operation has be moved and expanded. See Section 3.The text has been revised to reflect that continued operation is to demonstrate fitness for service.</p>

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27	Ontario Power Generation & Énergie NB Power	Section 2.6	4.2.1.5	<p>“Priority is given to findings that do not conform to the licensing or design basis and these findings are addressed as quickly as practicable.”</p> <p>The statement appears out of place in guidance for preparation of the ISR basis document. Non-compliance with the licensing or design basis is required to be corrected as soon as practical in accordance with the operating licence.</p> <p>Rewrite section 2.26 to identify that the basis document should specify a process and that process should give priority to gaps with respect to PROL</p>	No change, the PROL is a subset of the licensing basis (part ii of the LC definition in INFO-0795); this statement covers more than gaps with the PROL.
28	Ontario Power Generation & Énergie NB Power	Section 2.2.6	4.2.1.5	<p>RD-360, Section 3.2.5 and GD-360, Section 2.2.6 are not consistent.</p> <p>According to RD-360, Section 3.2.5: “The licensee shall confirm that any non-compliance with the current licensing basis or design basis will be immediately addressed.” Whereas according to GD-360, Section 2.2.6: “Priority is given to findings that do not conform to the licensing or design basis and these findings are addressed as quickly as practicable.”</p>	Agreed, requirement has been revised to reflect comment. Text has been removed from guidance.
29	Ontario Power Generation & Énergie NB Power	Section 2.2.7	4.2.1.6	<p>“A list of proposed corrective actions should be submitted to CNSC for acceptance.”</p> <p>This statement appears out of place. Submission of corrective actions is not a requirement at this stage of the process; rather, the requirement of RD-360 is to submit the proposed risk management decision making process for acceptance.</p> <p>Refer to inclusion of process for risk management decision making.</p>	Agreed; statement removed.
30	Ontario Power Generation & Énergie NB Power	Section 2.2.8	4.2.1.7	<p>“To carry out the review, the licensee should use a group of non-biased specialists (i.e., people who were not directly involved in performing the SCA reviews) with sufficient expertise in the subject matter.”</p> <p>This level of detail in the structure of the review team is not a requirement specified by RD-360 under preparation of the ISR basis document. Section 2.2.9, Management system applied to the ISR, contains the statement “The licensee should insure: ISR review team is qualified to carry out the review”. This should be sufficient guidance for an operating NPP where document reviews are a considered normal licensing process.</p> <p>Remove guidance</p>	<p>Guidance information has not been removed. The intent of the two statements is different. The first statement speaks to using reviewers who were not part of the SCA reviews to carry out the global assessment to prevent bias and ensure thorough review. The management system statement refers to everyone who is a part of the ISR being qualified to do the work they are doing.</p> <p>Text changed to “...with sufficient expertise to <u>carry out the assessment</u>...”</p>
31	Ontario Power Generation & Énergie NB Power	Section 2.2.9, last bullet	4.2.1.8	<p>“for example, when assessing against modern codes, ensure that a comparison is performed between a code and the as-built design instead of a code-to-code comparison”</p> <p>Change text to “for example, when assessing against modern codes, ensure that, as a minimum, where the requirements are new relative to the licensing and design basis specified in the ISR basis document a comparison is performed between a code and the as-built design”</p>	<p>Agreed; text revised:</p> <p><i>“for example, when assessing against modern codes, ensure that, as a minimum, a comparison is performed between a code and the as-built design when the requirements are new relative to the licensing and design basis specified in the ISR basis document”</i></p>

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32	Ontario Power Generation & Énergie NB Power		4.2.1.8	<p>“for example, when assessing against modern codes, ensure that a comparison is performed between a code and the as-built design instead of a code-to-code comparison”</p> <p>This seems to suggest that a code-to-code comparison is not appropriate under any circumstance. A code-to-code comparison may be done to identify any clauses in a modern code that are new or different from those in the licensing or design basis code. Where there no differences, compliance with the current licensing or design basis code would also mean compliance with the modern code. For any other clause, the as-built design will need to be evaluated against the requirements of the clause.</p>	<p>Text has been revised, see response to comment 31.</p> <p>Reviews are used to ensure licensee programs comply with modern code, not to confirm that design basis codes comply with modern codes.</p>
33	Ontario Power Generation & Énergie NB Power	Section 2.2.10, Page 6	4.2.1.9	<p>This makes the ISR Review a "Moving Target": Risk that scope will increase in the Refurbishment. Industry requires code effective date to prevent scope creep and this clause basically bypasses that agreement</p> <p>Need to get agreement to the time lines for the review to limit exposure to changes. See Table 1.[Comments on RD-360].</p>	<p>No change, the basis document is a planning document and should address the case when there is a significantly long period between completion of the ISR and carrying out the life extension activities.</p>
34	Ontario Power Generation & Énergie NB Power	Section 2.2.10, 2nd paragraph	4.2.1.9	<p>“... The process should describe the methodology for assessing the safety significance of the findings.”</p> <p>Delete the sentence. Alternatively reword to say “The process assessing the safety significance of the findings should be the same as described in the ISR Basis document.”</p> <p>This suggests that the methodology to disposition findings resulting from any changes to the scope of the ISR could be different from that described in the ISR Basis document. The methodology should be the same and not different.</p>	<p>Agreed, text revised as suggested.</p>
35	Ontario Power Generation & Énergie NB Power	Section 2.3.15	4.2.2.1	<p>SCA reports should not contain: unsupported personal opinion, conjecture, or claims; the name of any individuals; or criticisms of internal processes, procedures.”</p> <p>The statement implies an operating NPP organization requires guidance on the professionalism of its technical and management staff who prepare and approve CNSC submissions.</p> <p>Understood that regrettable text is occasionally found in regulatory submissions; nevertheless, suggest removing this statement as guidance for the NPP.</p>	<p>Minor editing to statement, however, this statement refers to content in the reports that are not based on physical review, inspection or analyses.</p> <p><i>“SCA reports should not contain information not supported by physical inspection or analyses, personal information, or criticisms of internal processes or procedures.”</i></p>
36	Ontario Power Generation & Énergie NB Power	Section 2.4	4.3	<p>“The objective of the IIP is to establish as many corrective actions and safety improvements as reasonably practicable.”</p> <p>No, this is not the objective.</p> <p>The objective of the IIP is to document the scope and schedule for implementation of safety improvements identified by the ISR and EA.</p>	<p>Agreed; Text changed to:</p> <p>“The objective of the IIP is to establish the process for the implementation of corrective actions and safety improvements consistent with risk-informed considerations and related cost-benefit implications.”</p>

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37	Ontario Power Generation & Énergie NB Power	Section 2.4	4.3	<p>“Corrective actions and safety improvements should be prioritized, and the cost-benefit analysis should be made available as part of the submission where possible.” Cost – benefit analysis is a business decision.</p> <p>Remove “..and the cost-benefit analysis...where possible” from end of sentence</p>	No change. Cost-benefit analysis is necessary to determine the licensee’s reasoning for the upgrades are selected.
38	Ontario Power Generation & Énergie NB Power	Section 2.4	4.3	<p>“In the case where the licensee identifies a corrective action or safety improvement that results in a significant safety benefit mid-way through the ISR process, the licensee should implement this change immediately, if possible.”</p> <p>International experience has shown that an ISR should be completed before safety improvements are implemented so global assessment can assess impact of safety improvements on each other. Corrective actions should address gaps against current PROL codes and implemented immediately.</p> <p>Corrective actions should address gaps against current PROL codes and implemented in a timely manner. The global assessment should evaluate all safety improvements and identify any aggregate effects. An early implementation of a safety improvement for one gap may result in unnecessary work once an evaluation is made of all strengths and possible safety improvements (i.e. the solution may be different once all gaps are identified).</p>	Accepted, changed to <p>“In the case where the licensee identifies a corrective action or safety improvement that corrects a significant safety non-compliance mid-way through the ISR process, the licensee should implement this change immediately, if possible.”</p>
39	Ontario Power Generation & Énergie NB Power	Section 2.4, 2nd paragraph 4 th & 5th line	4.3	That would preclude agreement on both the issue & solution prior to ISR Acceptance.	Correct; for a reasonable acceptance of the solution, the scope of the problem must be agreed upon first.
40	Ontario Power Generation & Énergie NB Power	Section 2.4, 3rd paragraph	4.3	<p>“Another important aspect of the IIP is the inclusion of an implementation schedule for the improvements. Required material and human resources should be specified in this schedule to allow for proper lead time for the acquisition of resources. ...”</p> <p>Allow for information such as resource requirements to be presented separately such that any business confidentiality will not be compromised.</p>	No change, licensees can provide this information through other avenues without CNSC explicitly stating all the possible options. Proprietary, protected and classified information will be handled accordingly.
41	Ontario Power Generation & Énergie NB Power		4.3	The IIP is to be submitted to the CNSC for acceptance. In that this could then become a public document, such information as resource requirements, which could be confidential information, could become public.	No change, refer to comment 40
42	Ontario Power Generation & Énergie NB Power	Section 2.5	Section moved to and expanded in 3.1.2	<p>Minor editorial - “The period <u>of</u> the continued operation plan covers should be stated”</p> <p>Should be “The period <u>that</u> the ... plan covers should be stated”</p>	Noted, see section 3 for the revised description of continued operation.
43	Ontario Power Generation & Énergie NB Power	Section 2.5, 1st paragraph and Appendix A - Figure	Section moved to and expanded in 3.1.2	<p>The statement in the last sentence regarding “... whether to move toward refurbishment or decommissioning” is not consistent with the figure in Appendix A</p> <p>Should be changed to “... whether to move toward refurbishment or end of commercial operation”</p>	Agreed; the text and the process diagram in Appendix A have been revised.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
44	Ontario Power Generation & Énergie NB Power	Section 2.5, Page 28, 1st paragraph	Section moved to and expanded in 3.1.2	This wording is ill conceived. It forces licensee's to do a full ISR/IIP for extended operation for any period <10yrs. Why? Continued Operation is/should be Fitness for Service Bases against existing Design Basis & PROL.	Refer to section two for the revised options for NPPs that are approaching their nominal design life.
45	Ontario Power Generation & Énergie NB Power	Page 28-35, Sec 2.6 to Sec 2.6.6	4.4	<p>The term "commissioning" should only be applied to components or systems that have been modified. Commissioning should not be applied to components or systems that were in operation or lay-up during a refurbishment outage.</p> <p>Replace "commissioning activities "with "Return to Service Program" for all occurrences in this document - except where the term commissioning is specifically applied to a modification.</p> <p>This is in accordance with industry practice and the application of CSA-N286-05 and CSA-N286.4-M86.</p> <p>Add to glossary:</p> <ul style="list-style-type: none"> · <u>Return to Service Program</u> - all activities required to return SSC's to service, including post maintenance or post design change activities to align components/systems, perform tests, conduct surveillance and commission as required. Return to Service program will also apply to those systems under lay-up conditions, or those systems which have remained in operations <p>Commissioning - a sub set of "Return to Service." The design authority will specify when an SSC requires commissioning where there has been a design change or modification that requires activities to demonstrate the SSC performs within the design intent/specifications.</p>	<p>Agree that commissioning is a subset of return-to service, however commissioning does not only apply to modifications. A graded approach is taken for commissioning, and it is the licensees' responsibility to demonstrate the adequate level of commissioning activities for SSCs.</p> <p>Supplemental guidance for the PEP and return-to-service activities is provided in Appendix C. The definition for commissioning has been added to the glossary.</p>
46	Ontario Power Generation & Énergie NB Power	Section 2.6, 2nd paragraph	4.4	This paragraph correctly states that for a multi-unit station, the licensee needs to consider both the continued operation and refurbishment; however, neither this nor any other section of the GD specifies any details regarding "the plan" that has to account for this option. For example, clarification is needed as to whether the licensee should produce several fully independent plans (i.e., a COP for the units that continue to operate prior to refurbishment, a Refurbishment PEP for the units that are being refurbishment and/or commissioned for post refurbishment operation, and a plan for post-refurbishment operation) or a single Refurbishment PEP that consider all possible stages of each unit (operating, shutdown for refurbishment, construction, commissioning, etc.)	No change, the licensee may propose an approach to be accepted by CNSC as per P-242 <i>Considering Cost-benefit Information</i> .
47	Ontario Power Generation & Énergie NB Power	Section 2.6	4.4	<p>Same comments as for RD-360. 'Project Execution Plan (PEP)' in these documents doesn't have the same meaning as it does in industry. Also, OPG Refurbishment is moving to PMI standard of 'Project Management Plan.</p> <p>Suggest being clear that two plans are required but only the first needs to be submitted:</p>	<p>No change. No change to name of the plan "project execution plan" term was used in RD-360 rev.0 (2008).</p> <p>Regarding comment that the refurbishment plan should only address technical and operation planning, the elements identified in</p>

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
				1. Refurbishment Plan covering technical and operational planning around refurbishment 2. Project Execution (or Management) Plan covering project direction, scope and management which is outside of the scope of CNSC domain	the document are in fact technical and operational in nature. Licensees are not being asked for two plans. Technical scope is obviously required, but some business decisions are required as well.
48	Ontario Power Generation & Énergie NB Power	Page 28, Sec 2.6 2nd paragraph - last sentence:	4.4	The last part of the sentence lends to NPP new build with SSC construction as an independent activity with final handover to an operations organization for Return to Service. "All activities carried out during refurbishment should be governed by the provisions of the management system to ensure there is a controlled turnover of SSC from construction phase to Return to Service" Suggest the sentence be revised as follows: "All activities carried out during refurbishment should be governed by the provisions of the management system, including a controlled turnover of SSC from the construction <u>refurbishment</u> phase to Return to Service.	Agreed, suggested revision has been made.
49	Ontario Power Generation & Énergie NB Power	Page 28, Sec 2.6- 3rd paragraph	4.4	Rather than describe the "Return to Service activities", replace with Return to Service program - which contains the elements and description of those activities required to prove SSC meeting design intent. "The licensee should also describe the return to service activities, including the commissioning activities that confirm that the equipment, SSC, and plant as an integral unit perform and function in accordance with the design specifications, regulatory requirements, as credited in the safety analyses". "The licensee should also describe the Return to Service activities program including the commissioning activities <u>for modified systems</u> that confirm the equipment, SSC and plant, as an integral unit, perform and function as expected in accordance with design specifications, regulatory requirements, as credited in the safety analyses ".	RTS applies to more than just modified systems and equipment. Commissioning can take place using a graded approach, but to say that it only applies to modified systems is not accurate. A program covers general considerations. For this section, the focus is on what activities will be taken. Section has been revised to clarify return to service and commissioning.
50	Ontario Power Generation & Énergie NB Power	Page 29, Sec 2.6 continued, 4th bullet	Appendix C	Throughout the document: -all references to Construction organization should be changed to EPC/refurbishment contractor. -all references to Commissioning organization should be changed to Return To Service organization -all references to construction activities should be changed to refurbishment activities Example: • provisions to ensure that changes to the design baseline are identified, reviewed, approved and documented for the handover of completed work: ". from the construction organization <u>EPC/refurbishment contractor</u> to the commissioning <u>Return to Service</u> organization from the commissioning <u>Return to Service</u> organization to the operating organization	The licensee is responsible for all aspects of work done on site, including contractors who act as agents of the licensee in all capacities. An organization may be an individual contractor or a company hired to carry out the work. Commissioning and RTS is discussed in comment 45.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
51	Ontario Power Generation & Énergie NB Power	Section 2.6.1	Appendix C.1	Section 2.6.1 appears to suggest the Refurbishment project should provide description and monitoring of overall plant configuration; i.e. including the operational units in a multi-unit station. Change the title and text from "plant configuration" to "refurbishment unit configuration".	No change, plant configuration goes beyond the refurbishment unit and includes the state of shared and common services, for example.
52	Ontario Power Generation & Énergie NB Power	Section 2.6.2	Appendix C.2	The list of programs and processes to be included in the PEP is very broad. Many of these would be covered by OPG or Refurbishment governance and simply be referred to in the PEP. Add governance as a provider of processes and programs.	No change, the licensee still provides the information.
53	Ontario Power Generation & Énergie NB Power	Page 30, Sec 2.6.2 Bullet list	Appendix C.2	Commissioning is noted as a program – but return to service program has been omitted Add an additional bullet, prior to the word "commissioning" bullet to read: Return to Service	Agreed, return to service has been added to the list.
54	Ontario Power Generation & Énergie NB Power	Section 2.6.2, Page 31	Appendix C.2	These programs are already addressed by PROL, why report on them again unless they are being specifically revised for Refurbishment?	The programs covered by the PROL may not take into consideration the special circumstance associated with refurbishment.
55	Ontario Power Generation & Énergie NB Power	Section 2.6.3	Appendix C.3	Difficult to demonstrate staff is responsible and competent. The construction program should also show that the following considerations are addressed: [...] 2nd bullet – "confirmation that responsible and competent staff for design, engineering, maintenance, operations and other relevant technical support has been involved in documenting the construction test specifications" Reword to "confirmation that responsible and competent qualified staff for design, engineering, maintenance, operations and other relevant technical support has been involved in documenting the construction test specifications"	Agreed; "responsible and competent" replaced with "capable and qualified"
56	Ontario Power Generation & Énergie NB Power	Sections 2.6.3 and 2.6.4	Appendix C.3 & C.4	Construction and Commissioning plans would be developed in detail as separate documents and just be referred to in the PEP or Project Management Plan Add ability to reference other plans into the description of the Refurbishment Plan and PEP	No change, licensee may reference previous submissions.
57	Ontario Power Generation & Énergie NB Power	Page 31, Sec 2.6.4	Appendix C.4	This entire section must distinguish between commissioning activities (related to modifications) and return to service activities. Re- title the section as: "2.6.4 – Return to Service Program" For all instances where the term "commissioning" is used change to Return to Service. State that: Systems in operation or lay-up for the duration of the refurbishment outage, will be returned to service using normal procedures (ex: PMT,	No change, see response to comment 45.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
				system alignment, SRST's, etc.) Commissioning will be performed on modified portions of SSC to the extent required confirm the design specifications are achieved.	
58	Ontario Power Generation & Énergie NB Power	Section 2.6.4 (continued)) 45h bullet	Appendix C.4	The intent of the following words is not clear: "...establish overlaps...". proposal to establish overlaps between commissioning and operations/maintenance procedure development to allow an efficient transfer of knowledge to the operating organization proposal to establish overlaps between commissioning and implement a process to ensure OPEX from commissioning and return to service is integrated into operations/maintenance procedure development to allow an efficient transfer of knowledge to the operating organization	Agreed with revisions. Text changed to: <i>"process to ensure OPEX from commissioning and return to service is integrated into operations/maintenance procedure development to allow an efficient transfer of knowledge"</i>
59	Ontario Power Generation & Énergie NB Power	Section 2.6.4 (continued)) 5th bullet	Appendix C.4	The statement appears to refer to future plant operating personnel – may have been written for New Build · proposed arrangements, including timelines and milestones, for the validation of operating procedures (covering normal, abnormal, upset and emergency conditions) that will (to the extent practicable) be carried out as part of the commissioning program and with the participation of the future plant operating personnel "proposed arrangements, including timelines and milestones, for the validation of operating procedures (covering normal, abnormal, upset and emergency conditions) that will (to the extent practicable) be carried out as part of the commissioning program and with the participation of the future plant operating personnel"	Agreed; Word "future" has been removed.
60	Ontario Power Generation & Énergie NB Power	Section 2.6.4	Appendix C.4	The intent of the words is not clear. "The commissioning program should provide a case demonstrating the safety of the proposed sequence of commissioning tests." Clarify the wording. Also, this may be an appropriate place to state that specific tests that cause significant stress to the Unit or may pose significant economic costs can be dispositioned, with Design Authority concurrence, using direct or indirect OPEX or technical rationale. Examples: loss Class IV, ECI injection, thermosyphoning	Text has been clarified: <i>The return-to-service program should provide a case for sufficiency of the scope of commissioning testing both at the individual system level, and for integrated testing of one or multiple systems at the plant</i>
61	Ontario Power Generation & Énergie NB Power	Section 2.6.4	Appendix C.4	The wording should be changed to refer to a return to service program, not "commissioned". · "Phase A focuses on ensuring that those systems required to ensure safety with fuel loaded into the reactor have been adequately commissioned." · "Phase A focuses on ensuring that those systems required to ensure safety with fuel loaded into the reactor have been adequately commissioned. " Followed a Return to Service Program."	No change, commissioning is a subset of RTS. These are established commissioning hold points.
62	Ontario Power	Section	Appendix	During refurbishment, when SSC are	No change, refer to comment 45.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
	Generation & Énergie NB Power	2.6.4.1	C.4.1	operational and maintained, or laid-up with no modifications, a graded "Return to Service" program will be developed, commensurate with maintenance and consideration of system condition. "Extent of Commissioning" Re-title Sec 2.6.4.1 to " <u>Extent of "Return to Service Program"</u> " "Return to Service" program for new or modified SSCs, will also include commissioning activities commensurate with the modification.	
63	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1 (first bullet)	Appendix C.4.1	Components/systems that remain in operation during refurbishment do not require commissioning activities "1. SSC in normal operation SSC that will remain in normal operation with continued system health and routine maintenance program activities. Commissioning activities could be limited [revise text to read:] " SSC in normal operation: SSC that will remain in normal operation with continued system health and routine maintenance program activities. <u>Commissioning is not required.</u> o Commissioning <u>return to service</u> activities could be limited"	No change, refer to comment 45.
64	Ontario Power Generation & Énergie NB Power	2.6.4.1	Appendix C.4.1	<ul style="list-style-type: none"> · SSC that are shut down and placed in a laid-up state · includes SSC that may have been disconnected or dismantled to provide access to perform work during the outage · commissioning activities should be defined and be commensurate with SSC-specific refurbishment situations, to ensure operability of the SSC and ensure design and safety analysis assumptions are still met [revise text to read:] "· SSC in shutdown · SSC that are shut down and placed in a laid-up state. <u>Commissioning is not required.</u> · includes SSC that may have been disconnected or dismantled to provide access to perform work during the outage · commissioning <u>return to service</u> program should be defined and be commensurate with SSC-specific refurbishment situations, to ensure operability of the SSC and ensure design and safety analysis assumptions are still met "	No change, refer to comment 45.
65	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1 (second bullet)	Appendix C	As far as the section on commissioning goes, there seems to be a lot of latitude based upon the extent of work done on the system, modifications, and duration of lay-up. So one can argue that flexibility exists within the document to suit our needs and conditions. However, as usual, it depends upon individual interpretation. I could find no wording within this document that would specifically require a loss of class 4 test from full power however it seems that for Pt. Lepreau somehow this has worked its way into interpretation by the	Correct; flexibility is an option dependant upon the licensees' ability to demonstrate high levels of safety.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
				regulator.	
66	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1	Appendix C	"maintenance" - PMT is not "Commissioning" but it does verify operability Need very clear definition on the commissioning vs. PMT..	Agreed; post maintenance testing is not commissioning. In the context of a facility undergoing major changes, experience has shown that the facility as a whole resembles a new build more so than a facility that has undergone a typical outage. Thus, graded commissioning is necessary.
67	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1, Page 33, Last paragraph, 2nd line	Appendix C	"repaired or replaced" PM and/or replacement "in kind" different for "commissioning"	Text has been removed from the document.
68	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1, Page 34, 1st bullet	Appendix C.	"major design" - follow ECC Available for Service	Text has been removed from the document.
69	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1, Page 34, 1st bullet	Appendix C.4.1	The Commissioning Program should be NO DIFFERENT than for any normal outage today. (just more scope).	No change, experience has shown that commissioning after refurbishment is a major undertaking and may involve considerations beyond what is applicable for normal outages.
70	Ontario Power Generation & Énergie NB Power	Section 2.6.4.1 and 2.6.4.2	Appendix C.4.2	Hold Points - CNSC formal regulatory approval aligning with commissioning phases. The specific approval points may not be appropriate for the guidance document as this is not in the RD document. CNSC may also agree to specific acceptance criteria and enable station or project management to proceed on that basis.	No change; Hold points are placed on the licence by the Commission; the typical hold points are stated here for licensee reference and planning purposes.
71	Ontario Power Generation & Énergie NB Power	Section 2.6.4.2	Appendix C4.2	Hold points are relevant for commissioning test and specific restart tests (ex: some SRSTs). ".... Hold points are imposed to ensure proper assessment of available commissioning results against pre-defined acceptance criteria." [should be revised to read:] ".... Hold points are imposed to ensure proper assessment of available commissioning <u>specified test</u> results against pre-defined acceptance criteria."	No change; 'Specified test' gives the impression that after just one very specific test there will be enough information to lift a hold point. This is not the case. Multiple tests may be required, therefore 'commissioning results' is more accurate.
72	Ontario Power Generation & Énergie NB Power	Section 3	Section 5	Too many nested plans. And there is no deliverable associated with "End of Operation Plan". Having a place holder which clusters all the plans which deal with End of Operation is acceptable, however, it should not be called a "Plan". Change title to say, "End of Operation."	Title of section is now "End of Operation". Text has been revised and submissions have been clarified.
73	Ontario Power Generation & Énergie NB Power	Section 3, End of Operation Plan	Section 5.2 and 5.3	Applicable timeframe is inconsistent with RD-360 and Section 3.2 first bullet in GD-360. Should be from normal operation to permanent shutdown. Change "safe state of storage (SSS)" to "permanent unit shutdown"	This section has been revised. The requirement states that the licensee provides the schedule for shutdown and decommissioning. The guidance suggests that the licensee should state the date of transition to SSS and the length of SSS.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
					Text changed to read: "the date the NPP will transition into SSS (if applicable) and the length of time the reactor will be in SSS".
74	Ontario Power Generation & Énergie NB Power	Section 3.1,	5.2	Sustainable operation plan / safe state of storage plan / stabilization activity plan / Storage and surveillance plans – seem to have overlapping requirements. It is suggested that there should be unique requirements for each plan and a facility to combine plans where appropriate.	This is now written as a grouping under the preliminary decommissioning plan. The text now combines SAP and SSP under preliminary decommissioning planning activities.
75	Ontario Power Generation & Énergie NB Power	Section 3.1	5.2	There is no mention of use of SCAs to review, which is inconsistent with RD-360. This discrepancy provides a lot of uncertainty as to what is required. Clarify that a review of only the issues identified in Section 3.1 is required to support a SOP and then change RD-360 to say that the "SCAs that are likely to change should be addressed".	No change; RD text is clear in stating that all SCAs covered by the PROL (because it is covered by the PROL, but will be in a different state of operations) must be addressed.
76	Ontario Power Generation & Énergie NB Power	Section 3.1,	5.2	Once the unit has been placed in safe storage operational fitness is only required to support monitoring, to maintain habitability, to support long term fuel and/or D2O storage if required, and to support security activities. Remove "and decommissioning". "Operational fitness will only be maintained for systems, structures and components that will remain in service or remain poised for service."	No change, although operational fitness during SSS is significantly less complex than during full commercial operation, it must be maintained for all SSCs, as appropriate. The purpose of the SOP is to ensure that the licensee is capable of operation up to SSS.
77	Ontario Power Generation & Énergie NB Power	3.1,	5.2	Although the Industry agrees this is important, it does not belong in the SOP. It belongs in SAP, SSP and DDP. "training to be provided to workers who will be involved in the SSS as well as decommissioning activities of the NPP " Add training to the SAP, SSP and DDP content requirements.	Text has been changed to allow multiple plans (SAP and SSP as part of the PDP) to be combined for greater simplicity. DDP requirements are outside of the scope of RD-360. Training for SOP is different than training for PDP, but still necessary and important. PDP guides the licensee to address all elements of each SCA authorized by the PROL. Training is included in this envelope
78	Ontario Power Generation & Énergie NB Power	Section 3.1, bullet 6	5.2	"review environmental releases to be monitored during transition and period of SSS (for example, releases, soil contamination, groundwater contamination)" Although the Industry agrees this is important, it does not belong in the SOP. It belongs in SAP and SSP. Move the requirement to the SAP, SSP, and DDP (check alignment with G-219 and N294-09).	Noted, text has been revised to allow multiple plans (SAP and SSP as part of the PDP) to be combined for greater simplicity.
79	Ontario Power Generation & Énergie NB Power	Section 3.1	5.2	"what aging management programs will be required over the SSS period" Although the Industry agrees this is important, it does not belong in the SOP. It belongs in SAP and SSP. Move the requirement to the SAP, SSP, and DDP (check alignment with G-219 and N294-09).	See response to comment 78.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
80	Ontario Power Generation & Énergie NB Power	Section 3.1	5.2	<p>Too many nested plans. Creates too much confusion as some plans are just receptacles for other detailed plans.</p> <p>OPG accepts that the Section could be entitled, "Safe Storage" as a label for the applicable life cycle phase, but not as a plan because there is no deliverable.</p> <p>Change title to "Safe Storage" as a timeframe, and move the text into the SAP or SSP discussion as applicable.</p>	See response to comment 78.
81	Ontario Power Generation & Énergie NB Power	Section 3.2	5.3	<p>Unclear what this safety assessment involves. Since the 14 SCAs should be reviewed as part of licence renewal, that represents the status quo or baseline.</p> <p>Include the following statement in Sections 3.2.1 and 3.2.2, and remove reference to "safety assessment".</p> <p>Our position is that only SCA that change should be reviewed and assessed if applicable. Suggested wording: Plan should address any changes to the SCAs, the rationale and justification for any of the changes and any associated timelines. SCAs that are no longer applicable should also be identified.</p>	<p>See also response to comment 74.</p> <p>The baseline referred to here is the set of activities required to maintain operational fitness, given a significantly reduced operational state.</p> <p>While it is agreed that some SCAs will no longer be applicable, all must be addressed to ensure a comprehensive review has taken place and to identify the baseline against which the SCAs will be reassessed for any future changes.</p>
82	Ontario Power Generation & Énergie NB Power	Section 3.2	5.3	<p>"Dependent upon the period of SSS, it may be beneficial to the licensee to reassess the safety using new measured data at predetermined intervals. This safety assessment and any revisions using new data should be submitted to the CNSC. "</p> <p>Is this intended to give utilities permission to reduce emission monitoring by periodically measuring and demonstrating that emission rates are stable at an acceptable level, or are decreasing to a level that is not considered a hazard or threat?</p> <p>Suggested wording:</p> <p>Licensee should provide plans for monitoring and should provide CNSC with the planned protocol for data analysis, assessment, communication, and remediation planning.</p> <p>CNSC shall be advised of any change in strategy or plan for dealing with the applicable aspects of the 14 SCAs.</p>	<p>Text has been revised:</p> <p><i>The principle task in developing the PDP strategy for end of operation is a thorough safety assessment, addressing all elements of each SCA authorized by the PROL. This assessment forms the basis of the SAP and the SSP. As the basis for measures to be taken during both the transition into safe storage and throughout this period, the safety assessment should be as comprehensive as possible, considering both radiological and conventional hazards for the entire facility, not just the reactors. This assessment establishes confidence in the licensee's ability to safely maintain the facility and is the basis of baselines for monitoring, maintenance, surveillance and future dismantling. Depending upon the period of safe storage, it may be beneficial to the licensee to reassess the safety using new measured data at predetermined intervals. This safety assessment and any revisions using new data should be submitted to the CNSC.</i></p>
83	Ontario Power Generation & Énergie NB Power	Section 3.2.2	5.3	<p>Monitoring and maintaining equipment will cease completely, unless that equipment is being used for :</p> <ul style="list-style-type: none"> · Fire Protection and Security related activities. · Environmental and radiological monitoring and inspections. 	No change. Though it is true that a shortened list of items will require monitoring or maintenance; the methods used to monitor and maintain those things should remain the same.

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
				<ul style="list-style-type: none"> · Long term storage of used fuel and D2O. Periodic inspections will occur as required until deconstruction begins to ensure the following: <ul style="list-style-type: none"> · Structures that support the activities listed above remain functional. · Areas of the facility that will continue to be used are habitable, orderly, and safe. · Structures provide adequate structural integrity to maintain radiation contamination control and worker safety. Replace line with, "methods and maintenance of equipment will be commensurate with associated risk. Changes from the processes associated with SCAs applied in during operation will be communicated to the CNSC."	
84	Ontario Power Generation & Énergie NB Power	Section 3.3	5.3	Clarification, it appears that the DDP is required when the NPP is placed in SSS. It may be premature to prepare the DDP at this time depending on the projected duration of the Storage and Surveillance Phase. As well, this requirement is not aligned with CMD 11-M21, page 6 Table 1, nor with the PROL 08.14. DDP should be submitted 5 years prior to commencing decommissioning activities. This recommendation is summarized in Table 1 of the comments provided on RD-360. When the licensee has put the NPP into SSS, the preliminary decommissioning plan should be updated and a detailed decommissioning plan prepared.	No change. The DDP should be submitted 5 years prior to use, but SSS may go well beyond 5 years. The guidance does not suggest that the DDP be submitted immediately upon establishing SSS; the DDP should be in place when applying for the licence to decommission.
85	Ontario Power Generation & Énergie NB Power	Glossary, finding	no change	Doesn't read quite right. A piece of information obtained or a conclusion reached when specific statements or actual conditions are compared with what is required, expected, accepted or practiced. A conclusion made after an investigation or review of actual or projected conditions versus what is required, expected, accepted, or practiced.	Agreed, definition revised: "A finding is a conclusion that results from the evaluation of the fact(s) collected during the inspection against inspection criteria. A finding can indicate either conformity or non-conformity with inspection criteria."
86	Ontario Power Generation & Énergie NB Power	Glossary	no change	Definition of SCA Review has not been provided. Add term "SCA Review" to the Glossary as it seems to have a special meaning with respect to the ISR process. "SCA Review"; means comparison to modern codes and standards against the current state of the SCA in each of the 14 SCAs, how the performance objectives of each SCA are achieved, global assessment, sufficiency checks. "Addressing all elements of the SCAs" means each applicable SCA as it pertains to the life cycle phase is reviewed and changes from the previous phase are identified.	No change; text in section 3.3 and 4.2.1.3 describe what is meant by "SCA review".

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
87	Ontario Power Generation & Énergie NB Power	Glossary,	no change	Assumed design life Change to: "The period of operation that was originally anticipated at the design phase for the NPP. It is used as a reference or target for planning activities including the design of SSCs that can affect the safe operation of the NPP. For the purposes of this regulatory document and for the current operating CANDU power reactors, it's determined by the life limiting component identified by the designer. For a multi-unit NPP, it is unit specific unless determined by the life of a common SSC. Design life can be reset by refurbishment or by reanalysis."	Text revised to read: "Nominal Design Life: The period of operation that was originally anticipated at the design phase for the NPP. It is used as a reference or target for planning activities including the design of SSCs that can affect the safe operation of the NPP. For the purposes of this regulatory document and for the current operating CANDU power reactors, unless otherwise stated, the "nominal design life" of an NPP is 30 years, based on 0.8 capacity factor of nominal full power."
88	Ontario Power Generation & Énergie NB Power	Glossary	no change	Long-term operation – The document mixes this definition with that of Continued Operation. Insert definition of continued operation, which is: operation for up to 10 years past the design life without refurbishment. Revise the LTO definition to state: the operation for more than 10 years beyond the assumed design life ...	Definition of continued operation is in the glossary: "Operation for a limited period, of less than 10 calendar years beyond the nominal design life of the NPP, which has been justified and supported by a continued operation plan" LTO definition is accurate; continued operation is a subset of LTO.
89	Ontario Power Generation & Énergie NB Power	Appendix B	text deleted– N/A	Remove statement as it implies that all the work to support the submission is contained in the submission. This requirement will make the submissions unwieldy. It should be acceptable to provide the reference to correspondence, submissions, and utility governance that the CNSC has complete access to, to support submissions. Many of the SCA reviews are already part of a periodic submission process, and there should be no need to duplicate effort. Remove bracketed statement "(That is, is the submission self-standing)" and replace with "Note: Reference to previous submissions, and utility governance is acceptable as long as the context and relevance is clear and the reference is complete.)"	This appendix has been removed from the document
90	Ontario Power Generation & Énergie NB Power	Appendix B	text deleted – N/A	"and are likely to gain the approval of an independent subject matter experts' The wording seems soft and should be revamped Suggest wording like " and will stand up to independent peer reviewed technical scrutiny	This appendix has been removed from the document
91	Ontario Power Generation & Énergie NB Power	Appendix C	Appendix B	It needs to be consistent with the same appendix in RD360 Make it consistent	Appendix C table and Appendix B of RD-360 have been merged.
92	Ontario Power Generation & Énergie NB Power	Appendix C	Appendix B	The specific areas column is empty next to the safeguards row – this is likely a typo. Populate box from RD360	See response to comment 91.
93	Ontario Power Generation & Énergie NB Power	Appendix C	Appendix B	Misalignment with CMD 11-M46. Align GD-360 with Appendix C with CMD 11-M46, Appendix A such that the subcategories are limited to 46. See comment RD-45.	No change; the intent was not to match the specific areas in CMD 11-M46 because the specific areas are subject to change on an annual

	Organization	Section in GD-360	Section in RD/GD-360 version 2	Comment	CNSC Response
					basis.
94	Ontario Power Generation & Énergie NB Power	Appendix C,	Appendix B	Misalignment with body. Equipment qualification is presented in Section 2.3.6.2, which is under the Fitness for Service Section in the body Move Section 2.3.6.2 to Section 2.3.5.1.	Noted, Sections 2.3.1 to 2.3.14 have been removed from the guidance portion of the document. See response to comments 95-131 below.

<p>CNSC’s response to comments 95 through 131: The consultation version of GD-360 provided detailed guidance on each safety and control area review (subsections 2.3.1 to 2.3.14). In response to industry’s concerns over duplication of effort with regards to safety factor reports, this material has not been included in the final draft RD/GD-360 version 2. The licensees may perform a mapping exercise to reference material in safety factor reports to the applicable safety and control areas.</p> <p>Industry’s comments on this material will be retained with the deleted text. If a decision is made to use the content at some later date, industry’s comments will be taken into account at that time.</p>					
95	Ontario Power Generation & Énergie NB Power	Section 2.3		Does not follow international practice recommended in NS-G- 2.10 which gives clear list of review tasks. This is not similarly addressed by CNSC safety and control areas. The subsections of Section 2.3 comes across as a more of an ad hoc list of what to consider instead of a list of review tasks Follow international practice (NS-G-2.10) and do not invent new requirements There should be an objective for each S&CA Review. Not consistent in draft.	
96	Ontario Power Generation & Énergie NB Power	Section 2.3		Though this is to be a guide it states that the SCA sections describe the expected content of each SCA review. These sections read like a checklist of requirements. It is overly prescriptive and beyond what is required in IAEA NS-G-2.10 and the previous version of RD-360. GD-360 is asking for a lot of elements beyond those required by the previous version of RD-360 which when added up will be very costly.	
97	Ontario Power Generation & Énergie NB Power	Section 2.3		These sections appear overly prescriptive. Suggest changing the phrase “the review of the program and implementation <u>should</u> include” to “the review of the program and implementation <u>may</u> include”, to allow the licensee flexibility in achieving compliance with RD-360 in the ISR reviews. Otherwise the sections should provide guidance on the activities covered under each SCA, to assist the licensee in compliance with the requirements of the reviews without specifying how to conduct the reviews.	
98	Ontario Power Generation & Énergie NB Power	Section 2.3.1 3rd paragraph, last 2 lines		“Through implementation of CSA N286 and other management systems (ISO 14001, OHSAS 18001, etc.), the review should explore further opportunities to integrate its processes for managing the business and the actions necessary to satisfy business requirements.” The licensee’s business requirements are outside the scope of the ISR SCA review. Additionally implementation of the British Standard OHSAS 18001 is not a regulatory requirement necessary to achieve compliance with RD-360.	
99	Ontario Power Generation & Énergie NB Power	Section 2.3.1.1, 24th bullet		“monitoring and controlling contractors hours of work” Not clear if the concern is worker fatigue, which is relevant to safety, or economics, which is not relevant to safety. The wording seems to indicate the latter Change to read “management of contract worker fatigue”..	
100	Ontario Power Generation & Énergie NB Power	Section 2.3.1.1, 11th bullet		“maintenance of worker competency through a systematic approach to training” No need to specify.	
101	Ontario Power Generation & Énergie NB Power	Section 2.3.1.2		RD-321, Criteria for Physical Protection Systems and Devices at High-Security Sites) and RD-361, Criteria for Explosive Substance Detection, X-ray Imaging, and Metal Detection Devices at High-Security Sites (confidential documents) cited on page 23 are not yet attached to licensing and implementation process is only beginning to be considered at this time by industry. It is important to have on record as these two regulatory documents are not included in the current ISR and would only be considered in future ISR assessments	
102	Ontario Power Generation & Énergie NB Power	Section 2.3.2.1		“Information from task analyses should be used to develop the various technical steps in the procedure ...” Should not describe the how	

103	Ontario Power Generation & Énergie NB Power	Section 2.3.2.3	<p>“The fitness for duty program should consider different circumstances of worker duty, including:”</p> <p>Doesn't make sense - reword</p>
104	Ontario Power Generation & Énergie NB Power	Section 2.3.2.3	<p>Direction provided is unclear. Currently medical, psychological, and substance and biochemical assessments are not permitted once a person is hired, unless job performance becomes an issue.</p> <p>In evaluating the fitness for duty program, the following components should be reviewed:</p> <ul style="list-style-type: none"> · medical assessments · psychological assessments · hours of work · fatigue management · substance and biochemical assessments <p>Since utilities cannot legally perform random medical, psychological, substance and biochemical assessments, remove these assessments from consideration in the fitness for duty evaluation.</p>
105	Ontario Power Generation & Énergie NB Power	Section 2.3.3	<p>It is more difficult to understand than the requirement in the previous version of RD-360 For example, clarification required on “degree of reliability of assumptions made with respect to license actions and findings of the safety analysis, plant design and operating experience”</p> <p>Clarify</p>
106	Ontario Power Generation & Énergie NB Power	Section 2.3.3.1	<p>Review area is not mentioned in Appendix C, where the “specific areas” are identified. Nor is it identified as one of the 69 specific areas in CMD-11-M46.</p> <p>Remove Section 2.3.2.1 from GD-360 or change title specific areas “Operating Experience” and “Reporting and Trending” to “Performance monitoring and Improvement”.</p>
107	Ontario Power Generation & Énergie NB Power	Section 2.3.4	<p>The section introduces new ‘expectations’ on the analysis, such as</p> <p>The results of a PSA should be compared with the probabilistic safety criteria (for example for system reliability, core damage and releases of radioactive material) when they have been defined for the facility.</p> <p>We don't disagree with the statement but this should be part of document such as S-294 and related guide, not the present document.</p> <p>Finally, we agree that ‘consistency of the accident management program for beyond design basis accidents with PSA results’ should be reviewed but the severe accident management program itself should be reviewed as part of ‘procedures’ and ‘emergency planning’ not PSA.</p> <p>Wherever applicable the CNSC should point to relevant codes and standards from which the requirements come from. For example, the PSA statement regarding human reliability assessment in this section should refer to S-294 to avoid confusion about the requirements.</p> <p>Revise section accordingly.</p>
108	Ontario Power Generation & Énergie NB Power	Section 2.3.4.1	<p>The document requires the “The SCA review should update the current safety analysis as necessary...”</p> <p>There should be a commitment to do the update but the actual analysis may be done as part of the implementation of the IIP.</p>
109	Ontario Power Generation & Énergie NB Power	Section 2.3.4.1	<p>Anticipated operational occurrences</p> <p>Don't believe that these currently form part of the design/licensing basis for any existing plant and in fact are contrary to the defence in depth concept for our shutdown systems in particular. They require that some current design basis events be mitigated without use of a SDS. Should not be included for existing plants.</p>
110	Ontario Power Generation & Énergie NB Power	Section 2.3.4.2	<p>The PRA review requirement is not well defined.</p> <p>PRA expectations are not well developed in the GD and should be limited to what is required by existing standards for operating plants. The requirement to have a valid PRA should cross reference back to S-294.</p>
111	Ontario Power Generation & Énergie NB Power	Section 2.3.4.2, Page 13, 3rd paragraph	<p>Not clear.</p>
112	Ontario Power Generation & Énergie NB Power	Section 2.3.4.4	<p>Human factors in safety analysis should be dealt under 2.3.2 with other human performance consideration</p>

	Power		
113	Ontario Power Generation & Énergie NB Power	2.3.4.4	Review area is not mentioned in Appendix C, where the “specific areas” are identified. Nor is it identified as one of the 69 specific areas in CMD-11-M46. Remove section 2.3.4.4 from GD-360, integrate content into section 2.3.4 as an overriding requirement to consider when performing the deterministic, probabilistic and hazard analysis.
114	Ontario Power Generation & Énergie NB Power	2.3.5, Physical design, last paragraph.	The SCA report, indeed any report, cannot ensure anything. Industry’s position is that existing documentation retention programs and processes have been evolutionary and have been previously accepted by the CNSC. Suggested wording: The SCA report should reference the process by which the design basis documentation is managed, how plant modifications are processed, and how the resulting documentation is stored.
115	Ontario Power Generation & Énergie NB Power	Section 2.3.5	Performing the review in the way outlined in this document will present a larger administrative burden compared with the way the Darlington review was performed. The suggested methodology encompasses information from the Code reviews and Safety analysis for each of the review topics to be addressed. These are not currently part of the Plant Design Safety Factor and will require a much larger effort to accomplish.
116	Ontario Power Generation & Énergie NB Power	Section 2.3.5	The selection process for systems to be reviewed is not well defined. Reference should be made to the existing list of Systems Important to Safety for this review. This will build on the comprehensive process already in place to identify the systems that have been determined to be most risk significant for the plant.
117	Ontario Power Generation & Énergie NB Power	Section 2.3.5, Page 15, 1st Paragraph	This is onerous, sometimes not possible, in will force Licensee’s to apply for concessions at the very least.
118	Ontario Power Generation & Énergie NB Power	Section 2.3.5, Page 15, 1st Paragraph, 3rd line	Significant documentation - what constitutes "significant" - too vague & open to interpretation
119	Ontario Power Generation & Énergie NB Power	Section 2.3.5.1, Page 15, Last Paragraph	Why is a required document for New Build referenced for use in LTO assessment?
120	Ontario Power Generation & Énergie NB Power	Section 2.3.6.1	It is stated that: The licensee must determine the actual condition of the SSC of the NPP, including any existing or anticipated obsolescence of plant systems and equipment. This determination should be made at an early stage of the ISR and should then be updated periodically throughout the service life of the NPP or SSC. The requirement to update this information should not be included here. This is covered by the ageing management RD-334. There may be various options to monitor SSCs condition. This aspect is also covered in 2.3.6.3 Remove: and should then be updated periodically throughout the service life of the NPP or SSC
121	Ontario Power Generation & Énergie NB Power	Section 2.3.6.1 Page 16, 11th & 12th bullet	“Information about” Define information, how much detail is required.
122	Ontario Power Generation & Énergie NB Power	Section 2.3.6.1	Last paragraph of page 16 requires assessment against SSC’s design basis to confirm aging has not significantly undermined the design basis assumption, once the current condition is determined. Once the condition of SSC is determined, efforts should be focused on determining, current aging management (AM) practices and adequacy of AM practices to address degradation mechanisms acting on the SSC. This assessment, as separate step, is not required or redundant (done under degradation mechanisms or operational factors review, if required) as once the condition of SSC is determined, efforts should be focused on determining current aging management (AM) practices and adequacy of AM practices to address degradation mechanisms acting on the SSC. This may result in recommendations for additional inspections, component replacements or overhauls or in some cases changes in Preventive Maintenance programs. The benefit of this approach is that efforts are focused on ensuring that SSC remains in good and reliable condition

			in order to fulfill its design functions.
123	Ontario Power Generation & Énergie NB Power	Section 2.3.6.1 Actual condition of SSC	There is no mention of acceptability of using information gathered by existing programs such as plant health. Make specific reference to existing plant health monitoring programs.
124	Ontario Power Generation & Énergie NB Power	Section 2.3.6.2	This section is in the Physical Design SCA within Appendix C, and under Fitness for Service SCA in the body. Streamline SCA review requirements. Move Section 2.3.6.2 to Section 2.3.5.2.
125	Ontario Power Generation & Énergie NB Power	Section 2.3.6.2	This review requires “A plant walk down of installed equipment should be performed to identify for qualified equipment any differences from the qualified configuration (abnormal conditions such as missing or loose bolts and covers, exposed wiring, or damaged flexible conduits). “ As per IAEA NS-G-210, we should be able to credit existing programs and processes and therefore walk-downs may not be required for the ISR if already regularly performed as part of system walkdowns, EQ walkdowns, Engineering Change Control process, return to service process, etc
126	Ontario Power Generation & Énergie NB Power	Section 2.3.6.3	Includes a number of activities that may not be easily incorporated into our current processes. For instance, bullet 4 requires · “models used to predict the evolution and advancement of degradation are supported in accordance with current accepted practices pertaining to age related degradation “ Not clear what would be required to meet this requirement and how much of a burden would be placed on operating staff to meet it.
127	Ontario Power Generation & Énergie NB Power	Section 2.3.6.3, Page 18, Last paragraph, 4th and 5th line	GD-360 references a draft document. RD334 is still not issued as yet - out for public review. Recommend draft documents are not referenced
128	Ontario Power Generation & Énergie NB Power	Section 2.3.6.3, Page 19, 1st bullet (GD-81)	Recommend deleting the word “all”
129	Ontario Power Generation & Énergie NB Power	Section 2.3.6.3 bullet 4 (GD-82)	“models used to predict” – unclear what the expectation is.
130	Ontario Power Generation & Énergie NB Power	Section 2.3.6.3 bullet 12 (GD-83)	“including baseline” : Revise to “Including baseline (if available)”
131	Ontario Power Generation & Énergie NB Power	Section 2.3.7. page 20, second paragraph,	It is stated that: The licensee should demonstrate the design and layout of the reactor facility meets CNSC regulatory expectations for radiation protection as set out in, RD-337 Design of New Nuclear Power Plants and RD/GD-369 <i>Licence Application Guide: Licence to Construct a Nuclear Power Plant</i> “ these documents set out expectations for new nuclear power plants. This section specifically identifies codes and standards relevant to the safety and control area. The other sections do not. Recommend that guidance on codes and standards to include in ISR be addressed in section 2.2.5 only <u>or</u> point to relevant codes and standards from which the requirements come from (see comment for section 2.3.4.1)