Énergie NB Power

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PICA 24-1084

April 30, 2024

Ms. Dana Beaton, Director General
Regulatory Policy Directorate
Canadian Nuclear Safety Commission
280 Slater Street
P.O. Box 1046, Station B
Ottawa, Ontario
K1P 5S9

Dear Ms. Beaton:

Subject: NB Power Comments on draft REGDOC 2.3.4 – Operations Programs for Reactor Facilities

The purpose of this letter is to provide NB Power's comments on draft REGDOC 2.3.4 – Operations Programs for Reactor Facilities (Reference 1).

NB Power's Point Lepreau Nuclear Generating Station (PLNGS) has collaborated with industry to review the proposed regulatory document in detail. Comments are being provided (Attachment 1) recommending changes for improving the draft regulatory document.

NB Power appreciates the opportunity to provide comments on this regulatory document and is prepared to clarify our comments and concerns. If you require additional information, please contact Nick Reicker at 506-659-7324 or nreicker@nbpower.com.

Sincerely,

Steve Bagshaw Digitally signed by Steve Bagshaw
Date: 2024.04.30 17:46:18 -03'00'

Steven Bagshaw
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SB/BT

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Reference:
1. Draft REGDOC 2.3.4 Operations Programs for Reactor Facilities, December 2023

Attachment:
1. NB Power Comments on Draft REGDOC 2.3.4 Operations Programs for Reactor Facilities, December 2023

Attachment 1 – NB Power Comments on draft REGDOC-2.3.4, Operations Programs for Reactor Facilities

#	Section	Industry issue	Suggested Change	MAJOR or Clarification	Impact on industry
0.	**Overview**	Industry appreciates the opportunity to comment on the proposed new REGDOC-2.3.4 Operations Programs for Reactor Facilities. Much of our comments focus on improving the clarity of the final document, while a few of the comments identify inconsistencies or conflicts with other REGDOCs, CNSC guidance, or Industry best practices. Following a collective review by personnel with extensive experience developing and implementing Operations programs, licensees have identified several areas where clarification is required, or misunderstanding may be possible; these are detailed in this table of comments. The feedback is broken into Major or requests for Clarification comments. Of note, below we highlight several themes, which are of particular importance and supported by the comments identified as Major. These include: 1. *Large nuclear power plant bias*: the document should apply to other types of facilities and technologies so as not to impede implementation. In particular: a. As a result of the scope being biased towards existing large nuclear facilities (e.g., CANDU technology), it utilizes existing position titles, roles, and terminology whereas smaller facilities and other technologies may have a more multi-disciplinary approach with different positions, roles, and terminology. b. Looking to the future, NPPs, both large and small, may have a more multi-disciplinary workforce in the field. The control room will remain dedicated to the operational concerns but the personnel in the field may have mechanical and/or control skills with an operational flavor. 2. *Undefined terms*: for example, the concept of an "Operating Duty Manager" is not defined in the CNSC framework. CNSC should not prescribe specific, but undefined, titles in regulatory requirements as this will unnecessarily impact the existing organizational structure of facilities. 3. *Unnecessary duplication/expansion of requirements*: There are several references to existing requirements present in other REGDOCs and instances of an expansion of requirements captured in other REGDOCs. In particular: a. The new requirement to designate "Operations Duty Managers" as representatives of the licence under s.15 of the GNSCR is an unnecessary expansion in requirements. b. The reporting and requirements for responding to a serious process failure are already captured in REGDOC-3.1.1 as well as existing licence conditions. c. The requirement to minimize the use of Operator Aids is concerning and counter to many initiatives being undertaken by existing facilities.			
1.	**General**	This document is very specific to existing large nuclear facilities (potentially CANDU technology), utilizing existing position titles, roles, and terminology whereas smaller facilities (e.g., research reactors) may have a more multi-disciplinary organizational approach and other technologies may use different terminology. The document should be revised to allow for different approaches to the requirements.	Make the document technology neutral; generally being more applicable to all reactor facilities and technologies and where there are references to specific NPP requirements, state the equivalent for other reactor facilities.	**MAJOR**	Limits the ability of non-CANDU and/or smaller facilities to fully implement this REGDOC.
2.	**General**	As some of these requirements are within other regulatory requirements, what is the assurance that these requirements are/will remain aligned? Has each one been checked to ensure there is not an additional requirement for an already established one? For example: • Guidance for operations decision-making invokes IAEA requirements. It is labelled as guidance and says *should* but then states *ensure*.	Where requirements are already in other REGDOCs refer to that document rather than replicate/duplicate the requirements. Confirm this REGDOC is not intended to expand or introduce new requirements.	Clarification	

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		• Many guidance sections provide examples; it is unclear if these are *requirements* or just examples. Requirements should be clear not limited to the examples; industry continuously improves and looks to innovation to be more effective and efficient. • Section 6.2 extends the requirements of OPEX reporting from REGDOC-3.1.1.			
3.	**2.1 General overview**	The guidance section singles out Training and Certification REGDOCs. This may be correct, but then many other REGDOCs are also relevant; by their absence, expectations on Scope are unclear.	Clarify the scope of REGDOCs that should be considered.	Clarification	
4.	**2.1 General overview**	The requirements in this section should reflect a more overarching statement that includes: • establishment and maintenance of a strong safety and security culture • Development of programmatic functions and features that are consistent with industry OPEX for effective operational performance. It is understood that CNSC cannot endorse INPO/WANO practices, but CNSC should expect an operational program to come from proven practices.	Revise to: "*The licensee shall document how the operations program's functions, features and activities* are: *consistent with industry OPEX for effective operational performance and are* integrated to form a comprehensive framework for operations *that fosters attributes of a strong Safety and Security culture.*"	Clarification	
5.	**2.1 General overview**	In the following sentence, it is not clear why the (precise) term 'procedures' is used: "*the licensee shall establish provisions for adherence to safety requirements and procedures for safe control of the reactor facility under all conditions.*" Procedures are only one mechanism/tool for assuring safe control of the reactor facility so the requirement should be more broad.	Revise to: "*the licensee shall establish control provisions to adhere to safety requirements and to ensure that appropriate actions are taken to assure prevention and mitigation of risks associated with the reactor facility at all times.*" Add item to guidance: "*Control provisions should include an effective combination of personnel training and use of procedures to conduct routine activities and safely cope with abnormal conditions.* " Revise existing guidance: "*Training for ~~operators~~ personnel encompassed by the Operations Program should cover relevant areas of technology to the levels necessary….*"	Clarification	
6.	**2.1 General overview**	IAEA NS-G-2.14 has been superseded by IAEA Safety Standards Series No. 76.	Delete or update references.	Clarification	

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		If the CNSC thinks the IAEA document is sufficient to define the scope of an Operational program, it should clearly state this. The use of this reference is confusing.			
7.	**2.2 Interfacing programs**	Some of the guidance wording reads more as a requirement, rather than guidance.	Revise the text to clarify what is a requirement and what is guidance.	Clarification	
8.	**2.3.1 Expectations for operations duty managers**	The concept of an "Operating Duty Manager" is not defined in the CNSC framework. CNSC should avoid prescribing specific, but undefined, titles in regulatory requirements. Also the Senior Facility Manager is not defined. Focus on the role/safety function rather than a specific title in justifying the requirements. The last bullet "other duties as required" is not needed.	Revise title to: "*Expectations for Management with authority to oversee and direct day-to-day Operations*" Consider, modifying the first paragraph of 2.3.1 to: "*Certain roles in Management are assigned both duties and authority to direct day-to-day operations and maintenance in the facility. Common examples in Canada include Shift Supervisors/Managers and facility senior management who are required to be on-call for specific supplementary decision-making on shifts as required by the Management System. These managers are responsible for the protection and safety (of the reactor facility, the workers and the public); oversee the performance and supervision of the shift personnel; and direct the control of facility operations and maintenance in accordance with the operating limits and conditions (OLCs) and approved procedures.*" Define operations duty manager and senior facility manager for consistency among facilities.	Clarification	
9.	**2.3.1 Expectations for operations duty managers**	*"…The licensee shall consider operations duty managers to be representatives of the licensee and, as described in section 15 of the General Nuclear Safety and Control Regulations, inform the CNSC of the names and contact information of all personnel designated as operations duty managers. …"* This is a new requirement; we do not consider Operations Duty Manager (ODM) or equivalent as representatives of the licence. The	Remove the s.15 GNSCR requirement or exempt certified staff from the requirement.	**MAJOR**	This impacts the current structure of the organization at many facilities that have been in place for numerous years. Furthermore, it is an unnecessary duplication of regulation and increased administrative burden.

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		person who would oversee the day-to-day operations isn't necessarily the same person who would be the representative of the licensee. Furthermore, ODMs are not a defined position and may differ from facility to facility, e.g., is it Shift Manager, Senior Operations Authority, Operations Manager, etc. It would typically be a certified staff position. If certified, then these individuals are already regulated under the more stringent certification requirements, and this is an unnecessary duplication. Application of s.15 GNSCR is not necessary at this level of the organization and is an administrative burden.			
10.	**2.3.1 Expectations for operations duty managers**	This section seems to combine the roles and responsibilities of several existing facility positions but does not align with the current organizational structure which makes this section unclear and confusing. For example, is the Operations Duty Manager, the Shift Manager on duty or perhaps the Station Director on call? It looks like this section is intended to cover the Station Director on call, but there are conflicting inferences about this position being the Shift Manager or Shift Supervisor. Who is the Operations Duty Manager? As stated in the first paragraph, it appears to be the most senior certified person on each duty shift, as it states. The Requirements section's fourth paragraph makes it sound like the Operations Duty Manager is not on duty shift, which conflicts with the purpose of being the "Duty" manager. As the industry in Canada is seeking new SMR technologies it would not be practical to have qualified duty managers with substantial experience in the operation of the new type of reactor. Previous experience with different reactor types should be considered.	Clearly define the responsibilities of the Operations Duty Manager, are they on an assigned shift? If they are on an assigned shift, then remove the reference to them being on call and having to arrive within a prescribed time. If the Operations Duty Manager is the Station Director on call, then remove the reference to being on an assigned shift. Secondly, remove references to them overseeing the performance and supervision of the shift personnel. Change the wording from "*Substantial experience in the operation of the type of reactor*" to "*Substantial exposure to the operation of the type of reactor or similar reactors*".	**MAJOR**	This section has the potential to significantly impact the current Operations' organizational structure of existing facilities as well as impede its implementation with new facilities and technologies.
11.	**2.3.2 Operations decision making**	The word :change" in the first bullet of Guidance is not properly linked to Risk Informed Decision Making. Third bullet of guidance: "Safety Margins" should be qualified with an adjective that reflects an appropriate level.	Revise to: "*…determine if, and to what degree, the ~~change~~ consequences of the decision affects their licensing basis…"* And "*…ensure that sufficient safety margins are maintained…"*	Clarification	

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12.	**3.1 Control of facility operations**	The opening sentence of the requirement is missing a fundamental feature of effective control i.e., maintaining situational awareness. Bullet #4 needs a clarifier given that "testing" is a vague term.	Revise to: "*The licensee shall establish and maintain provisions for situational awareness and facility status control…"* And, revise bullet 4 to include: "…in-process testing (e.g. sampling, verifying functionality and reliability)".	Clarification	
13.	**3.1.2 Heat sink management**	"*For each heat sink, the licensee shall identify…*" speaks to an engineering action rather than the management of heat sinks during facility operation. It should be written from an Operations point of view to ensure safety.	Revise to: *"~~For each heat sink, the licensee shall identify:~~ Operations and maintenance provisions, including back-out actions for planned operating evolutions, shall take due account of:* • *the required heat removal capacity* • *the capability of the heat sink under ~~normal operations~~ the conditions under which it is required to perform its function.'* • *the reliability of process equipment and backup equipment to maintain capability and capacity* • *monitoring requirements* • *operator actions in case of primary heat sink failure".*	Clarification	
14.	**3.1.3 Control of operator challenges - guidance**	Radiation fields are generally not mitigated by PPE. Absorption, inhalation, and ingestion of radioactive **materials** are mitigated by PPE. This statement is enhanced if you change "radiation fields" to "hazardous environments".	Revise to: "*~~increased radiation fields~~ hazardous environments requiring personal protective equipment (PPE)*".	Clarification	
15.	**3.1.3 Control of operator challenges**	The title of this section has too narrow a scope. Should cover all operations and maintenance personnel supporting the Operations Program.	Revise title to: "*Control of Challenges to Personnel Conducting Operational and Maintenance Activities."*	Clarification	
16.	**3.1.4 Shift operations**	The last sentence of Requirements – it is not practical to independently verify all Operator actions. Operator actions may dictate concurrent verification, independent verification, peer-check, or self-check, each of which includes checking to confirm it has been carried out correctly and the expected results are achieved.	Suggest changing the wording to: "*…Operator actions shall be ~~independently~~ verified, as appropriate…*".	Clarification	
17.	**3.1.4 Shift operations**	The entire section should reflect all of Operations under the Operating Program and not just what operators do. The paragraph "*when a facility maneuver is carried out remotely*" is written confusingly and is therefore not clear on the intent. The point to be covered is: **Always verify that a field response reflects the**	Revise to: "*The licensee shall ensure that on-shift ~~operators~~ operations personnel can control and maintain the facility and its supporting systems, both:"* The second paragraph of requirements, revise to:	Clarification	

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		intent of an operational action at a control facility. An operational action can be carried out by an operator or when authorized by an operator. As a result, the text should be written more clearly.	"~~*When a facility maneuver is carried out remotely by an operator in the control room, the operator shall verify, by checking relevant indicators, that the maneuver has been carried out correctly and the expected results are achieved. Operator actions shall be independently verified, as appropriate*~~ *Any operational action initiated by authorized personnel from a control panel, whether in a control room or a field location, shall be verified to confirm the expected result of the intended action has been carried out correctly and the expected results are achieved.* *The use of independent verification of operational actions by other qualified personnel shall be implemented when the action is important to safety or security.* "		
18.	**3.1.4 Shift operations**	"*Operators should closely monitor important facility parameters periodically, for example, hourly panel checks in the control room*". This is more common in the US plants where the Reactor Operator on watch roves the panels hourly. This is unnecessary with the CANDU designs.	Monitoring will always be based on a graded approach and is typically laid out in Operations Expectations. Suggest revising to: "*Operators should closely monitor important facility parameters in accordance with the department expectations*".	Clarification	
19.	**3.1.5 Operations control rooms and control equipment**	Minor clarification to reflect all Operations personnel and not just operators. Because this applies to the conduct of operations and working conditions, the requirement should be more broadly written to address <u>any</u> control facilities and equipment commensurate with their importance to safety and their associated mission time. It is important that this design requirement not stray into design space as REGDOC 2.5.2 already covers <u>design</u> requirements for the Main Control Room and Secondary/Backup Control Room. This equipment should already be properly designed and verified against the safety case well before the licence to operate phase.	Revise the title to "*Control Facilities and Equipment*" Revise requirement to: "*The licensee shall ensure that control facilities and equipment* ~~*rooms*~~ *provide adequate working conditions for the* ~~*facility operators*~~ *operations personnel to discharge their duties during all operational states. The licensee shall take appropriate measures to ensure that* ~~*control room*~~ *human access (e.g. habitability) of control facilities is* ~~*maintained*~~ *assured, commensurate with the expected mission and safety importance of the facilities and equipment, in accident conditions. Such facilities shall also include provisions for protection of personnel from identifiable hazards and provisions for life support and means to safely escape when the facility is no longer safe.*	Clarification	

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			The licensee shall ensure that up-to-date operations~~ng~~ documentation is readily available to the ~~control room operators~~ operations personnel." Under Guidance, revise to: "Up-to-date ~~operating~~ operations documentation includes all information that is needed for responding to operational transients, ~~and~~ to situations and events and conducting maintenance necessary to maintain structures, systems and components within their specified operational limits and conditions.		
20.	**3.1.5 Operations control rooms and control equipment**	Some control rooms are not designed for all accident scenarios. Therefore, the statement should be changed to state that either the MCR or SCA should be available for all accidents for control/cool/contain functions.	Revise to: "…The licensee shall take appropriate measures to ensure that control room or Secondary Control Areas habitability is maintained in accident conditions, including providing protection from identifiable hazards, and provisions for life support."	Clarification	
21.	**3.1.6 Secondary control locations**	This requirement needs to consider potential Security versus Safety issues. Security needs to prevent unauthorized persons from entering secondary control facilities, but Operations Personnel need to be able to access the facilities when required. This will become important in future facilities which may use electronic means to achieve security objectives.	Revise to: "*The licensee shall ensure that the secondary control room and all other secondary (or backup) operational panels for systems important to safety in secondary locations outside the control room are accessible to authorized personnel in the required timeframe as required by operations procedures and kept*:"	Clarification	
22.	**3.1.6 Secondary control locations**	Guidance examples regarding work control and the plan of the day do not pertain to the Secondary Control room/Area. Revise examples or alternatively remove guidance section as examples are not necessary.	Delete examples or revise examples to discuss normal communications and emergency communication methods to and from the SCA. *"Some examples of communications lines are:* •~~*appropriate information is posted in the control room and in the maintenance work control centre*~~ •~~*the "plan of the day" includes discussion of pertinent items*~~ •~~*when communicating by handheld radio, the field operators and main control room operators ensure the transmissions are clear and concise*~~ •*Communication between the MCR and SCA*	Clarification	

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			•Communication between field operators and the SCA *•Emergency communications between SCA and either emergency response organization, other SCAs, field operators, etc."*		
23.	**3.1.7 Monitoring and alarm response**	The requirement: "*…the facility information system is designed in a manner such that off-normal conditions are easily recognizable by the operators…*" is not appropriate for an operations program as written because the system is established during the design of the facility and would be subject to Human Factors Engineering verification and validation activities. Instead, the requirement should be written from the point of view of training/reinforcement of Operations Personnel. In other words, for new facilities, the licensee may work with their respective vendors to design a more effective one, but there always exists a possibility the licensee is stuck with the system they have installed. Therefore, the onus should be on training the operators to understand their information system.	Revise to: "*The licensee shall ensure that:* *•the alarms in the main control room are managed appropriately* *•~~the facility information system is designed in a manner such that off-normal conditions are easily recognizable by the operators~~ Operators are trained in recognizing off normal conditions from the information system".* *~~control room alarms are clearly prioritized for operator action~~*	Clarification	
24.	**3.1.7 Monitoring and alarm response**	The guidance section: "*The licensee should ensure that the control room contains a safety parameter display system (SPDS) that presents sufficient information on safety-critical parameters for the diagnosis and mitigation of design-basis accidents (DBAs). The licensee should ensure that operators actively monitor the state of the process and of the facility equipment*." The inclusion of the SPDS is design-related and not directly relevant to the scope of the document. SPDS should be used to support operations during accident conditions including DBAs and DECs. The second sentence of this paragraph should not confuse its use, or suggest its adequacy to support normal operations.	The document should not set expectations on the availability of the SPDS: this is part of the design and determined at the time of licensing. Seeking confirmation this is not intended to be a new requirement and that existing facilities already meet the intent of SPDS requirement.	Clarification	
25.	**3.1.8 Material conditions**	Reference to locking and tagging isolation points is not clear. Is this a work protection clause or a position-assured component clause? If work protection, point to CSA Z460 and change to align verbiage.	Clarify how the guidance supports this topic, as the guidance appears to be related more to plant status or worker protection. Guidance should support how housekeeping, and plant material	Clarification	

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	and housekeeping	If PSC or PAC, then make it clear.	condition are monitored and maintained. This should be clarified. Revise to: *"The licensee shall implement and maintain provisions for ~~locking, tagging or otherwise securing isolation points for systems or components.~~ isolation, or isolation and de-energization for systems or components undergoing maintenance by means of lock-out and tag-out in accordance with CSA Z460."*		
26.	**3.1.8 Material conditions and housekeeping**	Guidance examples of isolation points need adjustment. The first bullet is not an SSC. The second bullet describes the position of a device and not an SSC. The next two bullets are examples of SSCs. Change the first two examples to SSCs that are isolatable. Such as: -Pumps -electrical buses -heat exchangers.	Revise to: *"Some examples of SSCs with isolation points are:* •~~*isolations*~~ •~~*positions of motor-operated and manually operated valves*~~ •*trains of protection systems* •electrical supplies to different systems".	Clarification	
27.	**3.2.1 Communications**	Effective human communication practices are more important than the equipment being used.	Revise to: "*The licensee shall ensure that reliable communication ~~equipment~~ is ~~available~~ established to support activities in the control room and throughout the facility for all modes of operation."*	Clarification	
28.	**3.2.1 Communications**	Generalize the guidance section to refer to human performance tools rather than just the 3-way communication tool. Also, refer to Section 3.2.5.	Revise to: "The licensee should establish a process to ensure effective communications~~, including 3-way oral communications,~~ using human performance tools for operational activities. See Section 3.2.5."	Clarification	
29.	**3.2.3 Shift turnover and briefings**	The position of "*shift supervisor*" should be changed to be more generic as new facilities may have a different title for the role the shift supervisor performs in the Main Control Room. See comment #1.	Revise to: "The licensee should ensure that shift briefings are conducted in such a way that the expectations and objectives of ~~the shift supervisor~~ supervisors responsible for the conduct of control room operations are effectively communicated to, and understood by, all of the staff under supervision."	Clarification	

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30.	**3.2.3 Shift turnover and briefings**	Shift turnover also includes turnovers by shift management, maintenance, and where necessary, engineering and trades - not just operators.
		
		See comment #1
			Revise to:
			"The licensee shall establish processes for conducting a safe and controlled transfer of responsibilities of Operations personnel between the ~~operator~~ shifts.
			Specific to plant Operators, the processes should include:
			• *panel walkdowns, if so equipped, or review of necessary displays, screens, and annunciators for example.*
			• *review of control room logs (operating logs; operator records)*
			• *Review of systems or equipment undergoing maintenance evolutions that are carrying over to the next shift*
			• *checklists*
			  • briefing of any operator challenges and deviations from normal operating conditions
			  • verification that the minimum shift complement is met (see REGDOC-2.2.5, Minimum Staff Complement [22]").
				MAJOR	The section of the draft REGDOC as written is not "Technology Neutral" and is a requirement that some licensees may not be able to meet causing them to be in non-compliance with the REGDOC. For instance, some facilities may not have panel boards or panels.

31.	**3.2.4 Control room access**	The term "*control equipment room*" is specific to CANDU stations and is not necessary because the concept is already covered by: "*control rooms, secondary control areas (where available) and areas containing sensitive instrumentation".* In addition, please refer to REGDOC 2.5.2 requirements concerning secondary control areas and clarify, for any reactor facility covered by REGDOC 2.3.4, whether the wording "*where available*" is appropriate. Even SLOWPOKEs have areas in the plant with secondary buttons, which qualify as a secondary control area. The behaviours of personnel should be aligned with safety and security objectives.	Revise to: "*The licensee shall ensure that access to the control room(s), ~~control equipment room,~~ secondary control areas (where available), and areas containing sensitive instrumentation is limited and controlled. The licensee shall establish standards for safe and secure personnel behaviours ~~while~~ in these areas.*"	Clarification	
32.	**3.2.4 Control room access**	In guidance, add transients to the list of examples.	Revise to: "The licensee should ensure that access of non-shift personnel to the main control room is restricted or minimized during shift turnover, transients, infrequently performed tests or evolutions (IPTEs)." OR "Licensee should establish a set of rules for control room access during normal and off-normal operation."	Clarification	

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33.	**3.2.5 Human Performance tools for operations**	Human performance tools should be used as "*error reduction*" tools as they help to mitigate but not necessarily prevent all events. Thus, it is not realistic to use the term "*event-free*" as this is not always achievable and leads to a lack of reporting for fear of the pressures of "*event free*" expectations. *"Conservative Decision Making "*is not an HU Tool but rather an Operations Fundamental. Suggest replacing it with *"Self Check with Verbalization".*	Revise to: "*The licensee shall have a program for human performance tools that considers the roles and responsibilities of each user of the tool, at all levels of the organization.* ***Guidance*** *The licensee should ensure that human performance tools are effectively integrated into all ongoing operational processes.* • *Human performance tools are also referred to as error-reduction ~~event free~~ tools. Some examples are:* • *pre-job briefing and post-job debriefing* • *~~conservative decision making~~ Self Check with Verbalization* • *questioning attitude* • *procedure use and adherence*".	Clarification	
34.	**3.2.6 Performance of activities that may affect operations**	Does the first paragraph mean every time equipment is taken out of service, the Probabilistic Safety Analysis needs to be run?	Revise to: "The licensee shall assess all routine and non-routine activities, including maintenance, for potential impacts on the facility's operation. The assessments shall characterize impacts on operational margins predicted by the ~~deterministic~~ safety analysis~~, on the probabilistic safety goals,~~ and on the hazards that may affect worker safety."	Clarification	
35.	**3.3.1 Verification rounds**	The example of boric acid is unclear - is that because there is a housekeeping issue (containers of chemicals), or are you referring to the accumulation of chemical deposits in systems or on equipment due to leaks and evaporation?	Revise to: "deterioration in material conditions of any kind, corrosion, leakage from components, accumulation of chemicals~~~~ deposits (for example, boric acid), excessive vibration, unfamiliar noise, inadequate labelling, foreign bodies, and deficiencies necessitating maintenance or other action".	Clarification	
36.	**3.3.1 Verification rounds**	The housekeeping example incorrectly describes steam barriers. Steam barriers/doors are part of the Environmental Qualification process and generally do not include large bay doors, or doors that only control access to hazardous areas.	Revise to: "posting and status of steam barriers (such as steam doors), large bay doors, or doors restricting access to potentially hazardous areas~~)~~".	Clarification	
37.	**3.3.1 Verification rounds**	Fire Resistant hydraulic fluid (FRF) is not part of fire protection but the example could lead the reader to believe it was put there on purpose. Leaks of FRF can lead to tripping hazards, negative environmental impacts, and pose a health hazard if inhaled, ingested, or absorbed through the skin which could complicate response to a fire.	Revise to: "deviations in fire protection, such as: •deterioration in fire protection systems and the status of fire doors •accumulations of materials that create fire hazards, such as wood, paper, refuse, and oil leakages	Clarification	

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			•industrial safety problems such as leaks ~~of fire resistant hydraulic fluid~~, hazardous equipment, and slip and trip hazards".		
38.	**3.3.3 Safety-critical and infrequently performed tests or evolutions (IPTE)**	Notification to the CNSC prior to IPTEs is an additional requirement that increases the administrative burden with no benefit to nuclear safety.	Remove: "The licensee should ensure the process includes informing the CNSC of planned IPTEs and special tests before the tests are conducted."	Clarification	
39.	**4.2 Fuel management**	The first bullet for the requirements of fuel management states that procedures are required for fuel *'control'*. Further elaboration on the meaning of *'control'* is required as this implies a security function to prevent the unauthorized movement or removal of nuclear material. Often '*control'* is conflated with '*accounting'* and these terms should be specified such that '*accounting'* is not assumed to mean '*control'* since accounting is a passive tracking of fuel defined by the designed fuel route and is performed following normal movements. '*Control'* implies an active monitoring system of detection and restricted access. Deterrence and detection cannot be assumed for fuel accounting systems designed for recording operational fuel movements for business purposes including IAEA safeguards reporting. Control needs to be clearly separated from accounting such that assumptions are not made that accounting is equated with control. Apply the fuel control requirement as a distinct bullet. Operations programs should not include requirements for procurement, verification, receipt, or accounting management for fuel.	Revise to: *"The licensee shall have fuel specifications and procedures for the following fuel management tasks:* • ~~*procurement, verification, receipt, and accounting*~~ • *nuclear security measures to deter and detect unauthorized removal of nuclear material* • *storage in a sub-critical configuration* • *loading, utilization, and relocation* • *controlling deviations from procedures".*	clarification	
40.	**4.3 Fuel Management**	Suggest that the concepts of out-of-core criticality provided in 4.5 should be merged in this section.		Clarification	
41.	**5 Operating Procedures**	"*Operating procedures should include a level of approval for deviation from procedure*. " This statement implies each procedure should have this information. This exception for levels of deviation should be defined broadly for all	Remove: "Operating procedures should include … • level of approval for deviation from the procedure" OR change the sentence to: "level of approval for deviations from operating procedures should be defined in the management system".	Clarification	

#	Section	Industry issue	Suggested Change	MAJOR or Clarification	Impact on industry
		procedures to ensure consistency in the event of exception change; not repeatedly in multiple procedures.			
42.	**5.1 Operator aids**	Operator aids should not be discouraged - in fact, they should be encouraged to reduce task complexity where appropriate. The use of operator aids should be controlled and made permanent. Understanding that operator aids may not be as detailed as an operating procedure, but there are benefits to using approved and tracked operator aids. Simplicity and ease of use increase compliance with procedural use and adherence. Examples include: • aids that point out how to interpret the expiry date of respirator cartridges • radiation protection aids on how to use survey equipment or how to calibrate them • sump pump-out instructions for operators located at the local field panel. An affixed aid reduces the reliance on paper procedures and reduces the production of waste (and radioactive waste for when procedures are used in contaminated areas) Provided the aid is approved, and reviewed at the same frequency as operating procedures, an aid should absolutely be used. People are more likely to follow a process when it is simplified.	Allow for and encourage the use of "Operator Aids" that are taken directly from operating documentation and placed in strategic locations, which will assist operators with simple and well-known repetitive tasks. Revise to: "The licensee shall have a clear operating policy to ~~minimize~~ control the use of and reliance on, operator aids to ensure that use of informal and temporary aids are minimized and effective aids are incorporated into the facility configuration and procedures."	**MAJOR**	Operator aids can remove complexity from certain processes and complexity can lead to increased risk of human error. Tasks that are 'skill-of-the-trade' are also enhanced by operator aids.
43.	**6.4**	The title is too vague.	Revise to: "Review of external operating experience".	Clarification	
44.	**7 Outage Management**	The use of RSG and GSS terms may not be consistent across different technologies. See comment #1.	Revise to: "The licensee shall ensure that: •the reactivity of the reactor is controlled and monitored at all times throughout the outage •the reactor shutdown guarantees (RSGs) are maintained in an approved configuration to ensure a guaranteed shutdown state (GSS) the reactor shall be maintained in approved Shutdown Configuration".	Clarification	
45.	**8 Safe Operating Envelope**	It is noted that there is a difference between the REGDOC 3.6 definition for the Safe Operating Envelope referenced in the first paragraph and the CSA N290.15:19 definition referenced in the Guidance section.	Seeking clarification on which definition to use?	Clarification	

Attachment 1 – NB Power Comments on draft REGDOC-2.3.4, Operations Programs for Reactor Facilities

#	Section	Industry issue	Suggested Change	MAJOR or Clarification	Impact on industry
		This may create confusion on which definition to refer to.			
46.	**9.1 Response to accidents and anticipated operational occurrences**	The requirements should be kept to AOOs and design-basis accidents and not include Beyond Design basis Accidents to align closer with REGDOC 3.5.3. Procedures and guidelines are developed for abnormal events that are reasonably postulated to occur, but it is not practical to develop, provide training and remain current in all permutations of possible beyond design-basis accidents.	Revise to: ***"Requirements*** *The licensee shall develop procedures and guidelines for accidents and AOOs, including ~~accidents more severe than~~ design-basis accidents. The procedures and guidelines shall identify: ...".*	**MAJOR**	Unreasonable expectations will likely result in non-compliances.
47.	**9.2 Business continuity related to operations programs**	Business Continuity provides a framework for building organizational resilience and the capability for an effective business recovery in the event of a business interruption. Some of the requirements and guidance listed are unnecessary and too specific to only certain areas of business continuity. It is not practical that time or the conditions of the specific scenario will allow for actions to be taken prior to the start of all severe weather events. For example, there is not enough advance warning to make these arrangements prior to a tornado, microbursts, etc. The guidance is also a duplication of REGDOC 2.2.5, Minimum Staff Complement, section 3.3 to have adequate plans in place for addressing short-term and long-term threats to the minimum staff complement.	Revise to: **"*Requirements*** *The licensee shall establish and implement provisions for business continuity related to operations programs. ~~The provisions shall include measures to ensure:~~* *~~• safety of workers~~* *~~• access to the facility location~~* *~~• reliability of the supply chain~~* *~~• continued safe operation~~* ***Guidance*** *Provisions for business continuity related to operations programs may be accomplished through the licensee's business continuity planning documentation in their management system.* *~~For access to the facility location, the licensee should ensure that arrangements are in place to respond to a situation that may cause difficulties for the outgoing shift staff in leaving the site, or for the incoming shift staff in arriving at the site in a timely manner; for example, severe weather conditions. Such arrangements should include preparedness for the use of all practicable means of transporting staff to and from the site, in particular the means for transporting the incoming shift staff to the site.~~* *~~In the event of a severe weather incident, the licensee should ensure that provisions exist to call extra staff before the severe weather starts (so that staff can take turns to rest).~~"*	**MAJOR**	This is an unreasonable expectation that will likely result in non-compliances. Requirements are also an unnecessary duplication of requirements from other REGDOCs. The requirements and guidance are specific to one area of business continuity and do not apply to all aspects of the program.

Attachment 1 – NB Power Comments on draft REGDOC-2.3.4, Operations Programs for Reactor Facilities

#	Section	Industry issue	Suggested Change	MAJOR or Clarification	Impact on industry
48.	**9.3 Return to safe operational state**	The requirement in the paragraph below is already a requirement of the licence – it is unclear if this requirement is meant to replace the existing licence condition or the rationale for its repetition? *"…When an event is determined to be a serious process failure or where the determination as to the cause or to the extent of condition is inconclusive (that is, a serious process failure cannot be ruled out), the licensee shall submit a written request for approval to restart the reactor."* In the paragraph below, what is the basis for the new reporting requirement and its 3-year period frequency – seems unnecessary as a SPF can, and should be, addressed on a case-by-case basis via the review for request for approval to restart? *"If more than 1 serious process failure occurs within a 3-year period, the licensee shall submit a report to the Commission and the Commission will make a decision on the ongoing status of the reactor facility…."* Does the occurrence of more than one SPF within a 3-year period refer to the unit, station (licence), or licensee? It is noted Serious Process Failure is not applicable to all facilities (e.g., non-NPPs, see comment #1).	Request clarification on the duplication of the requirement with the existing licence condition? Seeking further clarity on the basis for the 3-year frequency including how the repeated occurrence relates to the unit/facility/licensee - if no basis then remove this requirement. Recommend any additional reporting requirements be captured in REGDOC-3.1.1 not this REGDOC.	Clarification	