

TU-06374

December 17, 2015

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

Dear Mr. Torrie:

Subject: NB Power Comments on REGDOC-2.2.4, Fitness for Duty: Managing Worker Fatigue

The purpose of this letter is to provide NB Power's (NBP) comments in conjunction with a review with our industry peers on the draft copy of REGDOC-2.2.4, *Fitness for Duty: Managing Worker Fatigue*. NBP had previously provided comment (Reference 1) on REGDOC-2.2.1, *Managing Worker Fatigue and Hours of Work*.

NB Power has reviewed REGDOC-2.2.4, Fitness for Duty, Managing Worker Fatigue, and we have several comments that we would like to provide you for your consideration.

This document potentially sets new requirements beyond what has previously been understood as acceptable. This has the potential to pose a significant economic burden on industry where there has been no evidence presented in the impact statement that indicates that there is a need for additional controls beyond what are already in place.

While the document contains material that is considered guidance, the wording of the preface reads in a manner that all of the contents of the REGDOC are requirements. We suggest that the preface be reworded such that it is clear that licensees are to review and consider guidance; but it is not appropriate to require licensees to explain how their chosen alternative approach meets regulatory requirements for information that is provided as guidance.

The requirements and guidance in Section 3 of the REGDOC apply to the population of workers who have the potential through their work activities to pose a risk to nuclear safety or security, also referred to as the broad population. The requirements and guidance in Section 4 apply to a smaller subset of workers who fill safety sensitive positions as described in Section 4.1. NBP suggests that a statement be added for clarity that "Workers in a refurbishment organization, working on a unit which is shut-down and fully defueled, including the vendor population supporting the refurbishment, are excluded from the broad population. Similarly, workers on a unit which has been shutdown, fully defueled, and is undergoing transition through a safe state towards decommissioning, are not part of the broad population."

.../2

In Section 4.1, the statement “Staffing levels shall be sufficient to ensure that training activities, sickness, vacation or staff turnover do not lead to non-compliance with limits on hours of work and recovery periods” is impossible to be in compliance with, particularly with regard to sickness. We suggest that the wording be revised to “Staffing levels shall be sufficient such that training activities, sickness, vacation or staff turnover rarely lead to non-compliance with limits on hours of work and recovery periods. While staffing can be managed to ensure sufficient levels for planned events such as training, vacation and turnover, it is impossible to ensure this for unplanned issues such as sickness.

Also in Section 4.1 there should be some additional information on how certified workers that are on temporary assignments to non-safety sensitive positions are handled. It is suggested to add the following text to this section. “Certified workers that are in temporary positions that are not identified as safety-sensitive may be treated the same as the broad population of workers. When the certified workers are providing relief coverage during their temporary assignment, all Section 4 requirements shall apply. The licensee shall document the treatment of certified staff on temporary assignments in their governing documents. “

Section 4.2 states “Licenses shall ensure that the hours worked do not exceed the following limits.” This will likely lead to numerous non-compliances and NBP suggests that the wording be revised to “Licensees shall ensure that the scheduled hours worked do not exceed the following limits.”

Also contained in Section 4.2 is the statement “With the exception of shift turnover, all time present at work shall be included when determining compliance with the limits in this section.” However this does not take into consideration rest periods. In certain situations additional staff if brought in with rotating rest periods in order to allow staff sufficient rest to manage fatigue. We suggest that this be reworded to “With the exception of shift turnover and rest periods, all time present at work shall be included when determining compliance with the limits in this section.”

Point Lepreau Nuclear Generating Station (PLNGS) has been safely operating a nuclear reactor for over 30 years. Since approximately 1993, NBP has had an “Hours of Work” program that has supported prevention of worker fatigue for shift and day workers. For shift workers, NBP’s approach to controlling worker fatigue is to schedule individuals based on our “Hours of Work” process and allow individuals to accept or reject requests beyond the normal shift schedule. In priority order the approach is generally:

1. Ensure the minimum regulatory complement requirements are met.
2. Ensure union contractual agreements are met.
3. Ensure adequate resources for managing the shift work load.
4. Ensure the employees need for time off is accommodated.

As a single unit station with limited resources, this approach has generally worked. Evidence of fatigue related human performance errors identified in our Corrective Action Program (CAP) is low. No fatigue related errors have been reported in the last 7 years. As an operations family, crews tend to look out for each other. Fatigue issues, if they exist, are managed on shift. In addition, we run a schedule that provides extensive time off and provides significant vacation, banked time, and family days off. Fatigue generating turnovers from day shift to night shift and back are minimized with our current shift schedules.

While successfully, safely, and efficiently managing outages within our existing rules, PLNGS would be challenged by REGDOC-2.2.4 in its present state. NBP understands the value of controlling hours of work for its part in controlling fatigue related errors as we have had a self-managed program for over 20 years. We meet our internal hours of work rules. At the same time our Operations work force is challenged during outages and when operator training blocks are taking place.

For example, a survey of the 2015 schedules suggests the following exceptions to the limits suggested in REGDOC-2.2.4. The corresponding PLNGS work limits are shown adjacent. Again we have had no violations of our current Limits. The table below illustrates this:

Challenging Limit from REGDOC-2.2.4	Similar PLNGS Limit that has NOT been exceeded
60 hours (NOT including turnover) in a 7 day (rolling) period	75.5 hours (NOT including turnover)
A maximum of 4 consecutive night shifts	A maximum of 6 consecutive 12 hour shifts
52 hours/week average over a 12 week period	1) 666 hours/12 weeks (= avg. 55.5h/week) 2) 2400 hours/52 weeks (= avg. 46.2 hours/week)

Also, during Outage periods, we have to be able to manage some of our rules to have the ability to manage our resources as documented in SI-P36. The rule that stays in effect is the 55.5 hours in any 12 week period which is managed by a forecasting scheduling system.

In addition, the guidance suggesting “a normal work schedule should include 3 or fewer consecutive 12 hour night shifts” is predicted to exceed this regularly with our regular shift schedule that minimizes turnovers. PLNGS does have a rule that states: “...the regular master schedule shall not require working more than 4 consecutive day shifts or 4 consecutive night shifts.”

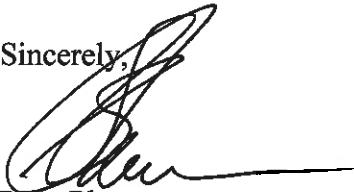
The other proposed REGDOC-2.2.4 Limits do not result in exceptions.

PLNGS is already making significant changes to the existing shift schedule. The proposed REGDOC-2.2.4 would mean a total overhaul of our scheduling systems, documentation, and shift worker lifestyle and job satisfaction.

We fully agree with the intent of REGDOC-2.2.4 and feel that PLNGS is already adequately managing worker fatigue with our existing programs. The additional burdens of REGDOC 2.2.4 would impose restrictions requiring increased manpower, increased financial outlays to cover Scheduling Program changes and potential employee discontent as a result of changing our existing master shift schedule. The new proposed CNSC work Limits contained in REGDOC-2.2.4 cannot be met at PLNGS.

If you require further information or clarification, please contact Rick Gauthier at 506-659-6236 or e-mail at RGauthier@nbpower.com.

Sincerely,



Brett Plummer
Site Vice President and Chief Nuclear Officer

BP/RG/amm

Cc : Ben Poulet, Pierre Belanger, Lisa Love-Tedjoutomo, Bruno Romanelli, (CNSC –
Ottawa)
CNSC Site Office
Michael Hare, Chris Wilson, Dana Moore, Don DeMerchant, Trent Martin, Sue Moore,
Jason Nouwens, Fernand Ouellette, Perry Cheeks, Andrew Dykeman, Peggy Galbraith,
Al MacDonald (NBP)

Reference:

1. Letter: Sean Granville to Mr. M. Dallaire dated January 17, 2014 “NB Power
Comments on REGDOC-2.2.1, Managing Worker Fatigue and Hours of Work”.

Attachment:

1. Combined Industry Comments on Impact Statement for Draft REGDOC 2.2.4,
Fitness for Duty: Managing Worker Fatigue.

Combined Industry Comments on Impact Statement for draft REGDOC 2.2.4, Fitness for Duty-Managing Worker Fatigue

#	Document/ Excerpt of Section	Industry Issue	Suggested Change (if applicable)	Major Comment/ Request for Clarification ¹	Impact on Industry, if major comment
1.	Impact Statement	While Industry has no objections to clarifying regulatory expectations, this document potentially sets new requirements beyond what has previously been understood as acceptable. This has potential to pose significant economic burden on Industry when there has been no evidence presented in the impact statement that indicates that there is a need for additional controls beyond what are already in place. Statements such as “CNSC staff believe the benefits of establishing regulatory clarity, strengthening the fitness for duty regulatory framework, and ensuring worker fatigue is managed for the purposes of nuclear safety and security justify the associated transitional impacts on stakeholders” could be used to justify new requirements in every REGDOC issued, however; without a proper review of the actual impact there is no really analysis of the impact in the impact statement. As such, there is no benefit to even preparing such impact statements as they don’t evaluate all of the impacts.	Conduct actual cost benefit analysis to align with CNSC Policy P-242 <i>Considering Cost-Benefit Information</i> .	MAJOR	It is noted that there were no discussions with licensees in the development of the impact statement, therefore; it would be very difficult for the CNSC staff to assess the actual impacts on the licensees.
2.	Impact Statement	It is premature to speculate on a two year implementation period when consultation with industry has not occurred	Remove reference to two year implementation period	Clarification	
3.	GENERAL	The document is written such that there will be non-compliances with the licence (see	Changes to wording in certain sections need to be made to allow enough		

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		comments below)	flexibility to the licensee to avoid licence non-compliances.(See details below)		
4.	Preface	The statement “Guidance contained in this document provides information on how requirements may be met. Licensees and applicants are expected to review and consider guidance; should they choose not to follow it, they should explain how their chosen alternate approach meets regulatory requirements” is not reasonable. Guidance is meant to be guidance, if the licensee is required to meet guidance criteria, then it is requirement, not guidance.	Revise wording to: “Guidance contained in this document provides information on how requirements may be met. Licensees and applicants are expected to review and consider guidance-	MAJOR	Guidance is meant to be guidance, if the licensee is required to meet guidance criteria (even by other means), and then it is requirement, not guidance.
5.	1.2	The requirements and guidance in section 3 of this regulatory document apply to the population of workers <u>who have the potential through their work activities to pose a risk to nuclear safety or security</u> , also referred to as the broad population. Requirements and guidance in section 4 apply to a smaller subset of workers who fill safety-sensitive positions, as described in section 4.1.	Request a statement for clarity be added, that “Workers in a refurbishment organization, working on a unit which is shut-down and fully defueled, including the vendor population supporting refurbishment, are excluded from the broad population. Similarly, workers on a unit which has been shutdown, fully defueled, and is undergoing safe stating towards decommissioning, are not part of the broad population.”	MAJOR	Request is to provide regulatory certainty. Long refurbishment periods over many years (4 units) require clarity as to the requirements, which is why we’re asking for a documented exception for a specific circumstance. Likewise, decommissioning work will affect many units over a long period of time and therefore certainty of the requirements should be established up front.
6.	Section 3.2 bullet 4/Page 4 guidance- first bullet	Bullet 4 does not include rest periods; we suggest that wording is added to clarify this bullet as it is included in the guidance section. Page 4 guidance first bullet refers to naps. Reference to napping possibly being permitted	Revise wording to: i. 4. expectations related to rest periods , if permitted by the licensees Add a 5th bullet: ii. 5. The process should address regular schedules that allow for a scheduled period of restorative sleep if permitted by	MAJOR	Reference to napping possibly being permitted during a work shift will raise expectations that this is considered permissible. Industry position is that napping is not permitted, as it negatively impacts on plant and personnel safety

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		during a work shift will raise expectations that this is considered permissible. Industry position is that napping is not permitted, as it negatively impacts on plant and personnel safety	the licensees iii. Delete "or naps " on first bullet Page 4 guidance		
7.	3.3	Section 3.3 as written is overly prescriptive and is contradictory to section 3.0 "	Retain first sentence up to "fatigue" and add "safety sensitive and broad populations" Remove examples 1 through 5 in section 3.3	Major	This will lead to undue administrative burden requiring extensive changes to licensees governance without any benefit on nuclear safety
8.	3.5 second sentence	"Licensees shall <u>review</u> their impact on fatigue levels and safety. The sentence needs to focus on nuclear safety and security.	Revise the second sentence to read "... impact on nuclear safety and security "	Clarification	
9.	3.6	The section equates all worker fatigue to shift schedules which is rarely the case as worker fatigue is often linked to off work activities. This should be limited to significant events not all events	The schedule and hours worked are captured in Tempus for all employees, Recommend changing requirement to "when an act or omission by a worker has or may have caused or contributed to a significant event and worker fatigue is identified as a possible contributing factor, the licensee shall review and record the work schedule of workers directly involved for at least one week prior to the event."	Major	Undue administrative burden with no benefit to safety .The suggested wording will adequately capture information required to prevent reoccurrence
10.	3.7	Current processes facilitate assessment (e.g. self-assessment process). Licensees see no safety benefit to extending these assessments to a broader population.	Suggest changing the first sentence to state "Licensees shall conduct periodic assessments for safety sensitive positions to:"	Major	Undue administrative burden with no benefit to nuclear safety

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		.This should be limited to safety sensitive positions to ensure we get maximum safety benefit from the assessment			
11.	4.1	SECTION 4.1 Item 2 infers that all security personnel are safety sensitive, which is not the case. This is overly prescriptive	<ol style="list-style-type: none"> 1. In 4. 1 item 2 add at the end of the sentence ‘...unless excluded based on the results of a risk informed analysis ‘ 2. Change item 2 to “The following security personnel; designated nuclear security officers 	<i>Major</i>	Undue administrative burden with no benefit to nuclear safety .The suggested changes allows licensees to adequately assess whether designated nuclear security officers and designated non-NRF are considered safety sensitive personnel
12.	Section 4.1	The statement “Staffing levels shall be sufficient to ensure that training activities, sickness, vacation or staff turnover do not lead to non-compliance with limits on hours of work and recovery periods” is impossible to be in compliance with, in particularly for sickness.	Revise wording to: “Staffing levels shall be sufficient to ensure such that training activities, sickness, vacation or staff turnover do seldom (or rarely) lead to non-compliance with limits on hours of work and recovery periods.	MAJOR	While staffing can be managed to ensure sufficient levels for planned events such as training, vacation and turnover, it is impossible ensure this for unplanned issues such as sickness. For example, there was an occasion in 2013 at one of our facilities where 3 of 6 minimum complement staff called in sick. This is a very rare occurrence however, it does occur, there needs to be some flexibility to allow compliance with the licence requirements under such rare occurrences.
13.	Section 4.1	There should be some additional information on how certified workers that are on temporary assignments to non-safety sensitive positions are handled.	Add the following to section 4.1: Certified workers that are temporary assignments in positions that are not identified as safety-sensitive may be treated the same as the broad population of workers. When the certified workers are providing relief coverage during their temporary assignment, all Section 4 requirements shall apply. The licensee	MAJOR	The suggested change will ensure that the issue and handling of temporary assignments of certified workers is covered. If this is applied to all certified staff performing any role then this will lead to undue administrative burden with no safety benefit

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			shall document the treatment of certified staff on temporary assignments in their governing documents.		
14.	4.1	<p>Identification of safety-sensitive positions: Licensees shall identify safety-sensitive positions through a documented, risk-informed analysis. Safety-sensitive positions shall include:</p> <ol style="list-style-type: none"> 1.certified workers 2.the following security personnel: nuclear security officers, onsite nuclear response force (NRF) members, and designated non-NRF personnel 3.positions that are part of the minimum staff complement at high-power reactor facilities unless excluded based on the results of the risk-informed analysis 4.any other positions identified via the risk-informed analysis performed by the licensee <p>Licensees shall list all safety-sensitive positions in their governing documents. Staffing levels shall be sufficient to ensure that training activities, sickness, vacation or staff turnover do not lead to non-compliance with limits on hours of work and recovery periods. Guidance The risk-informed analysis to identify workers who fill safety-sensitive positions should consider risks related to the following:</p> <ul style="list-style-type: none"> •tasks of the worker during normal and 	<p>The problem with this section is that it requires the same limits for all certified staff whether they are working “in the role” (e.g., in the control room) or not. For example, the fact that the person has a certificate doesn’t mean that they are performing their certified role at all times, and thus the tighter restrictions are unnecessary and onerous if they are not “in the role”.</p> <p>Delete specific reference to 1) Certified workers as a separate case, as the requirement is already captured within 3) for most cases (ANO’s, CRSS’s, Shift Managers on duty “in the role”) and will be captured by 4) for the one remaining case (Senior Health Physicists. (Alternatively, the duty SHP could be specifically identified – not all SHPs at once however).</p> <p>The “shall” statement “Safety-sensitive positions shall include:” is too sweeping, and allows for no graded approach or risk-informed analysis. As an example, some members of minimum shift complement</p>	MAJOR	<p>If the change for certified staff is not made, there is an unnecessary (not safety benefit) burden and restriction on certified staff assigned to other duties, where they are not in a safety sensitive role for that period of time.</p> <p>If the change to allow analysis is not made, unduly burdensome (without safety benefit) restrictions may be applied to other positions within the minimum shift complement.</p>

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		<p>emergency operating conditions</p> <ul style="list-style-type: none"> •nature of equipment and material that the worker handles or could handle •actions assigned to the workgroup that could directly cause or contribute to a significant incident or could result in an inadequate response to a significant incident 	<p>(e.g. the Shift Advisor Technical, the Shift Resource Coordinator, members of the off-site survey team) may, through analysis, be shown to not be in a safety sensitive position. Instead, it should be revised to say “Safety-sensitive positions shall include the following, unless documented as not safety sensitive through documented risk-informed analysis”.</p> <p>If the change requested in section 1.2 around refurbishment and decommissioning workers is accepted, the same wording could be included here for consistency.</p>		
15.	4.2	Variations in provincial and federal legislation and various collective agreements across the industry make it impossible to implement the requirements identified in item 4.	Change the limit to 56 hours on average over a period not exceeding 26 weeks .This is derived from existing labour agreement /collective agreement in place. This suggested change provides more protection from fatigue than an annual limit.	MAJOR	This restriction has the potential for significant unnecessary burden and labour unrest. Restrictions such as identified in item 4 in the US lead to significant ‘ unintended consequences ‘ Compliance would require significant and burdensome changes to existing shift schedules, overtime rules, and would negatively impact on ability to efficiently complete outages. No safety benefit has been identified for such a requirement (no safety problem has been identified with the current limits).
16.	4.2	Requirement for the 60 hours in 7 day period for safety significant positions is an issue for CNL and NBP given current staffing levels and shift schedules	Change requirement to ; 1. 60 hours over xxx weeks on average – See US OPEX	MAJOR	Cannot comply to requirement
17.	4.2 Items 3 and	There is no margin in the limits provided which does not allow the licensees to set	Change the limits to xxx to allow for administrative limits	Major	At least one licensee cannot comply with these requirements

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	4	administrative limits			
18.	Section 4.2	The statement: "Licensees shall ensure that the hours worked do not exceed the following limits:" will result in numerous non-compliances.	Revise wording to: "Licensees shall ensure that the scheduled hours worked do not exceed the following limits:"	MAJOR	There will be rare occasions where staff will need to exceed these limits to maintain the minimum complement. There needs to be some flexibility to allow compliance with the licence requirements under such rare occurrences.
19.	Section 4.2	The statement: "With the exception of shift turnover, all time present at work shall be included when determining compliance with the limits in this section" does not take into consideration rest periods. In certain situations additional staff is brought in with rotating rest periods in order to allow staff sufficient rest to manage fatigue.	Revise wording to: "With the exception of shift turnover and rest periods (see section 4.4); all time present at work shall be included when determining compliance with the limits in this section."	MAJOR	Although this is partially covered in section 4.4, it would be beneficial to address rest periods in this section as well to prevent unnecessary licence non-compliances.
20.	4.3	This document assumes a 3-2-2 twelve rotating continental shift pattern for all licensees. Some licensees currently use a 3-4 twelve hour rotating continental shift pattern. The licensees who use a 3-4 twelve hour rotating continental shift pattern cannot comply the requirement to do 4 consecutive night shifts shall not be exceeded cannot comply as it does not allow overtime to be used to cover for vacation, sickness and any other absences.	CNSC needs to reevaluate the requirements for hours of work using all continental rotating shift patterns Change requirement to include the implementation of other measures to manage fatigue e.g. NBP has a 3-4 twelve hour rotating continental shift pattern which allows for more rest time between shift sequences to offset the extended shift sequence Needs to provide flexibility for smaller licensees	Major	Certain licensees cannot comply. This presents a significant operational and economic impact to certain licensees. US OPEX demonstrated that similar consequences occurred in the US industry

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		<p>With respect to the requirement Min recovery period for workers doing 8-10 hrs in any 7 day period is 36 hours, industry currently applies legislative limits to 8 and 10 hour shifts .Applying this restriction would have a significant restrictive burden to industry</p>	<p>Remove the minimum recovery period for workers doing 8-10 hrs in any 7 day period is 36 hours</p>	<p>MAJOR</p>	<p>Applying this restriction would have a significant restrictive burden to industry</p>
		<p>A normal work schedule should include 3 or fewer 12 hrs nights. The document assumes a 3-2-2 twelve rotating continental shift pattern for all licensees .Some licensees currently use a 3-4 twelve hour rotating continental shift pattern. The licensees who use a 3-4 twelve hour rotating continental shift pattern cannot comply with the requirement for a normal work schedule should include 3 or fewer 12 hrs</p>	<p>Remove</p>	<p>MAJOR</p>	<p>See above</p>

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21.	4.3	<p>The three categorises of shift schedule requirements are too complex and administratively burdensome for no safety benefit.</p> <p>shall follow a block of 2 consecutive night shifts</p> <p>c).a minimum recovery period of 72 hours shall follow a block of 3 or more consecutive night shifts</p> <p>d).prior to the transition to night shifts:</p> <p style="padding-left: 20px;">I .a minimum recovery period of 48 hours shall follow a block of 3 or 4 consecutive day shifts</p> <p style="padding-left: 20px;">II. a minimum recovery period of 48 hours shall follow a block of supernumerary 8-hour day shifts</p> <p>Guidance</p> <p>A worker should normally be given 11 consecutive hours free from work between shifts. A reduced recovery period of 8 hours should only occur when it encompasses the time from 2 a.m. to 6 a.m. and when a worker returns to a normal schedule following a shift exceeding 12 hours.</p> <p>For persons working shifts from 8 to 10 hours:</p> <ul style="list-style-type: none"> •a minimum recovery period of 36 hours should occur in any 7-day period •the direction of shift rotation should be clockwise <p>For persons working shifts over 10 hours and up to 12 hours:</p> <ul style="list-style-type: none"> •a normal work schedule should include 3 or fewer consecutive 12-hour night shifts. •if day shifts are followed by night shifts on consecutive calendar days, a limit of 3 night 	<ol style="list-style-type: none"> 1. Revise "A worker shall be given a minimum recovery period of 8 consecutive hours free from work between shifts" to Revise "A worker shall be given a minimum recovery period of 8 consecutive hours free from work between shifts unless required to maintain minimum shift complement coverage." An exception is needed to 4.3 on practical grounds: "People normally part of a day's organization (i.e., people who do not normally work shifts), required to work shift coverage, are exempt from the time off requirement for one shift sequence." 2. Section 2 (over 10 hours and up to 12 hours) should be deleted. There is no safety benefit to this requirement, but a large administrative and complexity burden. We already have 60 hrs per week and day of rest requirements. 3. Section 3d should be deleted. After 5 day supernumeries (typically for training, which is low safety risk), it is preferred to bring people in for Sunday #1 shift coverage i.e. Saturday night. If that is not acceptable, revise 48 hrs to 24 hours, and in addition insert "4 or more" as follows: "a block of 4 or more supernumerary ..." 4. Change 2nd sentence in the first paragraph under Guidance, to remove " When it encompasses the time from 2 am to 6 am and "A reduced recovery period..." should be deleted. This is not practical to implement 5. All sections should read "for persons normally working..." 	MAJOR	These enhancements proposed by industry to the recovery periods minimize negative operational impacts and unnecessary administrative burden for no safety benefit

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22.	4.3 (3) (c) Guidance	Recovery periods A minimum recovery period of 72 hours shall follow a block of 3 or more consecutive night shifts. CNL cannot comply with this for their staff shift rotation	Change recovery period 'to 48 hours following a block of 3 or more consecutive night shifts'	MAJOR	CNLs shift work schedule, which follows industry standards, would be void. Every 5 weeks workers are scheduled to work 3 night shifts then have 48 hours off to recover. The fifth week is used for training
23.	4.3 (3) (d) Bullet (i)	Recovery periods A minimum recovery period of 48 hours shall follow a block of 3 or 4 consecutive day shifts CNL cannot comply with this for their staff shift rotation	48 hours shall follow a block of 3 or 4 consecutive day shifts	Major	This would mean no overtime between end of shift Sunday evening and start of shift Wednesday night.
24.	4.4	Consistency with the purpose of the document	Add to the first sentence after "environment " nuclear safety and security '		
25.	Appendix	52 hours over 12 weeks averaged. See previous comment on section 4.2 and 4.3	See previous comment on section 4.2 and 4.3	MAJOR	See previous comment on section 4.2 and 4.3
26.	Glossary	Safety-sensitive positions	Wording should be revised to clarify that this requirement is up to and including the shift manager. Insert " on Shift" after "managers",	Clarification	If change is not made, it will not be clear where the requirement ends. In addition, senior manager tracking of hours of work is not performed in industry or business as a rule, and is not practical to accomplish. Ultimately, the person who "holds the licence" at the station, at any time, is the Manager or supervisor on shift

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