



## Notice of Violation (Corporation)

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**Date of notice: September 1, 2022**

**AMP number: 2022 AMP-01**

<b>Violation committed by:</b>  Bruce Power Inc.	<b>Amount of penalty:</b>  \$ 24,760
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### Violation

48(c) Failure to comply with conditions of a licence

Specifically, Bruce Power's Power Reactor Operating Licence, PROL 18.02/2028, condition 1.1 states that "The licensee shall implement and maintain a management system." Section 1.1 of the associated Licence Conditions Handbook, LCH-PR-18.02/2028-R003, provides criteria used to verify that licence condition 1.1 is being met and provides, amongst other criteria, that Bruce Power comply with CSA N286-12, *Management system requirements for nuclear facilities* which is a licensing basis document. N286-12 includes provisions for the quarantining counterfeit, fraudulent or suspect items. Specifically, clause 7.6.9 of CSA N286-12 requires that "*Items that do not conform to specified requirements shall be identified as problems and segregated to prevent inadvertent installation or use.*"

### Relevant facts

I, Alex Viktorov, Director General of the Directorate of Power Reactor Regulation and Designated Officer authorized by the Canadian Nuclear Safety Commission (CNSC) to issue notices of violations, believe on reasonable grounds that Bruce Power committed the above violation. The facts relevant to the violation and the penalty calculation are as follows:

Following a failure to properly quarantine suspect end fittings which led to their inadvertent installation in the Unit 6 during the Major Component Replacement (MCR) project, Bruce Power elected to not segregate the suspect items as required. Furthermore, no actions were taken to correct this non-compliance after CNSC staff raised this to the attention of Bruce Power. This AMP is issued to Bruce Power to promote compliance with conditions of their licence and to deter reoccurrence.

On August 3<sup>rd</sup>, 2022, Bruce Power submitted a REGDOC-3.1.1 report which identified that 70 end fittings being used in the Unit 6 MCR project were suspect since information indicated that all necessary records to demonstrate the quality of the end fittings, a pressure boundary component of a fuel channel,



were not provided by a sub-supplier related to impact testing. One of the corrective actions that Bruce Power indicated was being taken was to quarantine the suspect end fittings.

On August 16<sup>th</sup>, 2022, Bruce Power informed CNSC staff that there had been a loss of control of the quarantined items and one suspect end fitting had been installed on the reactor and another suspect end fitting had been made into a fuel channel sub-assembly. Corrective actions that were taken following this loss of control of quarantined items included doing additional procedural checks of end fitting serial numbers prior to installation. CNSC staff asked about segregation of suspect end fittings, and it was stated that this would occur in the future.

On August 22<sup>nd</sup>, 2022, CNSC staff conducted a reactive inspection to verify that suspect end fittings had been segregated/quarantined as required. The inspection observed that no segregation of the suspect items had occurred. CNSC staff met with Bruce Power the same day to discuss the inspection findings and to provide Bruce Power with an opportunity to explain why no action had been taken to segregate the suspect end fittings and to point out the licensing non-compliance. Bruce Power staff stated that a decision had been made to not segregate end fittings on August 19<sup>th</sup>, 2022, because it was anticipated that a concession application would be completed by August 23<sup>rd</sup>, 2022. Following this meeting, no action was taken by Bruce Power to correct the non-compliance.

Due to the lack of action being taken by Bruce Power to segregate the suspect end fittings, on August 23<sup>rd</sup>, 2022, CNSC staff sent Bruce Power a letter requesting that all work on the fuel channel installation related to end fittings was stopped until the end fittings were either confirmed to conform to Bruce Power's technical requirements or had been segregated in accordance with requirements. Bruce Power stopped work the same day and resumed work on August 24<sup>th</sup>, 2022, once the end fittings were confirmed to conform to requirements through a Bruce Power concession application. While CNSC staff approval was not required for this concession, it will be reviewed to ensure that regulatory requirements were met.

Based on my review of this matter I conclude that Bruce Power was in non-compliance with licence condition 1.1 and an Administrative Monetary Penalty is an appropriate enforcement measure to promote compliance and deter reoccurrence. The amount of the penalty was determined based on a consideration of the seven factors in section 5 of the *Administrative Monetary Penalties Regulations (Canadian Nuclear Safety Commission)*:

1. **Compliance history:** Assessed score = 1

Bruce Power has not had this non-compliance in the past and has not been issued any Administrative Monetary Penalties in the past five years. However, a CNSC staff meeting with Bruce Power following the reactive inspection failed to correct the non-compliance.

2. **Intention or negligence:** Assessed score = 4

As stated by Bruce Power, a decision was made to not segregate the end fittings. When the requirements were reinforced in the inspection report and the meeting that followed on August 22, 2022, Bruce Power still took no action to address the non-compliance leading to the stop work request. Several individuals in the organization were aware of this issue.

3. **Actual or potential harm:** Assessed score = 0

While this non-compliance of not taking the necessary steps to prevent further suspect material from being inadvertently installed or used represents a breakdown in the process to ensure quality, there was



no potential impact to the health and safety of persons or the environment. Bruce Power is not authorized to load fuel or restart Unit 6 without CNSC removal of regulatory hold points.

**4. Competitive or economic benefit:** Assessed score = 2

By focusing on adding administrative steps to verify end fitting serial numbers and not physically segregating the suspect items even after the inadvertent installation, this allowed critical path work on the Major Component Replacement project to continue. The focus on maintaining the project schedule is related to commitments that Bruce Power has with the Independent Electricity System Operator (IESO) which have economic implications.

**5. Efforts to mitigate or reverse effects:** Assessed score = 2

When the suspect end fittings were first identified, Bruce Power's immediate actions were inadequate and did not prevent inadvertent installation in the reactor. After inadvertent installation occurred, Bruce Power added additional serial number checks into the process. However, Bruce Power did not segregate the suspect items as per licensing requirements.

**6. Assistance to Commission:** Assessed score = -2

Bruce Power provided all reasonable assistance to CNSC staff.

**7. Attention of Commission:** Assessed score = 0

While Bruce Power stated on August 16, 2022, that the suspect end fittings would be segregated from conforming end fittings, the decision to not perform that segregation was not communicated to CNSC staff and was only discovered during a reactive inspection.



## Penalty calculation:

(See *Administrative Monetary Penalties Regulations (Canadian Nuclear Safety Commission) SOR/2013-139*)

<b>(a) Category of violation</b>							
Category A <input type="checkbox"/>	Category B <input type="checkbox"/>	Category C <input checked="" type="checkbox"/>					
<b>(b) Penalty range</b>							
Category	Minimum	Maximum	Maximum – minimum				
A	\$1,000	\$12,000	\$11,000				
B	\$1,000	\$40,000	\$39,000				
<b>C</b>	<b>\$1,000</b>	<b>\$100,000</b>	<b>\$99,000</b>				
<b>(c) Determining factors</b>							
Factors	Scale of regulatory significance			Assessed score			
1. Compliance history	0 <input type="checkbox"/>	+1 <input checked="" type="checkbox"/>	+2 <input type="checkbox"/>	+3 <input type="checkbox"/>	+4 <input type="checkbox"/>	+5 <input type="checkbox"/>	1
2. Intention or negligence	0 <input type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input checked="" type="checkbox"/>	+3 <input type="checkbox"/>	+4 <input type="checkbox"/>	+5 <input type="checkbox"/>	4
3. Actual or potential harm	0 <input checked="" type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input type="checkbox"/>	+3 <input type="checkbox"/>	+4 <input type="checkbox"/>	+5 <input type="checkbox"/>	0
4. Competitive or economic benefit	0 <input type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input checked="" type="checkbox"/>	+3 <input type="checkbox"/>	+4 <input type="checkbox"/>	+5 <input type="checkbox"/>	2
5. Efforts to mitigate or reverse effects	-2 <input type="checkbox"/>	-1 <input type="checkbox"/>	0 <input type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input checked="" type="checkbox"/>	+3 <input type="checkbox"/>	2
6. Assistance to Commission	-2 <input checked="" type="checkbox"/>	-1 <input type="checkbox"/>	0 <input type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input type="checkbox"/>	+3 <input type="checkbox"/>	-2
7. Attention of Commission	-2 <input type="checkbox"/>	-1 <input type="checkbox"/>	0 <input checked="" type="checkbox"/>	+1 <input type="checkbox"/>	+2 <input type="checkbox"/>	+3 <input type="checkbox"/>	0
<b>Total</b>							<b>7</b>
÷ 29 <sup>(1)</sup> [rounded to 2 decimal points]=							<b>0.24</b>
× 99000							
[total] =							<b>23,760</b>
+ \$ 1000 [minimum for the category] =							<b>24,760</b>

<sup>(1)</sup>29 being the maximum value of regulatory significance



## To request a review

As a person subject to an administrative monetary penalty, you have the right to request a review of the amount of the penalty or the facts of the violation, or both. Your request must be made in writing indicating the reasons why you are requesting a review and providing supporting information.

If you choose to request a review, you must do so in writing by October 3, 2022 to:

Canadian Nuclear Safety Commission  
c/o Denis Saumure  
Commission Registrar  
P.O. Box 1046, Station B  
Ottawa, ON K1P 5S9

Fax: (613) 995-5086  
Telephone: (613) 282-9357  
Email: [registry-greffe@cnsccsn.gc.ca](mailto:registry-greffe@cnsccsn.gc.ca)

## Payment

You may pay this administrative monetary penalty by sending a cheque to:

Receiver General for Canada  
c/o Canadian Nuclear Safety Commission  
Finance Division  
P.O. Box 1046, Station B  
Ottawa, ON K1P 5S9

For other payment methods and further instructions, please refer to the attached notice of payment due.

**Should you neither pay the penalty nor exercise your right to a review, you will be considered as having committed the violation and will be liable to the penalty set out herein.**



## Issued by



Recoverable Signature

X

Signed by: Viktorov, Alexandre

September 1, 2022 \_\_\_\_\_

Date

ALEX VIKTOROV

Designated Officer

Director General of Directorate of Power Reactor Regulation

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