



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Record of Decision

In the Matter of

Applicant Corporation de l'École Polytechnique de
Montréal

Subject Application to Amend the Operating Licence for
the SLOWPOKE-2 Research Reactor

Date of Decision June 30, 2016

RECORD OF DECISION

Applicant: Corporation de l'École Polytechnique de Montréal

Address/Location: C.P. 6079, Succ. Centre-Ville
Montréal, Québec H3C 3A7

Purpose: Application to Amend the Operating Licence for the
SLOWPOKE-2 Research Reactor

Application received: July 2, 2015 and August 25, 2015

Date of decision: June 30, 2016

Location: Canadian Nuclear Safety Commission (CNSC)
280 Slater St., Ottawa, Ontario

Members present: M. Binder, Chair

Licence: Amended

Table of Contents

1.0 INTRODUCTION	1
2.0 DECISION	2
3.0 ISSUES AND COMMISSION FINDINGS	2
4.0 CONCLUSION	3

1.0 INTRODUCTION

1. Corporation de l'École Polytechnique de Montréal (EPM) has submitted a request to the Canadian Nuclear Safety Commission¹, under subsection 24(2) of the *Nuclear Safety and Control Act*² (NSCA), for the revocation of its non-power subcritical assembly operating licence PERFP-9.00/2016 (which expires on June 30, 2016), and an amendment to a Safe Low-Power Critical Experiment (SLOWPOKE-2) reactor licence PERFP-9A.00/2023. The reactor is located on the campus of the Université de Montréal, in Montreal, Quebec. The amendment to the SLOWPOKE-2 reactor licence is requested to include the non-power subcritical assembly. The current licence, PERFP-9A.00/2023, expires on June 30, 2023.
2. EPM, in its application, explained that the use of the non-power subcritical assembly is limited to approximately once every five years and poses a very low risk. For this reason, EPM requested that the Commission integrate its subcritical reactor with its existing SLOWPOKE-2 reactor licence.
3. CNSC staff assessed the application and recommended that the Commission revoke EPM's non-power subcritical assembly operating licence and amend the SLOWPOKE-2 operating licence to include the non-power subcritical assembly.

Issue

4. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the NSCA:
 - a) if EPM is qualified to carry on the activity that the amended licence would authorize; and
 - b) if in carrying on that activity, EPM will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Hearing

5. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the application. The Commission, in making its decision, considered information presented for a hearing based on written materials. The Commission considered written submissions from EPM (CMD 16-H107.1) and CNSC staff (CMD 16-H107).

¹ The *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² Statutes of Canada (S.C.) 1997, chapter (c.) 9.

2.0 DECISION

6. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Decision*, the Commission concludes that EPM has met the conditions of subsection 24(4) of the NSCA.

Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the non-power reactor operating licence (permis d'exploitation d'un réacteur de faible puissance) PERFP-9A.00/2023 issued to Corporation de l'École Polytechnique de Montréal for its SLOWPOKE-2 reactor located in Montreal, Quebec, to include EPM's non-power subcritical assembly. The amended licence, PERFP-9A.01/2023, is valid from July 1, 2016 until June 30, 2023.

Furthermore, given that the non-power sub-critical assembly operating licence PERFP-9.00/2016 ("Assemblage Nucléaire Non Divergent") expires on June 30, 2016, it will no longer be valid after that date and does not need to be revoked.

7. The Commission includes in the amended licence, PERFP-9A.01/2023, the conditions as recommended by CNSC staff in CMD 16-H107.

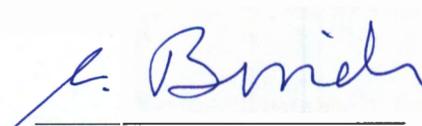
3.0 ISSUES AND COMMISSION FINDINGS

8. On August 25, 2015, EPM formally requested the revocation of its non-power subcritical assembly operating licence PERFP-9.00/2016, and amendment of the SLOWPOKE-2 reactor licence PERFP-9A.00/2023 to include the non-power subcritical assembly. In its application, EPM explained that the requested amendment would enable a harmonious transition from the current status of the non-power subcritical assembly to its final status with no uranium and with only two remaining sources of neutrons. With this change, a complete decommissioning of the non-power subcritical assembly could be avoided.
9. EMP further explained that the SLOWPOKE-2 reactor and the non-power subcritical assembly share the same location, and that the pile of graphite, four sources of neutrons and uranium rods, which all belong to the non-power subcritical assembly, could be easily integrated into the existing SLOWPOKE-2 licence.
10. EMP added that 38 uranium rods, which were a sole fissile material used for sub-critical multiplication of neutrons emitted from the neutron sources, had been borrowed from the Chalk River Laboratories, and will eventually be returned to the owner. With respect to four existing neutron sources, EPM intends to keep two sealed sources that had been used in the past, while two of them that had never been used with this installation will be either eliminated according to the procedure normally followed at the EPM, or will be offered to a third party.

11. EPM informed the Commission that the remaining configuration of the assembly would be used for education of nuclear engineers, and stated that the proposed elimination of fissile material and two sources of neutrons would result in an increased safety of the facility.
12. CNSC staff informed the Commission about its regulatory oversight and reported that EPM meets regulatory requirements in all of the 14 safety and control areas (SCAs). CNSC staff verified, through regular compliance activities that include inspections and desktop reviews, that EPM has operated the SLOWPOKE-2 reactor and subcritical assembly safely during the current licensing period. CNSC staff stated that the SLOWPOKE-2 reactor and the subcritical assembly pose a very low risk and are designed to exhibit self-limiting power and temperature transients to safe levels, without the need for operator intervention. The Commission is satisfied that the regulatory oversight activities carried out by CNSC personnel have confirmed the safety of the facility.
13. CNSC staff further informed the Commission that it had performed an inspection of the SLOWPOKE-2 reactor and the subcritical assembly in September 2015 and found no adverse impacts to the safe operation of the facilities. CNSC staff is of the opinion that EPM had made adequate provision for the protection of the environment, workers and the public. The SLOWPOKE-2 reactor and the subcritical assembly pose no safety concerns and are operated by the same licensee using identical management and safety programs. CNSC staff is of the view that there are no impediments to integrate the subcritical assembly with the existing SLOWPOKE-2 licence and such integration would not result in any new health, safety risks to the workers, the public and to the environment.
14. CNSC staff noted that a single EPM operating licence aligns with the Commission's previous decisions to issue single operating licences for Pickering and Bruce nuclear power stations.

4.0 CONCLUSION

15. The Commission has considered the information and submissions from EPM and CNSC staff and is satisfied that the requested amendments will not adversely impact the safety of the EPM operations.



Michael Binder
President,
Canadian Nuclear Safety Commission

JUN 30 2016
Date