

## *2<sup>nd</sup> Call for Papers*

# **Reactor core and containment cooling systems Long term management and reliability workshop**

Levice, Slovak Republic  
February 23-25, 2021



This OECD/NEA workshop will promote international exchange of information and practices related to maintaining the cooling function in a long term accident in a NPP including new design. Considering the outcomes from the previous related OECD/NEA projects and activities (as the working group on the long term management of a severe accident and the task group on sump clogging) as well as those resulting from the ongoing Fukushima-Daiichi-related actions and projects, the workshop objective is to carry out a comprehensive review to identify remaining knowledge gaps linked to the behaviour of material, components and systems that are critical for maintaining cooling of the reactor and containment in the long term after an accident in a NPP. The workshop will offer the opportunity to discuss the best way to address the identified gaps with additional experimental research and with consolidation of existing and/or new assessment methods and analytical tools.

## SCOPE AND TECHNICAL CONTENT OF THE WORKSHOP

The scope considers material degradation and related clogging issues and long term phenomena that may lead to cooling systems failure and eventually contaminated liquid leakages outside containment. The focus of the Workshop is placed on needed knowledge development on (1) degradation in a long term accident (under the combined effects of temperature, pressure, dose and chemical environment) of material and components that can impair maintaining cooling - because their degradation can yield debris, suspensions or dirt accumulation and (2) robustness of cooling systems regarding in particular clogging issues and effects of corrosion-erosion reactions in sensitive components in the long term.

Of particular importance is to review, as far as feasible, the existing knowledge established through testing (including qualification) of relevant material and components to accident conditions. Point (2) would address clogging in cooling systems upstream filters and clogging downstream in sensitive components (e.g. heat exchangers, valves, etc.) and in the damaged core including effects of long-term corrosion as well as effects of erosion-corrosion on piping and sensitive components induced on the long term by recirculation of highly contaminated liquids.

Besides, the workshop is intended to provide a comprehensive survey of the existing safety standards and rules related to cooling reliability in a long-term. Therefore, organization of a general session is foreseen to provide participants with background on:

- Management strategies, for different NPP designs, of core and containment cooling on the long-term during accidents;
- Differences and similarities for Design Basis Accident (DBA) and for Severe Accident (SA).

Then technical sessions will follow, addressing more specifically the major technical topics of interest, such as:

1. Debris sources and generation – with a focus on SA - and debris transport characterization
2. Filtration systems performance and clogging issues in general
3. Operational conditions, including severe accidents, and systems reliability

The last session will be dedicated to establishment of conclusions in order to draw comprehensive orientations for future research programs. A visit of VUEZ experimental facility will also be organized on the last day of the workshop..

## PARTICIPATION AND ABSTRACT SUBMISSION

The OECD workshop “Reactor core and containment cooling systems – long term management and reliability” is intended for participants from research institutes, NPPs, regulatory bodies and TSOs. The number of participants is limited to 80. The organizing committee is exploring possible remote participation for a limited number of attendees in case of any remaining COVID-19 travel restriction.

Authors are required to submit abstracts (maximum 400 words) in English addressing the scope of technical sessions as listed above, by e-mail to: [oecdworkshop@longtermnpp2021.com](mailto:oecdworkshop@longtermnpp2021.com).



### Submission:

Instructions for **Abstract** preparation appear in the last page.

Instructions for preparing the **Extended Abstract** will be announced to authors with the notification of abstract acceptance and at the workshop website <https://longtermnpp2021.com/>.

**Abstract** and **Extended Abstract** will be reviewed by the **Scientific Committee**.

**Selected papers** will be encouraged for publication in technical journals.

### Important dates:

Abstract submission due: ~~May 29<sup>th</sup>, 2020~~; **Extended to June 30<sup>th</sup> 2020**

Notification of Abstract acceptance: ~~July 1<sup>st</sup>, 2020~~; **Extended to July 20<sup>th</sup> 2020**

Extended Abstract submission due: September 30<sup>th</sup> 2020

Acceptance: October 30<sup>th</sup> 2020

Early Registration: September 1<sup>st</sup> 2020

Final Extended Abstract due: December 30<sup>th</sup> 2020 (*WS Date = Feb. 23 – 25, 2021*)

## ORGANIZING COMMITTEE (OC)

The OECD workshop “Reactor core and containment cooling systems – long term management and reliability” to be held on 23<sup>rd</sup> – 25<sup>th</sup> February 2021 in Levice, Slovak Republic, is co-organized by VUEZ and the Institut de Radioprotection et de Sûreté Nucléaire (IRSN).

The technical content of the workshop has been prepared by the Organizing Committee (OC) members:

Ahmed BENTAIB	IRSN	France
Luis E. Herranz	CIEMAT	Spain
Ali Tehrani	ONR	United Kingdom
Nouredine Mesmous	CNSC	Canada
Lubica Kubisova	UJD SR	Slovak Republic
Ivan VICENA	VUEZ	Slovak Republic
Viktoria VALACHOVICOVA	VUEZ	Slovak Republic
Juraj KUBICA	VUEZ	Slovak Republic
Didier Jacquemain	OECD/NEA	

## SCIENTIFIC COMMITTEE (SC)

Martina Adorni	BelV	Belgium
Luis E. Herranz	CIEMAT	Spain
Sevostian Bechta	KTH	Sweden
Vojtech SOLTESZ	VUEZ	Slovak Republic
J.-H. Song	KAERI	Republic of Korea
Hossein Esmaili	US NRC	United States of America
Shawkat Mohamed	CNSC	Canada
Nouredine Mesmous	CNSC	Canada
Martin Sonnenkalb	GRS	Germany
Bruno Tourniaire	EDF	France
Akitoshi Hotta	NRA	Japan
Nadezhda Kozolova	SEC-NRS	Russian Federation
Fudong Liu	NNSA/NSC	China
Kunpeng WANG	NNSA/NSC	China
Didier Jacquemain	OECD/NEA	



## PROCEEDINGS AND SUMMARY REPORT

The proceedings of the workshop will include the presentations, the extended abstracts and the conclusions summary.

### CONTACT PERSONS

**For technical information**, please contact:

Mr. Ahmed Bentaib, IRSN (Tel: +33 1 58 35 98 54, e-mail: [ahmed.bentaib@irsn.fr](mailto:ahmed.bentaib@irsn.fr))

**For practical information**, please contact:

Mrs. Viktoria Valachovicova, VUEZ (Tel: +421 36 6355 307, e-mail: [valachovicova.viktoria@vuez.sk](mailto:valachovicova.viktoria@vuez.sk))

### MEETING PLACE

The meeting will take place at: **Business hotel Astrum Laus** ([www.astrumlaus.sk](http://www.astrumlaus.sk)).



**Title Of The Paper** (Left aligned; Calibri; Lower case; 14 points; **Bold**)

*(one line space)*

**First A. Author<sub>1</sub>, Second B. Author<sub>1,2</sub> and Third C. Author<sub>2</sub>** (Left aligned; Calibri; Lower case; 11 points; **Bold**)

*(one line space)*

<sub>1</sub> Authors' Department, Institute, COUNTRY.

(E-mail: firstauthor@aaaa.bbb, secondauthor@aaaa.bbb)

<sub>2</sub> Author's Department, Institute, COUNTRY.

(E-mail: thirdauthor@aaaa.bbb)

*(two lines space)*

**KEYWORDS:** (Calibri; Upper case; 11 points; **Bold**) Up to **6** keywords (Left and Right justified; 11 points)

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**ABSTRACT** (Left aligned; Calibri; Upper case; 11 points; **Bold**)

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The text (Left and Right justified, Calibri, 11 points, single spaced) should provide a clear description of the work

to be presented, including essential information such as: background, aim and scope of the work; adopted

methods and techniques; elements of novelty; main achievements and conclusions.

Number of words is preferably within **400**.

Figures are allowed, but limited to one or two.

No tables should be included, unless absolutely necessary.

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***Figure 1.*** (Calibri; Lower case; 10 points; **Bold; Italic**) *Figure caption* (Calibri; Lower case; 10 points; **Italic**)