

1st 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 in the long term after an accident in a NPP. The workshop will offer the possibility 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 transport characterization
2. the filtration systems performance and clogging issues in general
3. SA conditions and erosion/corrosion phenomena

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

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.

Authors are required to submit abstracts (maximum 400 words) in English, by e-mail to:
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 29th, 2020
 Notification of Abstract acceptance: July 1st, 2020
 Extended Abstract submission due: September 10th 2020
 Acceptance: October 20th 2020
 Early Registration: September 1st 2020
 Final Extended Abstract due: December 15th 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 23rd – 25th 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
Noreddine 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
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Shawkat Mohamed	CNSC	Canada
Noreddine 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



PROCEEDINGS AND SUMMARY REPORT

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

CONTACT PERSONS

For technical information, please contact:

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For practical information, please contact:

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MEETING VENUE

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



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

(one line space)

First A. Author₁, Second B. Author_{1,2} and Third C. Author₂ (Left aligned; Calibri; Lower case; 11 points; **Bold**)

(one line space)

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(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)*