

Update from the Nuclear Science Committee

Tatiana Ivanova
Head of the Division of Nuclear Science

33rd Meeting of the NSC Working Party on International Nuclear Data Evaluation Co-operation (WPEC)

14 May 2021

Main Highlights (1/2)

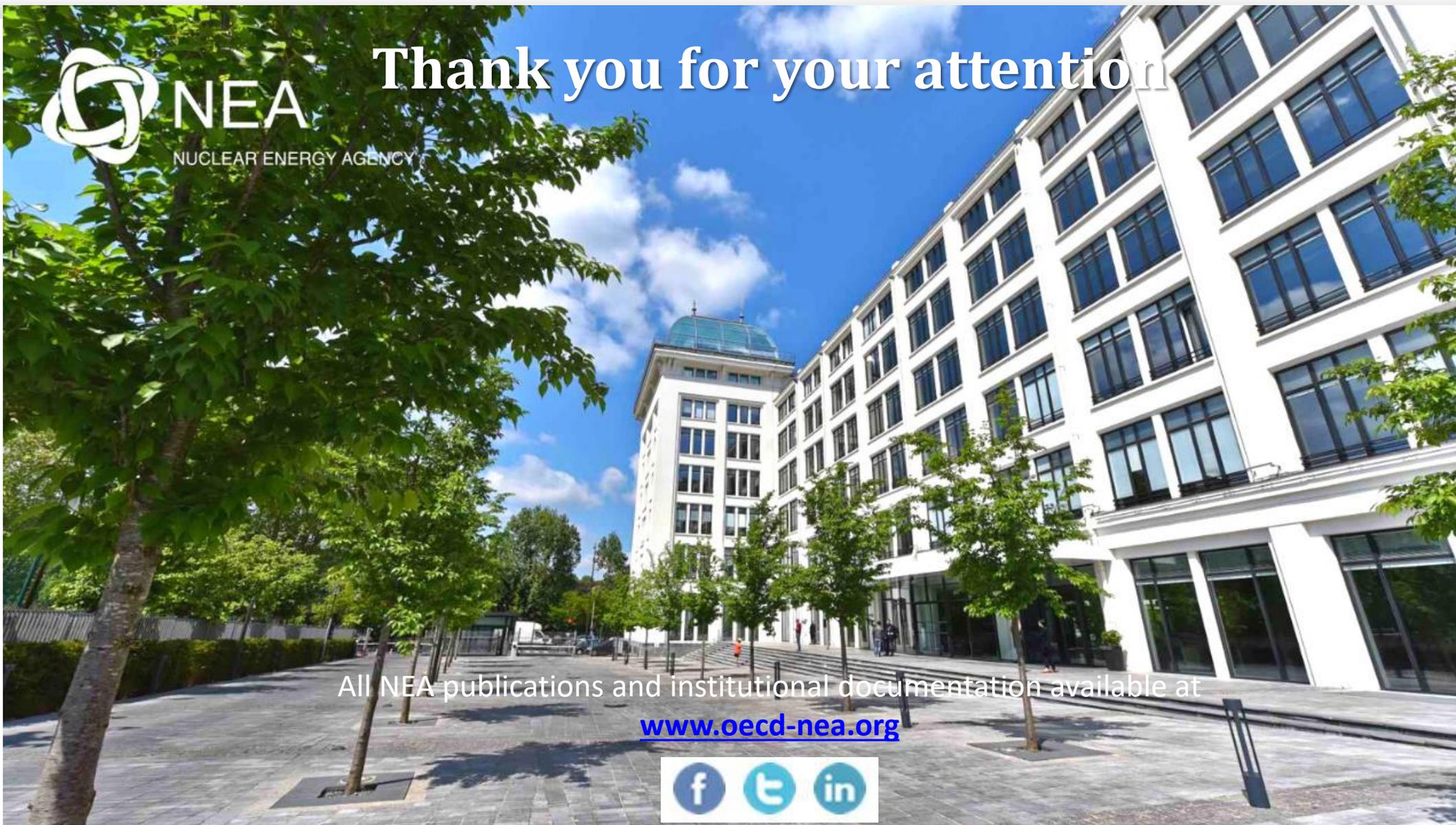
- Bulgaria became the 34th member of the NEA and its Data Bank on 1 January 2021
- Major efforts to complete the prioritisation of NSC activities:
 - 6 NSC Bureau meetings from January to September 2020.
 - The NSC Prioritisation Report was approved by the NSC and presented to the NEA Steering Committee.
 - New mandates for NSC and NSC bodies are approved.
 - Next steps: 1) Create an NSC Programme Review Group (PRG) to facilitate top-down NSC direction. **WPEC is invited to nominate 1 senior expert to the PRG**; 2) Continue to reinforce material-related activities under the Working Party on Material Issues in Nuclear Fuels and Structural Materials (WPFM).
- The 31st NSC meeting, 23-25 September 2021
 - New NSC Bureau members: Dr. Kazufumi Tsujimoto, JAEA, Japan and Prof. Vladimir Artisiuk, Rosatom, Russia.
 - In-depth discussion ‘The demise of zero-power critical facilities – a cause for concern’, R. Jacqmin (CEA). WPRS will launch a dedicated Task Force.
- The 32st NSC meeting, 9-11 June 2021

Main Highlights (2/2)

- The NEA Global Forum on Nuclear Education, Science, Technology and Policy entered into force in January 2021.
- The division of Nuclear Science supports both the Global forum and the Nuclear Education Skills and Technology (NEST) Framework.
- The new NSC Task Force on Demonstration of Fuel Cycle Closure including Partitioning and Transmutation (P&T) towards Industrialisation by 2050 (TF-FCPT) was launched in January 2021, chair H. Aït Abderrahim (SCK CEN)
- The new NEA Framework for Irradiation Experiments (FIDES):
 - A joint undertaking in co-ordination with the NSC and the CSNI;
 - A stable, sustainable, reliable platform for fuel and materials testing using nuclear research reactors around NEA member countries (replacing the Halden Reactor);
 - Experimental results and expertise for shared costs;
 - PoW 2021-2024 includes 4 Joint Experimental Programmes (JEEP) and a project on data preservation and QA;
 - Parties: 27 organisations from 12 countries and the EC;
 - Budget: 12,9 M€ (contributions of Parties) + approximately 9,5M € (contributions of Core Groups) in 3 years;
 - Launched on 17 March 2021;
 - The first meeting of the FIDES Governing Board will be held on 17 May 2021.

Databases Related to Nuclear Data Testing

- DICE (Database for ICSBEP) ~5000 criticality cases www.oecd-nea.org/dice
 - Moving towards web friendly version with public API (2021)
- IDAT (IRPhE Database and Analysis Tool) ~Reactivity effects, coefficients, reaction rates, spectral indices in different reactor systems www.oecd-nea.org/idat
 - Moving towards web friendly version with API (2021)
- SFCOMPO2.0 ~PIE data from fuel irradiated in reactors www.oecd-nea.org/sfcompo
- NDaST (Nuclear Data and Sensitivity Tool) ~ Links JANIS to integral experiments, via sensitivities to provide rapid feedback www.oecd-nea.org/ndast
 - Latest version released in 2020. Implemented user option to input analytical covariance matrices, option to preserve a cross-section (ex. Total) when performing a perturbation, and simple command line option.
 - Work is ongoing on implementing thermal scattering law perturbation capability, handling of elemental cross section perturbations, handling of multi-group cross section perturbations, extension of command line.
- All databases have seen a need for increased accessibility and user interests in connection with machine learning.



Thank you for your attention

All NEA publications and institutional documentation available at
www.oecd-nea.org

