

# INFORMATION BULLETIN

Ukrainian Nuclear Society



## THE WOMEN'S SECTION OF THE UKRNS

### DEAR COLLEAGUES,

The Ukrainian Nuclear Society presents to your attention the information bulletin, which was prepared at the invitation of the European Nuclear Society as a part of the ENS newsletter.

We're delighted to update our colleagues with the latest news from UkrNS, discussing our ongoing initiatives and projects. Additionally, we'll highlight the endeavors of our members who are actively engaged in the fields of nuclear energy, nuclear research in Ukraine.

We sincerely hope that the information about the UkrNS activity in the period from January to May 2024 will be interesting and useful for you.

With best regards,  
Ukrainian Nuclear Society

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## THE SCIENTIFIC AND TECHNICAL CONFERENCE "PROBLEMS OF MODERN NUCLEAR ENERGY" NAMED AFTER V. VOEVODIN

The Scientific and Technical Conference "Problems of modern nuclear energy" named after V. Voevodin, organized by the Ukrainian Nuclear Society, National Science Center Kharkiv Institute of Physics and Technology NAS of Ukraine, and V. N. Karazin Kharkiv National University, was held in Kharkiv from April 17th to 19th, 2024.

Due to military operations in Ukraine, with a break of a year, the conference dedicated to the problems and prospects for the development of the nuclear energy complex of Ukraine returned to its traditional venue - at the V. N. Karazin Kharkiv National University.

This year, more than 100 participants from several dozen different scientific institutions, higher education institutions and enterprises of the nuclear industrial complex of Ukraine and foreign countries registered to participate in the event. About 40 specialists were present during the opening and first day of the conference, which took place offline (with the possibility of remote participation). The next two days took place online.

The opening and the first day of the conference took place at the university center for contemporary art "Yermilov Center", which is also the shelter of the university. This, as well as the availability of alternative power sources, made it possible to hold all three days of the conference in accordance with the stated regulations.



**17-19** квітня, 2024 **м. Харків, Україна**

Throughout the event, discussions were revolve around various topics, including the development of Ukraine's nuclear energy sector, materials for nuclear energy, enhancing safety and operational efficiency of nuclear power plants, extending the lifespan of power units and controls, equipment aging in nuclear power plants, nuclear, radiation, and environmental safety in managing radioactive waste and spent nuclear fuel, challenges in thermonuclear fusion, and engaging with the public on nuclear industry matters.

One of the issues discussed was the functioning of nuclear energy and science in the extremely difficult conditions of the war in Ukraine, the preservation of the scientific and professional potential of organizations and institutions in the industry, and the stable operation of nuclear enterprises in difficult times of war.

The abstracts collection based on the results of the conference, can be found by the link:

**THE ABSTRACTS COLLECTION OF THE SCIENTIFIC AND TECHNICAL CONFERENCE ON "PROBLEMS OF MODERN NUCLEAR ENERGY" NAMED AFTER V. VOEVODIN**



You can watch the video recording of the conference broadcast using the following links:

- [PROBLEMS OF MODERN NUCLEAR ENERGY. DAY 1](#)
- [PROBLEMS OF MODERN NUCLEAR ENERGY. DAY 2](#)
- [PROBLEMS OF MODERN NUCLEAR ENERGY. DAY 3](#)

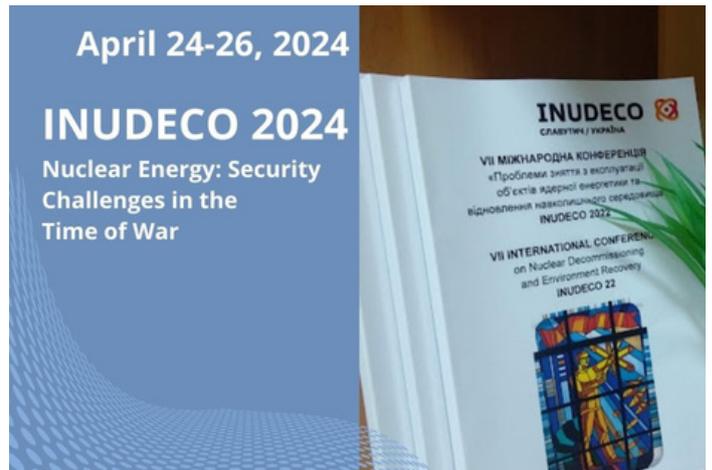


## AN INTERNATIONAL PANEL “NUCLEAR THREAT TO UKRAINE AND THE WORLD: CONSEQUENCES OF THE OCCUPATION OF THE ZAPORIZHZHYA NPP”

On April 24, 2024, as part of the IX International Conference “Problems of Nuclear Energy Objects decommissioning and Environmental Recovery” INUDECO 2024, Ukrainian Nuclear Society organized and held an International Panel on the topic “Nuclear threat to Ukraine and the world: consequences of the occupation of the Zaporizhzhya NPP”.

The conference INUDECO, co-organized and information partner of which is the Ukrainian Nuclear Society, was held with the aim of considering problems and prospects, increasing the level of efficiency of scientific and practical research, establishing cooperation and exchanging experience in decommissioning nuclear energy facilities and restoring the environment.

The UkrNS’s International Panel was opened by Dmytro Verbytskyi, acting General Director of the Zaporizhzhya NPP with a report on the current status, risks, threats and steps to restore the nuclear and radiation safety of the ZNPP.



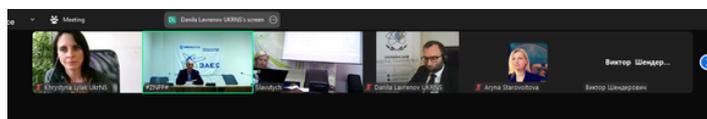
Natalya Rybalka, Director of the Department of Safety of Radiation Technologies and Radioactive Waste Management of the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) - Deputy Chief State Inspector for Nuclear and Radiation Safety of Ukraine addressed in her report the challenges Ukraine faces regarding the implementation of regulatory activities during war. In particular, about the absence of any opportunity to carry out urgently needed activities in this area at the ZNPP, as well as about the experience of the State Nuclear Regulatory Authority after the de-occupation of the Chornobyl NPP and the exclusion zone.

Viktor Lapchenko, Deputy Chief Engineer for Nuclear and Radiation Safety of the Separate Division "Atomremontservice" JSC "NNEGC "Energoatom", a former employee of Zaporizhzhya NPP, reported on the dry storage of spent nuclear fuel at the ZNPP and the risk analysis for this facility during the occupation.

The continuation of the panel was the Section “Challenges to the security and sustainability of the energy sector in conditions of war.”

You can watch the video recording of the first day of the conference and the UkrNS’s panel broadcast using the following link:

**[THE IX INTERNATIONAL CONFERENCE “PROBLEMS OF NUCLEAR ENERGY OBJECTS DECOMMISSIONING AND ENVIRONMENTAL RECOVERY” INUDECO 2024. INTERNATIONAL PANEL ON THE TOPIC “NUCLEAR THREAT TO UKRAINE AND THE WORLD: CONSEQUENCES OF THE OCCUPATION OF THE ZAPORIZHZHYA NPP”](#)**



**Risks and threats for the Zaporizhzhya NP**

**The critical shortage of licensed Ukrainian operators** and the movement of russian workers to ZNPP create additional risks for the safe management of power units

The number of outstanding overhauls of the main equipment of the reactor compartment is **more than 75% of the total amount of safety-critical systems equipment**

## THE NUCLEAR INNOVATORS COMPETITION WAS HELD

The Ukrainian Nuclear Society, in collaboration with leading companies in the nuclear and related sectors NNEGC Energoatom, Energy Safety Group, Phoenix Contact Ukraine, along with international partners – the American Nuclear Society and the Massachusetts Institute of Technology, organized thy competition focusing on scientific projects in nuclear science, energy, and industry for the second time.

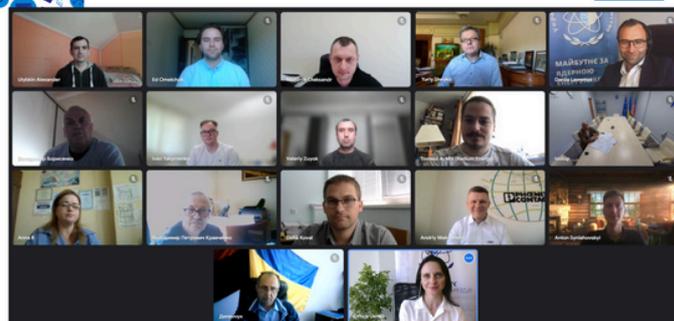
Noteworthy participation and support were also extended by esteemed bodies like the Council of Young Scientists at the Department of Physical and Technical Problems of Energy of the National Academy of Sciences of Ukraine, Institute for Safety Problems of NPPs, the Institute for Nuclear Research, Kharkiv Physical and Technical Institute also joined the competition.

Eight specialists, representing prominent organizations such as the Kharkiv Institute of Physics and Technology, the Institute for Safety Problems for Nuclear Power Plants of the National Academy of Sciences of Ukraine, V. N. Karazin Kharkiv National University, and the Rivne Nuclear Power Plant, participated. Additionally, a participant from Poland, Radium Energy Sp. z o., joined the competition.

The jury evaluated projects in two stages – during the preliminary review of project summaries and the final presentation. The final part took place on April 30, 2024 in an online format, where the participants of the competition presented their scientific research and applied developments for consideration by the jury.



Конкурс проєктів у сфері ядерної науки, атомної енергетики та промисловості «Атомні інноватори»-2024  
Фінал, 30 квітня 2024 року



On May 7, 2024, the winners of the scientific project competition within the nuclear science, nuclear energy, and industry domain, titled “Nuclear Innovators” – 2024, were announced.

The victorious individuals are:

In the “Applied Development” category:

Dmytro Koval, Head of the department for repairing relay protection devices of the main circuit of the Rivne NPP, with his project «Mathematical model for numerical calculations of electromechanical and electromagnetic transient processes in the scheme of generation and output of NPP power»

In the “Scientific Research” category:

Ganna Riedkina, Junior researcher of the National Science Center «Kharkiv Institute of Physics and Technology», with her project «Ensuring storage of used nuclear fuel in Ukraine. Scientific support».

The winners of the competition will receive monetary rewards from the organizers and partners, as well as comprehensive support in the practical implementation or scaling of their projects. Also, all participants will be honored with incentive prizes.

Moreover, this year, the “Nuclear Innovators” competition aligns with the European innovation contest “Innovation for Nuclear” (I4N) Europe. A participant from the “Nuclear Innovators” competition will be invited, supported by UkrNS, to participate in the final stage of the (I4N) Europe competition in the summer of 2024.



## A NEW SEPARATE SUBDIVISION OF THE NGO “UKRNS” ON THE BASIS OF THE IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE WAS CREATED

On February 21, 2024, a founding meeting of the Ukrainian Nuclear Society members was held at the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, during which a decision was made to create a new Separate Subdivision of Ukrainian Nuclear Society on the basis of the Department of Nuclear Energy of the Educational and Scientific Institute of Atomic and Thermal Energy.

This is already the fourteenth separate division of the UkrNS. Fifteen UkrNS members took part in the founding meeting. Volodymyr Filatov, a docent of the Department of Nuclear Energy, was elected chairman of the newly Separate Subdivision.



Educational and Scientific Institute of Nuclear and Thermal Energy of the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” is one of the leading educational centers in Ukraine for specialists in the nuclear and other energy sectors.

### ORGANIZATIONAL ACTIVITIES

## A MEETING OF THE WOMEN’S SECTION OF THE UKRNS WAS HELD

The first meeting of the Women’s Section of the Ukrainian Nuclear Society after a long break took place on March 20, 2024. Representatives of separate divisions of UkrNS joined the meeting, as well as participants of UkrNS projects for youth.

The meeting participants discussed the plans and objectives of the Women’s Section. In particular, about creating a community within a public organization to support women working in the nuclear industry, promoting their professional and personal development, prompt exchange of ideas and plans, involving a wider range of women-specialists in the implementation of the Society’s events and projects, establishing cooperation with other women’s industry and public organizations of Ukraine and other countries, as well as educational events with the participation of representatives of UkrNS.



In addition, the draft Gender Equality Plan of the NGO UkrNS was presented at the meeting. The Ukrainian Nuclear Society, as the largest industry-based public organization in Ukraine, uniting more than 3,000 members, always strives to follow the highest and most advanced world practices, including sustainable development goals.

One of the priority goals is to promote gender equality. The presented document contains detailed information about the goals of UkrNS in this direction, defines a list of measures, distributes responsibilities and lists the necessary resources to improve gender equality in the Society and the nuclear industry of Ukraine as a whole. The approval of the Plan is planned at the next Board Meeting of the UkrNS.

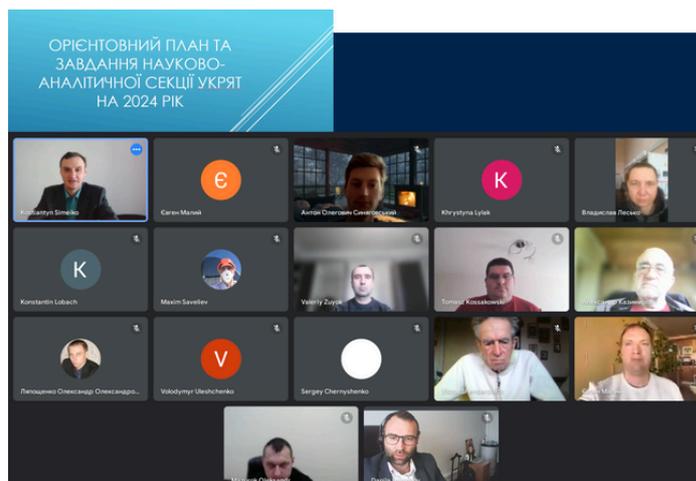


## THE MEETING OF THE SCIENTIFIC AND ANALYTICAL SECTION OF THE UKRNS WAS HELD

On February 27, 2024, the next meeting of the Scientific and Analytical Section of the UkrNS was held.

The meeting was attended by members of the Board of the UkrNS and directly from the Scientific and Analytical Section of the Society, as well as other specialists from enterprises and organizations.

During the meeting, participants discussed the main results of the section's activities last year, the progress of implementation of events, projects and initiatives planned for 2024. In particular, the participants discussed preparations for the International Conferences "Problems of Modern Nuclear Energy" in Kharkiv and the INUDECO Conference in Slavutich, the competition of scientific projects "Nuclear Innovators" and the project on scientific research and development "Interesting about Nuclear Science".

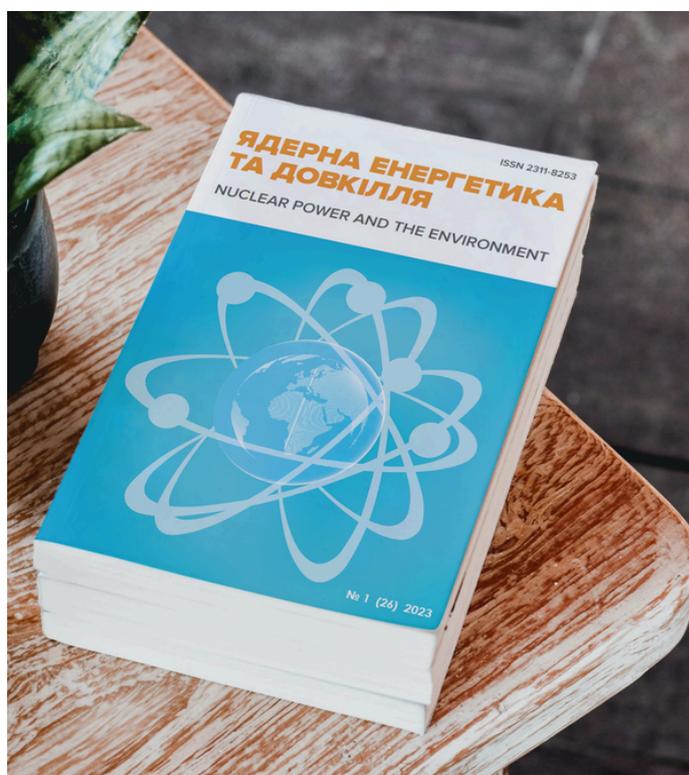


Section members also discussed efforts and shared experience and future plans for the participation of Ukrainian scientists in Euratom grant programs. The participants discussed the development of an English-language glossary of nuclear energy terms and concepts for use by higher education institutions and industry enterprises.

## TECHNICAL JOURNAL "NUCLEAR ENERGY AND THE ENVIRONMENT"

A next edition of the scientific and technical journal "Nuclear Energy and the Environment" has been published, co-founded by the Institute of Safety Problems of Nuclear Power Plants of the National Academy of Sciences of Ukraine and the UkrNS. The edition No. 26 includes articles devoted to current issues of nuclear energy and radioecology.

Among them: Simulation of processes in the containment of the VVER 1000 reactor facility during leak tests; Risk-informed method for optimizing the strategy of scheduled repairs according to the technical condition of safety related systems of nuclear power plants; Comparison of heat pump location options for hot water supply from NPP; General approach to the fuel containing materials and associated radioactive waste management at the stage of their removal from the Shelter object premises etc; Study of temperature impact of discharges and balance of biogenic elements in the water of the Styr river in the impact zone of the Rivne NPP; Radioecological zoning as a methodical basis for the organization of interaction of systems for forecasting the radiation situation and the monitoring network of the agrosphere in case of radiation emergencies and; Conditioning of high-level solid radioactive waste in nuclear fuel cycle. Review of methods and procedures. other.



[DOWNLOAD THE EDITION NO. 28](#)



## THE UKRAINIAN NUCLEAR SOCIETY IS EMBARKING ON A SERIES OF PUBLICATIONS UNDER THE BANNER OF THE “INTERESTING ABOUT NUCLEAR SCIENCE” PROJECT

The primary objective of this initiative is to promote awareness and appreciation for nuclear science, displaying the fundamental scientific and applied research endeavors undertaken by Ukrainian scientists. The project also aims to cultivate public interest in nuclear energy and lend support to industry development initiatives.

Within the scope of this undertaking, the Ukrainian Nuclear Society is collaborating with prominent scientists and specialists to create accessible and engaging popular science articles. These articles will delve into the realm of scientific research and development within the nuclear industry, tailored to appeal to a diverse readership.

This initiative seeks to make nuclear science more accessible and captivating for a wider audience, and we look forward to readers engaging with and benefiting from the informative content presented in these publications.



### UKRNS PROJECT INTERESTING ABOUT NUCLEAR SCIENCE

A PROJECT FOR SCIENTISTS  
AND ABOUT SCIENTISTS  
SEEKING TO SHARE THE  
RESULTS OF THEIR  
RESEARCH AND  
DEVELOPMENTS

FILL OUT THE FORM TO PARTICIPATE



## INFORMATION DIGEST ON THE STATE OF THE NUCLEAR INDUSTRY AND THE SITUATION IN UKRAINE

In order to inform the world community about the situation in Ukraine, since mid-March 2022, UkrNS has been preparing an information digest on the state of the nuclear industry and the situation in Ukraine.

The digest includes information about status of the Ukrainian nuclear power plants and the nuclear industry of Ukraine; Current situation on Zaporizhzhya NPP, on Chernobyl NPP and in the Exclusion Zone; war in Ukraine.



DIGESTS CAN BE  
FOUND BY  
THE LINK



### VOLUNTEER ACTIVITIES

The Ukrainian Nuclear Society continues to help our members and support defenders of Ukraine,

We cooperate with charitable funds and requests of Ukrainian military personnel for help in acquiring the necessary means and equipment.



UKRAINIAN  
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SOCIETY



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