

INFORMATION DIGEST

DECEMBER 18-21, 2023



Status of the Ukrainian nuclear power plants and the nuclear industry of Ukraine

- According to SE NNEGC Energoatom, on December 18-21, power units of Ukrainian nuclear power plants which are located on the territory controlled by Ukraine worked to meet the needs of the population and the country's economy.
- Ukraine's National Nuclear Energy Generating Company Energoatom has successfully begun transporting used nuclear fuel from the nation's operating reactors to its newly built and commissioned Holtec-engineered Central Spent Fuel Storage Facility (CSFSF) (called "Consolidated Interim Storage (CIS) Facility" in the U.S.).

According to the SE NNEGC Energoatom the joint cooperative efforts of Energoatom and Holtec International have deployed state-of-the-art storage and transport systems for its Russian-origin (VVER) nuclear fuel which are characterized by an extreme resistance to malevolent human action and proven defense-in-depth features against accidents and mishaps. Some of the major equipment types being used by Ukraine include the HI-STORM 190 vertical ventilated storage system, the HI-STAR 190 Universal Transport Cask, the HI-TRAC 190 Transfer Cask, and an array of ancillary equipment to load, dehydrate, and weld the double wall Multiple Purpose Canisters at each operating plant site. The dried and welded Double Wall Canisters have been safely transported in the HI-STAR 190 transport cask to the Central Storage Facility and placed in the HI-STORM 190 vertical ventilated systems for environmentally safe-storage. The high-capacity Double Wall Multi-Purpose Canisters and industry's most heavily shielded transport cask HI-STAR 190 have become Ukraine's workhorse to transport the country's used fuel from its nine reactors to the nation's consolidated interim storage facility. Although the Design Life of CSFSF is 100 years, their Service Life is expected to be many times longer.

While the manufacturing of most major capital equipment for the CSFSF occurred in Holtec's United States plants, the Company's European contractors from Estonia, Italy, Germany, and the Netherlands also supplied important components and systems to the project.

Energoatom and Holtec have also agreed in principle to establish a state-of-the-art manufacturing facility for localizing the production of equipment for the Holtec SMRs, spent nuclear fuel storage and transport systems, and other nuclear energy related needs of Ukraine. To advance this objective, it is envisioned to establish a



UKRAINIAN NUCLEAR SOCIETY



/UKRNUCLEARSOC



UKRNS.ORG



Joint Venture between Energoatom and Holtec for a Ukrainian manufacturing facility and technology center that will serve as the vehicle to infuse the latest manufacturing technology in Ukraine. More specifically, this facility would host an engineering/design center, space for material storage, component manufacturing, assembly, and testing, as well as training facilities, including an SMR simulator. The facility is expected to create thousands of skilled jobs for Ukrainian workers who will build all required SMR-300 nuclear units of Holtec's design to meet Ukraine's growing clean energy needs in addition to the fuel storage and transport equipment to serve the nation's existing nuclear plants."

More details: <https://www.energoatom.com.ua/app-eng/eng-2012231.html>

- On December 17, 2023 during a working meeting of the Head of SE «NNEGC «Energoatom» Petro Kotin and Chief Executive Director of the Westinghouse Electric Company Patrick Fragman the parties discussed enhancing of current cooperation between the companies. In particular, signing of Agreement on supply of AP-1000 reactor island for Khmelnytskyi NPP power unit #5 and successful loading of nuclear fuel manufactured by Westinghouse Electric Sweden AB with participation of Energoatoms's experts into VVER-440 reactor of Rivne NPP.

More details: <https://www.energoatom.com.ua/app-eng/eng-1812232.html>

Current situation on Zaporizhzhya NPP

- According to the SE NNEGC Energoatom on December 18-21, 2023, the Zaporizhzhya NPP received power for its in-house needs from the energy system of Ukraine. From December 18 to December 21, 2023, the exposure dose rate of gamma radiation in the area where the Zaporizhzhya NPP complied with current standards.
- According to the SE NNEGC Energoatom, as of today the water level in the ZNPP cooling pond is 15.66 m. The water level in the "hot" channel of the Zaporizhzhya Thermal Power Plant, from which, if necessary, the ZNPP pond is fed up, is 16.79 m. In the Zaporizhzhya Thermal Power Plant "cold" channel the water level reaches 10,63 m. The situation remains stable and controlled.

Current situation on Chernobyl NPP and in the Exclusion Zone

- On December 18-21, 2023, the radiation situation at the ChNPP site was without changes. The monitored parameters of the equipment were within the boundaries set by the technological regulations. Operating personnel continues to ensure nuclear and radiation safety.

War in Ukraine

- On December 21, 2023, is the 666 day of the resistance of Ukraine to the russian military invasion.
- According the General Staff of the Armed Forces of Ukraine, situation is difficult in Kupyansk, Lyman and Bakhmut sectors in the east of Ukraine. russians tried to break through Ukrainian Armed Forces' defense in Kupyansk sector. Ukrainian defenders repelled 16 attacks of russian army there.
- On the Avdiivka front [Donetsk region] Ukrainian defenders are continuing to hold back the russians, who are still trying to encircle the city of Avdiivka. russians have



UKRAINIAN NUCLEAR SOCIETY



/UKRNUCLEARSOC



UKRNS.ORG



advanced by 1.5-2 km in Avdiivka direction since October, but lost 25,000 people killed and wounded there. This was stated by the spokesman for the Ukrainian Tauria Defence Forces, Oleksandr Shtupun. According to him, the occupiers have an advantage in manpower, sometimes they are well armed, equipped and trained.

- In the area of responsibility of the Southern Defense Forces, the enemy continues to strengthen its positions, drawing up reserves. Russia conducts surveillance, continues to press with artillery fire, and uses drones of various types: both reconnaissance and strike. In the Kherson region, the Defense Forces of Ukraine continue to expand the bridgehead on the left bank of the Dnipro river. Despite the failure, the Russian invaders did not abandon their intention to knock out Ukrainian units from their positions. Last day, the Russian occupiers made more than 30 unsuccessful assaults. Also, Russians have increased number of drones used in Bakhmut direction in Donetsk region.
- In the Black Sea, after a three-week pause, the enemy took out an underwater missile carrier equipped with up to 4 Kalibr missiles. A total of 5 enemy ships are on combat duty in the Black Sea and 1 in the Azov Sea. The level of missile danger has increased.
- The operational situation in the northern fronts remains without significant changes. Certain units of the Belarusian Armed Forces are performing tasks in the areas bordering Ukraine.
- Russia continues to ignore the laws and customs of war, uses terror tactics, launches strikes, and shells both military and civilian targets.
- On the night of December 21, 2023, Russian invaders attacked with shock UAVs of the "Shahed" type from three directions: Chauda - the occupied Crimea, Primorsko-Akhtarsk, Kursk - the Russian Federation. Air defense worked in 12 regions. In different directions, the defenders of the sky managed to shoot down 34 of the 35 enemy strike UAVs fired.
- On the night of 20 December, an air raid alarm sounded for over an hour and a half in the Kyiv region. Air defense forces were deployed. As a result of the attack, a fire broke out at a civilian enterprise due to falling debris. According to the latest information, there were no casualties.
- On the night of 20 December, a humanitarian aid warehouse of the Ukrainian Red Cross was destroyed in Kherson as a result of shelling by the Russian army. It is noted that the staff and volunteers of the Kherson regional organization of the URCS were not injured. Work to eliminate the consequences continues. On the evening of December 20, the occupiers attacked Kherson once again, 9 people were wounded, 4 of them children.
- Also, in the night on December 20, Russians hit Kharkiv with missiles and shelled 20 settlements in region.
- Finnish President Sauli Niinistö has approved another military aid package for Ukraine on the proposal of the government. This is the 21st aid package from the country.
- On Thursday, 21 December, the Netherlands announced the first tranche of more than €2 billion in humanitarian aid for Ukraine in 2024.
- The €102 million package is designed for the first four months of 2024 to help



Ukraine get through the winter and prepare for spring.

- Thus, 15 million euros will be allocated to the UN Office for the Coordination of Humanitarian Affairs and demining of agricultural land and de-occupied territories of Ukraine.

UkrNS News

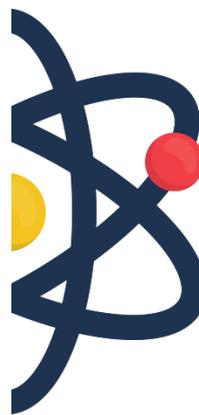
- On April 17-19, 2024, the V.M. Voevodin International Scientific and Technical Conference "Problems of modern nuclear energy" will be held in Kharkiv.

Organizers of the event:

Ukrainian Nuclear Society, National Science Center Kharkiv Institute of Physics and Technology NAS of Ukraine, V. N. Karazin Kharkiv National University

Within the framework of the conference, the following questions will be considered:

- Development of the nuclear energy complex of Ukraine
- Materials for nuclear energy
- Increasing the level of safety and efficiency of NPP operation
- Lifetime extension of NPPs and management of life cycle and ageing at nuclear power plants
- Nuclear, radiation and environmental safety in the handling of RAW and SNF
- Problems of thermonuclear fusion
- Work with the public in the nuclear industry



INTERNATIONAL SCIENTIFIC
AND TECHNICAL CONFERENCE
NAMED AFTER V. VOYEVODIN

PROBLEMS OF MODERN NUCLEAR POWER

Kharkiv, Ukraine
V. N. Karazin National
University
«YermilovCentre»

Kharkiv,
Ukraine

17-19

APRIL,
2024



Registration | until March 1, 2024
Abstract submission | until March 15, 2024

kipt.kharkov.ua

[MORE DETAILS](#)

ukrns.org

The working languages of the conference are Ukrainian and English.

Submission of applications for participation and provision of abstract titles – until March 01, 2024 by the link:

<https://forms.gle/NUvsMuYcKEVGD7p6>

For detailed information see below or by the link here:

[INFORMATION ABOUT THE CONFERENCE](#)

The organizing and program committee contact:

pmne2016@ukr.net

Sources: t.me/V_Zelenskiy_official, t.me/energoatom_ua, Centre for Strategic Communication, Ministry of Defense of Ukraine, the National Police of Ukraine censor.net, Ukrainska Pravda, radiosvoboda.org, eurointegration.com.ua



UKRAINIAN NUCLEAR SOCIETY



[/UKRNUCLEARSOC](https://www.facebook.com/UKRNUCLEARSOC)



UKRNS.ORG



**INTERNATIONAL SCIENTIFIC
AND TECHNICAL CONFERENCE
NAMED AFTER V. VOYEVODIN
«PROBLEMS OF MODERN
NUCLEAR POWER»**

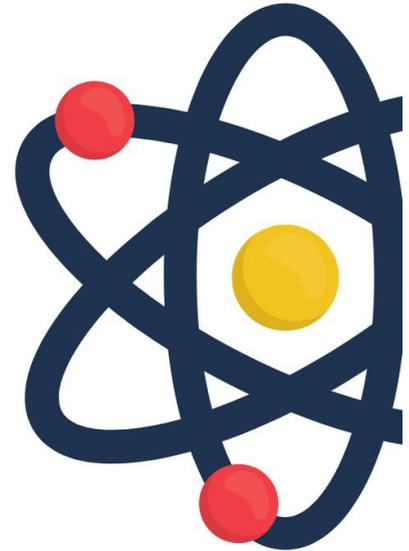
April 17 - 19, 2024
Kharkiv, Ukraine
V. N. Karazin National
University
«YermilovCentre»

CONFERENCE TOPICS

- Development of the nuclear energy complex of Ukraine
- Materials for nuclear energy
- Increasing the level of safety and efficiency of NPP operation
- Lifetime extension of NPPs and management of life cycle and ageing at nuclear power plants
- Nuclear, radiation and environmental safety in the handling of RAW and SNF
- Problems of thermonuclear fusion
- Work with the public in the nuclear industry

GUIDELINES FOR CONDUCTING CONFERENCES

until **March 1, 2024** – submission of applications for participation and report titles
until **April 9, 2024** – publication of the conference program
April 17, 2024 – registration of participants, opening, mixed form of participation
April 18, 2024 - 2nd remote session on the Zoom platform
April 19, 2024 - 3rd remote session on the Zoom platform, closing the conference



ORGANIZATIONAL COMMITTEE

Azarenkov M.O. - academician of the National Academy of Sciences of Ukraine, chairman, director of the Institute of Solid State Physics, Materials Science and Technologies NAS of Ukraine
Garkusha I.E. - academician of the NAS of Ukraine - co-chairman, Director Institute of Plasma Physics of the NSC KIPT
Sayenko S.Yu. - Doctor of Technical Sciences, head of department of NSC KIPT
Lytovchenko S.V. - doctor of technical sciences, head of the department of V. N. Karazin National University
Lavrenov D.A. - executive secretary of the Ukrainian Nuclear Society
Khomych O.M. - head of the youth section of UkrNS, shift chief of the Khmelnytsky NPP unit

LOCAL ORGANIZING COMMITTEE

Lobach K.V. - Ph.D, head, phone: +38 (063)-573-90-27, e-mail: lobach0709@gmail.com
Kuprin O.S. - Ph.D., deputy head, phone: +38 (063)-942-38-93, e-mail: kuprin@kipt.kharkov.ua
Levenets A.V. - academic secretary, phone: +38 (050)-343-19-44, e-mail: avlevenets@gmail.com

- Ukrainian Nuclear Society
- National Science Center Kharkiv
Institute of Physics and Technology
NAS of Ukraine
- V. N. Karazin Kharkiv National
University



**SAFETY OF
PARTICIPANTS**



The conference will take place in the «YermilovCentre» modern art center, which is used as an air raid shelter



kipt.kharkov.ua | ukrns.org



UKRAINIAN NUCLEAR SOCIETY

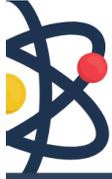


[/UKRNUCLEARSOC](https://www.facebook.com/UKRNUCLEARSOC)



UKRNS.ORG





INTERNATIONAL SCIENTIFIC AND TECHNICAL
CONFERENCE NAMED AFTER V. VOYEVODIN
«PROBLEMS OF MODERN NUCLEAR POWER»

April 17 - 19, 2024
Kharkiv, Ukraine
V. N. Karazin National University
«YermilovCentre»

GUIDELINES FOR THE PRODUCTION OF ABSTRACTS

ABSTRACT TITLE

Author A.A., Author B.B.

The name of organization, city, country, e-mail

Abstracts in a one full page A4 should be typed in Word, font Times New Roman size 12, equation - Symbol or embedded in Word equation editor, spacing 1, red line 1 cm, alignment in width. Words hyphenation allowed. Title printed in capital bold letters type. Figures should be inserted in the text. References placed at the end of the abstract.

Settings page - top, bottom, right -25 mm, left - 35 mm. Sent materials will not be edited; request carefully consider the correctness of their registration

Typed above mentioned rules text of the report should be sent by email and in hard copy in 1 copies adding Act of expertise allowing publication in the open press. Proceedings of the Conference for the election of the organizing committee will be recommended for publication in the journal "Problems of Atomic Science and Technologie" (PAST).

Conference languages: Ukrainian and English.

References to unpublished information are not allowed. Overall, the following patterns should be followed:
Journal: - authors (initials, names), title of the article, name of the journal (in italics), year, volume and number of issue, page numbers.

Example: I.I. Shevchenko, P.P. Timchenko. Radiation swelling of NiSc alloy NiSc // Problems of Atomic Science and Technology. Series «Nuclear Physics Investigations» (33). 2000, no.1, p. 45-49.2000, №1, с. 45-49.
Book, preprint, others – authors (initials, names), title (in italics), town, publishing house, year of publication, number of pages.

Example: Р. Баррет, Д. Джексон. Розміри та структура ядер. Київ: «Наукова думка», 1981, р. 127-139.

Abstracts must be submitted by March 15, 2024.

SEND ABSTRACTS

UNTIL MARCH 15, 2024 TO THE EMAIL ADDRESS:

pmne2016@ukr.net

Registration | until March 1, 2024
Abstract submission | until March 15, 2024



kipt.kharkov.ua | ukrms.org



UKRAINIAN NUCLEAR SOCIETY



/UKRNUCLEARSOC



UKRNS.ORG



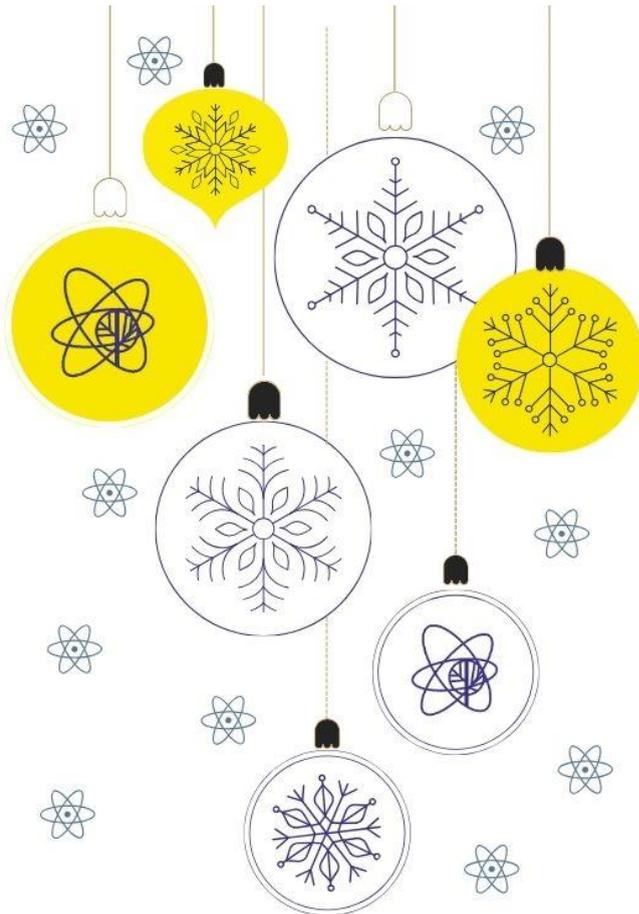
Dear colleagues,

On behalf of more than 3,000 members of the Ukrainian Nuclear Society, we sincerely wish you and all your colleagues a Merry Christmas and a Happy New Year!

We wish you success, professional achievements, prosperity and development of peaceful nuclear energy, science and innovative nuclear technologies in your country.

We sincerely hope for future cooperation in 2024!

Best regards,



DEAR COLLEAGUES

THE UKRAINIAN NUCLEAR SOCIETY IS ACTIVELY ENGAGED IN VOLUNTEER ACTIVITIES, HELPING OUR COLLEAGUES FROM NUCLEAR POWER PLANTS, REFUGEES FROM THE ZAPORIZHZHIA NPP, AS WELL AS OUR MEMBERS WHO JOINED THE ARMED FORCES TO DEFENDED OUR COUNTRY.



LINK TO SUPPORT

SUPPORT THE ANS-ENS UKRAINIAN NUCLEAR WORKERS HUMANITARIAN FUND



PRESENTATION ABOUT VOLUNTEER ACTIVITIES

WE ARE VERY GRATEFUL FOR ANY HELP AND SUPPORT!

STAND WITH UKRAINE 



DONATE

Support Ukraine's nuclear workers and their families impacted by war.