

**JOINT STOCK COMPANY
«RUSSIAN CONCERN FOR PRODUCTION OF ELECTRIC
AND THERMAL ENERGY AT NUCLEAR POWER PLANTS»
(ROSENERGOATOM CONCERN JSC)**

TENTH INTERNATIONAL SCIENTIFIC AND TECHNICAL CONFERENCE

**«SAFETY, EFFICIENCY AND ECONOMICS
OF NUCLEAR POWER INDUSTRY»
(MNTK-2016)**

CONFERENCE PROGRAMME

Moscow, May 25–27, 2016

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PLENARY SESSION PROGRAMME

Building 2: Conference hall

9.00–9.10 Welcome address.

Lokshin A.M., State Corporation “Rosatom”

Chair: Shutikov A.V.

9.10–9.40 Current Status of Russian Nuclear Power Industry. Looking Forward to the Future through Analysis of the Past.

Petrov A.Yu., Rosenergoatom Concern JSC

9.45–10.05 Russian Nuclear Energy Complex: Safety and Efficiency.

Asmolov V.G., Rosenergoatom Concern JSC

10.10–10.30 New Approaches to Designing Nuclear Power Units

Alenkov V.V., United Company NIAEP JSC – ASE JSC

10.35–10.55 The “Breakthrough” Project

Adamov E.O., State Corporation “Rosatom”

11.00–11.20 Break time. Coffee break

11.20–11.40 VVER-1200 as the Lead Unit of New Generation Design. Peculiarities of Commissioning.

Povarov V.P., Novovoronezh NPP

Atomtekhenergo JSC

11.45–12.05 BN-800 as the Lead Unit of New Generation Design. Peculiarities of Commissioning.

Sidorov I.I., Beloyarsk NPP

SSC RF IPPE OJSC

12.10–12.30 Lessons of Chernobyl and Fukushima and the Modern Severe Accidents Management Concepts.

Bolshov L.A., Nuclear Safety Institute of the RAS

12.40–13.40 Lunch.

Briefing for mass media. Building 1, 2nd floor, OPAS hall

Chair: Asmolov V.G.

13.40–14.00 Status and Perspectives of International Business Cooperation.

Komarov K.B., State Corporation “Rosatom”

14.05–14.25 Economic Strategy of Rosenergoatom Concern JSC Development.

Migalin S.A., Rosenergoatom Concern JSC

- 14.30–14.50 IAEA Activities in the Nuclear Infrastructure Development Domain.
Dohee Hahn, IAEA
- 14.55–15.15 WANO Programs at the Present Stage and their Impact on Safety.
Janos Toth, WANO-MC
- 15.20–15.40 Continuous improvement of reactor safety at the EDF fleet. Extending the operational life span of the French nuclear fleet beyond 40 years.
Herve Maillard, EDF
- 15.45–16.05 Ensuring sustainability of national nuclear safety systems – the concept of institutional strength-in-depth.
Mike Weightman, INSAG member
- 16.10–16.30 Break time. Coffee break**

Chair: Zhukov A.G.

- 16.30–16.50 The strategy towards zero-level fuel failure.
Lavrenyuk P.I., TVEL Fuel Company OJSC
Chernikov O.G., Rosenergoatom Concern JSC
- 16.55–17.15 Problems of conservatism removal at nuclear power units
EDO Gidropress, NRC “Kurchatov Institute”, VNIIAES JSC
- 17.20–17.40 BN-1200 project as the basis for transition to a two-component nuclear power system with a closed nuclear fuel cycle.
OKBM Afrikantov, ATOMPROEKT JSC, SSC RF IPPE JSC
Rosenergoatom Concern JSC
- 17.45–18.00 Session summing up.
- 18.00–21.00 Buffet**

SECTION SESSION PROGRAMME

SECTION 1. SAFE AND EFFECTIVE OPERATION OF RUSSIAN NPPS

Section chairman: Zhukov A.G., Rosenergoatom Concern JSC

SUBSECTION 1.1. OPERATION, MAINTENANCE AND REPAIR OF NPPS WITH VVER, RBMK, BN AND EGP-6 REACTORS

Subsection chairman: Chernikov O.G., Rosenergoatom Concern JSC

Topical area: 1.1.1. Operation of NPPs with VVER reactors

Chairman: Aydemirov O.A., Rosenergoatom Concern JSC

Co-chairmen: Berkovich V.Ya., EDO Gidropress JSC;

Mikhailchuk A.V., VNIIAES JSC

Room 213 (Building 1), 2nd floor (The Crisis Center)

9.00–9.15 Session opening.

Aydemirov O.A., Berkovich V.Ya., Mikhailchuk A.V.

9.15–10.15 Some aspects of operation related to VVER-1000 power units in stationary and transient conditions after transfer of power units to a higher power level, 104% of the rated power.

Bay V.F., KLNNPP

10.15–10.45 Concept of implementing alarms and sending updated information to the operator.

Baykov D.S., Atomtekhenergo JSC

10.45–11.00 Break time. Coffee break

11.00–11.30 Approaches related to accounting and monitoring of fast neutron fluence on VVER reactor vessels and experience of their use within radiation exposure monitoring procedures for VVER equipment.

Borodkin P.G., SEC NRS

11.30–12.00 CIM procedure modernization at an operating reactor to determine the leaky FA fuel burn-up. *Vilkhivskaya O.V., SSC RF TRINITI*

12.00–12.30 Analysis results of VVER-1000 fuel rods with increased uranium loading and cladding made of E110 and e110opt alloys based on zirconium sponge.

Zvir E.A., SSC NIAR

- 12.30–13.00 Management strategy for severe BDBAs with fuel melting for NPPs with VVER reactors.
Zvonarev Yu.A., NRC “Kurchatov Institute”
- 13.00–13.45 Lunch**
- 13.45–14.15 The full range of works on the operational integrity justification of the Rostov NPP Unit 3 containment.
Medvedev V.N., FGBUN Nuclear Safety Institute of the RAS
- 14.15–14.45 VVER Integrated Diagnostics.
Pavelko V.I., Diaprom CJSC
- 14.45–15.15 Possibilities of using fiber optic correlation for the coolant flow measurement system to improve accuracy of determining the thermal power of VVER reactors.
Titarenko N.N., SSC RF IPPE
- 15.15–15.45 Chemistry of the secondary circuit in NPP designs with new generation VVER reactors.
Tyapkov V.F., VNIIAES JSC
- 15.45–16.00 Break time. Coffee break**
- 16.00–16.30 Analysis results of leaky fuel rods with a pellet without a central hole, that was used as part of TVSA-ALPHA to burn-up of 41 MW-day/kgU.
Shevlyakov G.V., NIIAR JSC
- 16.30–17.00 Generalization of experimental analysis results for plate-type mixing grids applied to TVSA-12PLUS VVER-1000.
Romanov A.I., OKBM JSC
- 17.00–18.00 Discussion of the presentations.
“Best sectional report” competition.
Session summing up**

Topical area: 1.1.2. Operation of NPPs with RBMK, BN and EGP-6 reactors

Chairman: *Bystrikov A.A., Rosenergoatom Concern JSC*

Co-chairman: *Druzhinin V.E. VNIIAES JSC*

Room 613 (Building 1), 6th floor

8.45-9.00 Session opening.

Bystrikov A.A., Druzhinin V.E.

9.00-9.30 Basic trends in service life management of RBMK reactors.

Slobodchikov A.V., NIKIET JSC

9.30-9.55 Structure factors determining the reactor graphite radiation resistance.

Gurovich B.A., NRC "Kurchatov Institute"

9.55-10.20 Modeling problems of RBMK graphite stack deformation.

Fedosov A.M., NRC "Kurchatov Institute"

10.20-10.45 Discussion of the presentations.

10.45-11.00 Break time. Coffee break

11.00-11.20 Perspectives considerations of BN-800 reactor core development.

Vasiliev B.A., OKBM Afrikantov OJSC

11.20-11.40 Using GEFFEST-800 code complex for operational calculations of BN-800 reactor neutronics.

Seleznev Ye.F., Nuclear Safety Institute of the RAS

11.40-12.00 Experience in commissioning the diagnostics system for BN-800 reactor core.

Danilenko V.P., NITI n.a. A.P.Alexandrov

12.00-12.20 Discussion of the presentations

12.20-12.35 Neutronics modules for FE calculations part of the GEFFEST code complex.

Belov A.A., Nuclear Safety Institute of the RAS

12.35-12.45 Discussion of the presentation

12.45-13.45 Lunch

13.45-14.05 Leningrad NPP Units 1 and 2 graphite stack life restoration.

Kharakhnin S.N., Leningrad NPP

14.05-14.25 RBMK-1000 graphite stack bending monitoring systems on the basis of fiber optic sensors.

Shevtsov I.A., Prolog LLC

14.25-14.50 Neutronics parameters of RBMK-1000 when changing the graphite stack properties.

Druzhinin V.E., VNIIAES JSC

- 14.50–15.10 Precision calculations of neutronics parameters for RBMK-1000 reactors using the Monte-Carlo method.
Rozhdestvensky I.M., NIKIET JSC
- 15.10–15.25 Analysis of RBMK-1000 neutronics and thermohydraulic parameters measurement results compliance with the forecast calculations after completion of graphite stack life restoration works.
Danicheva I.A., FBU SEC NRS
- 15.25–15.45 Discussion of the presentations**
- 15.45–16.00 Break time. Coffee break**
- 16.00–16.20 Experience of BN-600 reactor operation at Beloyarsk NPP Unit 3 in 2015.
Staroverov A.I., OKBM Afrikantov OJSC
- 16.20–16.40 The use of improved assessment codes for independent examination of safety justifications for fast neutron reactors with liquid metal coolant.
Khrennikov N.N., FBU SEC NRS
- 16.40–17.00 Discussion and evaluation of the presentations**
- 17.00–18.00 Session summing up**

Topical area: 1.1.3. Maintenance, repair and installation of NPP equipment

Chairman: Krupsky A.G., Rosenergoatom Concern JSC

Room 614 (Building 1), 6th floor

9.00–9.15 Session opening.

Krupsky A.G.

9.15–9.35 Remote technique for repair of leaky heat exchange tubes of the PGV steam generator.

Malakhov I.V., Rostov NPP

9.35–9.55 Work arrangement and implementation of Rosatom Production System projects related to the life restoration at Kursk nuclear power units.

Mezentsev A.V., Kursk NPP

9.55–10.15 Smolensk NPP as a Rosatom Production System Enterprise. Tasks, issues, results.

Aputin V.M., Smolensk NPP

10.15–10.35 Optimization of the process operations related to PTU-14 condenser replacement at Novovoronezh NPP Unit 5.

Zalozny A.V., Novovoronezh NPP

10.35–10.55 Organizing RBMK-1000 reactor preparation to life restoration at Kursk NPP followed by restoring the regular circuit.

Zhilin I.S., Atomenergoremont JSC

10.55–11.10 Equipment life management and lifetime extension of nuclear power units.

Filimonov A.V., Beloyarsk NPP

11.10–11.30 Break time. Coffee break

11.30–11.50 Application of protective coating on the HPC.

Gagarin I.A., Atomenergoremont OJSC

11.50–12.10 Condition-based maintenance and repair of nuclear power plant. The concept.

Yanchenko Yu.A., VNIIAES JSC

12.10–12.30 Manufacturing, installation and operation of rotary cranes

Naugolnov V.A., Volgodonsk Engineering and Technical Institute – the branch of NRSU “MEPHI”

12.30–13.30 Lunch

13.30–13.50 Smart inventory storing, recording and monitoring systems of AMDAR AS.

Semenkov E.G., OOO «Intra tool»

- 13.50–14.10 Status and perspectives of operating conditions related to DN300 austenitic pipelines at NPPs with RBMK-1000 reactor.
Babkin L.B., VNI AES JSC
- 14.10–14.30 Evaluation of radiation resistance and strength characteristics of the BELZONA materials for their possible application in repairs of the 2nd safety class equipment: tanks, fuel pools, oil coolers and other NPP equipment.
Makeyeva E.A., Parma-Service CJSC
- 14.30–14.50 Break time. Coffee break**
- 14.50–15.10 Corrosion protection of heat exchange equipment.
Koshkarov A.A., Byte LLC
- 15.10–15.30 Information, diagnostic and technological support of maintenance campaigns.
Nikiforov V.N., NRSU “MEPHI”
- 15.30–15.50 NPP turbine flow section endoscopic procedure.
Novikov A.V., VNI AES JSC
- 15.50–16.10 Information, diagnostic and technological support of maintenance campaigns.
Pugacheva O.Yu., NRSU “MEPHI”
- 16.10–16.30 Application of radiation resistant endoscopes for NPP equipment monitoring.
Golovin A.V., «Olimpus»
- 16.30–16.50 Aspects of the information model application during operation, maintenance, repair and installation of NPP equipment.
Shkarin A.V., “Neolant” CJSC
- 16.50–17.20 Discussion of the presentations.**
Session summing up
Session participants

SUBSECTION 1.2. ENGINEERING SUPPORT TO NPP OPERATIONS

Chairman: Teterin Yu.P., Rosenergoatom Concern JSC

Topical area: 1.2.1 Equipment life management and nuclear power units lifetime extension

Chairman: Berezanin A.A., Rosenergoatom Concern JSC

Co-chairman: Potapov V.V., VNIIAES JSC

Room 213 (Building 2), 2nd floor

10.00–10.10 Session opening. Welcome address

Rosenergoatom Concern JSC Management

10.10–10.40 Lifetime extension of the Russian nuclear power units.

Gilev V.A., Rosenergoatom Concern JSC

10:40–11.00 Lifetime extension of the power units with VVER-1000 reactors.

Shchekotov A.V., Balakovo NPP

11.00–11.30 Modernization and lifetime extension of Armenian Metsamor NPP Unit 2.

Sevikyan G.A., Armenian NPP CJSC

11.30–11.50 Break time. Coffee break

11.50–12.20 Evaluation and management of nuclear power unit components ageing.

Potapov V.V., VNIIAES JSC

12.20–12.40 Organizing safety improvement and lifetime extension operations at Kursk NPP units with RBMK-1000 reactors.

Chuvaev S.V., Kursk NPP

12:40–13.00 Lifetime extension of Kalinin NPP power units.

Balashov V.S., Kalinin NPP

13.00–14.00 Lunch

14.00–14.20 Experience of performing works on reactor components life restoration at Leningrad nuclear power units.

Lavrenov V.S., Leningrad NPP

14.20–14.40 Restoring lifetime performance of graphite stack related to NPP power units with RBMK reactors.

Biryukov A.N., NIKIET OJSC

14.40–15.00 Enhancing the regulatory framework related to life management of NPP components in connection with release of NP-096-15.

Loginov A.M., VNIIAES JSC

- 15.00–15.20 On the calculation of the flow accelerated corrosion rate and residual life for NPP pipelines based on in-service inspection data.
Salnikov N.L., Gulina O.M., IATE NRSU “MEPHI”
- 15.20–15.40 Break time. Coffee break**
- 15.40–16.00 Regarding the role of plant equipment & pipelines structural integrity concepts for safety justification and operating costs reduction.
Arzhayev A.I., Atomtekhenergo JSC
- 16.00–16.30 Presentations of the session participants on the topical issues.
Session participants
- 16.30–16.55 Session summing up.
Rosenergoatom Concern JSC Management
- 16.55–17.00 Session closing**
Rosenergoatom Concern JSC Management

**Topical area: 1.2.2. Operation and upgrading of electric equipment
and I&C systems**

Chairman: Sultanov R.M., Rosenergoatom Concern JSC

Module building: Room 19 (3rd floor)

9.00–9.05 Session opening.

Sultanov R.M., Rosenergoatom Concern JSC

9.05–9.35 Feasibility study of the project for creation of NPP monitoring and control systems using fuzzy cognitive modeling.

Kolodenkova A.E., Ufa State Aviation Engineering University

Korobkin V.V., SRI MCS SFU, Taganrog

9.35–10.00 Regarding possibilities of using nuclear magnetic spectrometers in various NPP monitoring systems.

Davydov V.V., Myazin N.S., Peter the Great St. Petersburg Polytechnic University

10.00–10.30 Using hard logic in control safety systems.

Safonov S.I., "Moscow Plant Physpribor" LLC, Podolsk

10.30–11.00 New areas of the Elemer activities. Expansion of import-substituting potential of the company

Yesaulov I.I., SPE Elemer, Zelenograd

11.00–11.15 Break time. Coffee break

11.15–11.45 Modern approaches to Process Control Systems cyber security.

Shipulin A.S., Kaspersky Lab OJSC, Moscow

11.45–12.10 Small leakage acoustic display system for a macromodular sodium-water steam generator for BN-1200 reactors.

Trykov E.L., Dvornikov P.A., Kovtun S.N., Trykova I.V., Ananiev A.A., SSC RF IPPE OJSC, Obninsk

12.10–12.35 ROXTEC modular systems for cable and pipe penetrations sealing.

Kukharensky D.S., Roxtec RU LLC, Moscow

12.35–13.00 Technical regulatory documents database for cable life management at NPPs

*Kononenko A.I., FSUE NIIP, Lytkarino;
Prorokov O.A., Rosenergoatom Concern JSC*

13.00–14.00 Lunch

13.00–13.30 Implementation and operation experience with the operating DC voltage systems at Russian nuclear power facilities.

*Arkhipov A.A., Galkin I.A., Lopatin A.A., SPE "EKRA" LLC,
Cheboksary*

- 13.30–14.00 Application of informational models of a nuclear power unit in order to control the condition of electrical equipment and cable systems.
Kleimenov P.G., "Neolant" OJSC, Moscow
- 14.00–14.30 Application features of modern generator circuit-breakers for protection of large nuclear power units.
Krasnov S.V., ABB LLC, Moscow
Palazzo M., ABB Switzerland, Zurich
- 14.30–15.00 EPSS equipment reliability.
Agapov A.A., "Inverter" Plant JSC, Orenburg
- 15.00–15.30 Innovative solutions of Bresler LLC for power industry.
Shevelev V.S., RC Bresler LLC, Cheboksary
- 15.30–15.45 Break time. Coffee break**
- 15.45–16.15 The system for integrated diagnostics and testing of synchronous generator excitation systems. Experience of implementation and test results.
Ryabov V.N., Popov S.O., SPE RTS-ELECTRO LLC;
Popov M.G., FGAOU VPO "SPBPU";
Sokolova R.A., Stepankevich V.Yu., TD Alfa-Electrotekhtorg LLC
- 16.15–16.45 Condition assessment of high-voltage inputs as a criterion to enhance their reliability.
Nikitin Yu.V., "Massa" ("Insulator" plant) LLC, Moscow region, v. Pavlovskaya Sloboda
- 16.45–17.15 New layouts of an open switchgear for power plants and 35-750 kV substations.
Yaroshenko D.S., ZETO OJSC, Velikye Luki
- 17.15–17.45 ABB main transformers for NPPs.
Lizunova M., ABB
- 17.45–18.00 Discussion of the presentations.**
Session summing up
Session participants

Topical area: 1.2.3. Material science and metal inspections

Chairman: Lovchev V.N., Rosenergoatom Concern JSC

Co-chairman: Korneev A.Ye., SPA CNIITMASH JSC

3rd floor, left side (Building 2)

9.00–9.15 Session opening.

9.15–9.50 Development of methods to deal with post-annealing radiation re-embrittlement of VVER-440 vessel materials.

Erak D.Yu., NRC “Kurchatov Institute”

9.50–10.25 Current state and ways towards improving the non-destructive ISI of VVEP plant main equipment and pipelines.

Varovin A.Ya., FSUE “CRISM Prometey”

10.25–11.00 Steel for a steam generator for high-capacity power reactor with liquid sodium coolant.

Kudryavtsev A.S., FSUE “CRISM Prometey”

11.00–11.15 Break time. Coffee break

11.15–11.50 Influence of annealing parameters on the restoration degree of the structure and properties of reactor internals materials.

Gurovich B.A., NRC “Kurchatov Institute”

11.50–12.25 Equipment & pipeline metal ISI at Kalinin NPP.

Zelenin A.V., Kalinin NPP

12.25–13.00 Application of ultrasonic testing method based on phased grid technology at Leningrad NPP.

Sadilov D.D., Leningrad NPP

13.00–14.00 Lunch

14.00–14.35 Features of heat exchange tube metal degradation in the PGV-1000 steam generators. The use of additional criteria for decision on taking out of service heat exchange tubes based on the eddy current testing data.

Zhidov V.N., Atomenergoremont JSC

14.35–15.10 System for monitoring corrosion processes in aquatic process circuit equipment & pipelines.

Nikolayev F.V., ATOMPROEKT JSC

15.10–15.45 Software systems for personnel support to address the erosion-corrosion problems of NPP equipment and pipelines.

Tomarov G.V., “Geotherm-M” CJSC

15.45–16.00 Coffee break

- 16.00–16.35 Approaches to solution of the problem of erosion-corrosion at NPP with RBMK-1000.
Grigorovich S.M., JSC NIKIET
- 16.35–17.10 Concerning improvement of equipment & pipeline metal control efficiency at nuclear power plants.
Baranenko V.I., VNIIAES JSC
- 17.10–17.45 Experience of eddy current testing of thin-wall tubes of the NPP equipment.
Chichigin B.A., VNIIAES JSC
- 17.45–18.00 Discussion of the presentations.**
Session summing up
Session participants

**Topical area 1.2.4. RW management, nuclear power units decommissioning
including preparation to decommissioning**

Chairman: M.R. Stakhiv, Rosenergoatom Concern JSC

Co-chairman: Ivanov E.A., VNIIAES JSC

Building 2, 3rd floor, center

9.00–9.10 Session opening.

Welcoming address to MNTK participants.

Stakhiv M.R., Rosenergoatom Concern JSC,

Ivanov E.A., VNIIAES JSC

9.10–9.25 Increased performance of SRW processing at special building.

Terekhov K.A., Leningrad NPP

9.25–9.40 Liquid radwaste management at Kalinin NPP.

Soldatov N.N., Kalinin NPP

9.40–9.55 SRW management at Beloyarsk NPP.

Lapushkin S.P., Beloyarsk NPP

9.55–10.15 Radioactive waste reduction — French context.

Glorennec Christian, Electricite de France

10.15–10.30 SRW management at Kalinin NPP.

Nikolaenko Y.P., Kalinin NPP

10.30–10.45 Improvement of the RW management and record keeping system at Novovoronezh NPP. Creation of area for waste exemption from radiation control.

Bulka S.K., Novovoronezh NPP

10.45–11.00 Coffee break

11.00–11.20 Implementation of the radionuclide vector technology at Novovoronezh NPP.

Sharov D.A., VNIIAES JSC

11.20–11.40 Improvement of operational efficiency of the ISR (ion-selective refining) unit.

Kuznetsov S.B., VNIIAES JSC

11.40–12.00 The NPF salt fusion disposal technology for LRW processing complexes.

Khubetsov S.B., Gella-TEKO, Moscow

12.00–12.20 On technological development of the LRW conditioning at NPPs and radiochemical production facilities using the “fluidized bed”.

Masanov O.L., Federal State-Funded Institution SEC NRS, Moscow

12.20–12.40 The Ecomet-S experience in processing of the RW thermal insulation materials.

Cheremisin P.I., Ecomet-S JSC, Sosnovy Bor

- 12.40–13.00 Options of spent ion exchange resins management.
Savkin A.Ye., FSUE "RADON", Moscow
- 13.00–14.00 Lunch**
- 14.00–14.20 Enhancing efficiency of the metal RW decontamination using ultrasonic and electrochemistry methods.
Lebedev N.M., "Alex+" LLC
- 14.20–14.40 Induced activity of radiation shielding as part of the problem of decommissioning of nuclear facilities.
Engovatov I.A. NRU MGSU, Moscow
- 14.40–14.55 Preparation to decommissioning of Beloyarsk NPP Units 1 and 2.
Arkhipkin R.Y., Beloyarsk NPP
- 14.55–15.10 Module units for LRW conditioning
Prokhorov N.A., ATOMPROEKT JSC
- 15.10–15.30 Unlearned lessons of decommissioning projects.
Sobko A.A., JSC "RAOPROEKT", Saint Petersburg
- 15.30–15.50 Coffee break**
- 15.50–16.10 Spent IER pyrolysis plant.
Gurvich I.B., SverdNIkhimmash JSC, Yekaterinburg
- 16.10–16.25 Development of technology and equipment for a mobile unit for electrochemical metal surface decontamination.
Karlin Y.V., FSUE "RADON", Moscow
- 16.25–16.45 In-vessel internals management in course of Novovoronezh NPP units 1 & 2 decommissioning. Technical and economical aspects.
Korneev I.I., Rosenergoatom Concern JSC
- 16.45–17.15 Discussion of the presentations. Session summing up**

Topical session 1.2.5. SNF management

Chairman: Lobkov Y.M., Rosenergoatom Concern JSC

Building 2, 2nd floor, room No. 219

9.00–9.15 Session opening.

Welcoming address to MNTK participants.

Lobkov Y.M., Rosenergoatom Concern JSC

9.15–9.45 Analysis of terms and excessiveness of normative technical documentation requirements.

Filippova Y.Y., VNIIAES JSC

9.45–10.15 Analysis of sufficiency/ excessiveness of the normative technical documentation requirements in the part of nuclear safety substantiation for VVER NPP fuel management.

Tebin V.V., NRC “Kurchatov Institute”

10.15–10.45 Nuclear safety during on-site storage and handling new FA types with increased uranium content and enrichment up to 5.0%.

Osadchy A.I., Borisenkov A.E., NRC “Kurchatov Institute”

10.45–11.00 Coffee break

11.00–11.15 Technological aspects of VVER-1000 SFAs handling at FSUE “MCC”.

Tolstikova A.S., FSUE “Mining Chemical Combine”

11.15–11.45 Substantiation of feasibility to place VVER-1000 SNF with increased parameters (burnup level up to 58 GW*day/tU and enrichment up to 5%) in the Irradiated Fuel Storage Facility (HOT-1).

Skurydina E.S., FSUE “Mining Chemical Combine”

11.45–12.15 SNF management at Beloyarsk NPP.

Dubovik A.I., Beloyarsk NPP

12.15–12.30 On using of the MKS series units for measuring of burnup levels, isotopic composition and residual heat of spent nuclear fuel.

Mironov K.V., Kola NPP

12.30–13.00 Using of In-core Instrumentation System as a tool for nuclear fuel burnup measuring.

Ryzhkov Y.A., Ermolaev A.I., Balakovo NPP

13.00–14.00 Lunch

14.00–14.30 On using the subcriticality measurement devices in the VVER and RBMK SNF storage facilities for substantiation of their nuclear safety.

Masterov A.V., FSUE SSC RF IPPE

- 14.30–15.00 On using of the MKS series units for measuring of burnup levels, isotopic composition and residual heat of spent nuclear fuel.
Nikolaev S.A., SSC RF IPPE
- 15.00–15.15 Coffee break**
- 15.15–15.45 On-line leaktightness monitoring of VVER and RBMK SNF.
Chernov V.A., FSUE SSC RF IPPE
- 15.45–16.15 Condition monitoring of spent fuel assemblies of RBMK-1000 for placement to the dry storage facility.
Cheremiskin I.V., Leningrad NPP
- 16.15–17.15 Discussion of the presentations.
Session summing up**

Topical area 1.2.6. Fire safety

Chairman: V.V. Nikiforov, Technology Affiliate of Rosenergoatom Concern JSC

Co-chairman: M.V. Aleshkov, State Fire Academy of the EMERCOM of Russia

26.05.2016. Building 1, 6th floor, room No. 615

9.00–9.10 Opening of the 1st day of the subsection work.

Welcoming address

V.V. Nikiforov, Technology Affiliate of Rosenergoatom Concern JSC;

M.V. Aleshkov., State Fire Service Academy of the EMERCOM of Russia

9.10–9.30 Feasibility study of compressed air foam application for extinguishing of energized electric equipment fires at nuclear power facilities.

M.V. Aleshkov., State Fire Service Academy of the EMERCOM of Russia

9.30–9.50 Peculiarities of using the fire protection forces and means at NPPs under conditions of development and liquidation of beyond-design-basis (severe) and chemical accidents

Kharevsky V.A., Rosenergoatom Concern JSC

09.50–10.10 On peculiarities of compliance with requirements of regulatory acts and regulatory documents of the Russian Federation under carrying out of monitoring activities by the government safety regulatory agencies at the REA facilities.

Sazykin V.I., Rosenergoatom Concern JSC

10.10–10.30 New designs of breathing apparatus and escape hoods with compressed air, testing and compressor equipment for the operating personnel of NPPs and facilities of the FFS divisions for NPP protection.

Varshamov A.G., JSC “Breathing Systems-2000”

10.30–10.50 Modern equipment for extinguishing of potential fires at the enterprises of atomic energy industry.

Churkin V.E., OJSC “TD “Arsenal PTV”

10.50–11.10 Application of innovative solutions for fire protection of nuclear power facilities

Kabeda S.A., Group of companies “Rubezh”

11.10–11.40 Coffee break

11.40–12.00 Assessment of the designed Rosenergoatom facilities compliance with the FS requirements.

Bakulin S.A., FRKP

12.00–12.20 Peculiarities of fire protection of sodium cooled NPPs with -

examples of BN-800 and BN-1200.

Lobanova N.A., Atomenergoprojekt

12.20–12.40 Development of the NPP fire protection regulatory system.

Putsev D.I., All-Russia Scientific & Research Institute of Fire Defense

13.00–14.00 Lunch

14.00–14.10 On implementation of actions resulted from the Report on inspection of the Rosenergoatom Fire Protection Service, analysis of FP systems for the “Physical start-up” phase, problematic issues.

Volokitin A.P., Beloyarsk NPP

14.10–14.20 On implementation of actions resulted from the Report on inspection of the Rosenergoatom Fire Protection Service, analysis of FP systems for the “Physical start-up” phase, problematic issues.

Lushin E.A., Novovoronezh NPP

14.20–14.30 On implementation of actions resulted from the Report on inspection of the Rosenergoatom Fire Protection Service, analysis of FP systems for the “Physical start-up” phase, problematic issues.

Gubitsky V.V., Leningrad NPP-2

14.30–14.40. On implementation of actions resulted from the Report on inspection of the Rosenergoatom Fire Protection Service, analysis of FP systems for the “Physical start-up” phase, problematic issues.

Pobednov A.A., Rostov NPP

14.40–15.00 Coffee break.

15.00–16.00 Summing up of the 1st day of subsection

Nikiforov V.V., Aleshkov M.V.

27.05.2016. Building 1, 6th floor, room No. 615

9.00–9.10 Opening of the 2nd day of subsection.

Welcoming address

*Nikiforov V.V., Technology Affiliate of Rosenergoatom Concern JSC;
Aleshkov M.V., State Fire Service Academy of the Emercom of Russia*

9.10–9.30 Assessment of fire-resistance of the steel bearing structures in turbine halls of operating NPPs, in connection with fire-proof coating service term expiration.

Golovanov V.I., VNIPO of Emercom of Russia

9.30–9.45 Modern automatic fire alarm (AFA), active fire protection (AFP) systems.

Fomin V.I., State Fire Service Academy of the Emercom of Russia

9.45–10.05 “Zarya”, a smart fire fighting module.

Lektorovich S.V., Group of companies “ISP”

- 10.05–10.20 Use of robotic system in support the fire fighting technology at the nuclear power facilities.
Aleshkov M.V., State Fire Service Academy of the Emercom of Russia.
- 10.20–10.40 Mobile robotic fire fighting units. The efficiency of application under conditions of fires and accidents at NPPs.
Kovalev N.P., OJSC Innovative Rescue Technologies
- 10.40–11.00 Key problems in designing the NPP fire safety system and possible solutions.
Lanin D.I., AEP (Saint Petersburg)
- 11.00–11.30 Coffee break**
- 11.30–11.45 Using of the compression technology of foam forming in modern fire fighting devices at NPP facilities.
Burdin A.M., Ural-Siberian Firefighting and Technological Company
- 11.45–12.05 Advanced technology of fire and explosion prevention at the facilities of the fuel and energy complex by fast-hardening foams based on structured silica particles.
Kuprin D.S., OJSC NPO SOPOT
- 12.05–12.20 Ensuring of guaranteed service life of the constructional steelwork fireproofing covers by the method of accelerated climatic tests.
Krutov A.M., JSC Atomregionstroy
- 12.20–12.40 Fitting of upper bearing sealings of primary and secondary circuit MCPs with the VESDA automatic aspirating fire alarm system.
Volokitin A.P., Beloyarsk NPP
- 12.40–13.00 New technological solutions for RPE used by power energy enterprise operators.
Churkin V.E., OJSC “TD “Arsenal PTV”
- 13.00–13.30 Discussion and making decisions on the issues considered during the 1st and 2nd day**
Subsection participants
- 13.30–14.00 Summing up.**
Nikiforov V.V., Aleshkov M.V.

SUBSECTION 1.3. RADIATION SAFETY, NPP ECOLOGY, EMERGENCY PREPAREDNESS

Chairman: V.Ye. Khlebtsevich, Rosenergoatom Concern JSC

Co-chairman: A.V. Zhurbenko NRC "Kurchatov Institute"

Topical area 1.3.1. Radiation safety

Chairman: Dolzhenkov I.V., Rosenergoatom Concern JSC

Co-chairman: Ivanov I.E., VNIIAES JSC

Building 1, 2nd floor, room No. 214 (the Crisis Center)

9.00–9.15 Session opening

Optimization of the personnel radiation safety at NPPs

9.15–9.35 Modern international and Russian requirements to ensuring the personnel radiation safety at NPPs.

Kutkov V.A., NRC "Kurchatov Institute"

9.35–9.55 Target values: planning of dose costs as an element of the radiation safety optimization.

Dolzhenkov I.V., Rosenergoatom Concern JSC

9.55–10.15 Implementation of a Rosatom Production System project at the Kursk NPP.

Bereznitsky A.A., Kursk NPP

10.15–10.35 Forecasting of the personnel radiation risks for the preventive maintenance conditions.

Chekin S.Y., Medical radiological scientific center n.a. A.F.Tsyb

10.35–11.10 Discussion of presentations, overview of poster presentations, discussion on topical issues of optimization of the personnel radiation safety at NPPs

11.10–11.30 Coffee break

Improvement of individual dosimetric control

11.30–12.00 Current state of the IDC technical devices and their development.

Syurdo A.I., IIE Urals Branch of RAS

12.00–12.30 KASKAD as an element of APDMS.

Filippov M.V., JSC Element

12.30–13.30 Lunch

13.30–14.00 New generation electronic dosimeter.

Dedok T.M., JSC Polymaster (Belarus)

14.00–14.30 Discussion of presentations, overview of poster presentations, discussion on topical issues of optimization of improvements in the individual dosimetric control area

14.30–14.50 Coffee break

Evaluation and limitation of the NPP radiation effects on environment

14.50–15.10 Modern requirements to limitation of radiation effects on the population in the region of NPP placement.

Kuryndin A.V., SEC NRS

15.10–15.30 Record and control of NPP radioactive releases with background-level activity.

Vasilyev A.V., IIE Urals Branch of RAS

15.30–15.50 Using of ecological criteria for calculations of the maximum permissible release rates.

Kryshev A.I., SPA "Typhoon".

15.50–16.20 Discussion of presentations, overview of poster presentations, discussion on topical issues of evaluation and limitation of the NPP radiation effects on environment.

16.20 -17.00 Discussion of presentations. Summing up.

Session participants

Topical area 1.3.2. NPP ecology

Chairman: Pechkurov A.V., Rosenergoatom Concern JSC

Co-chairman: Plyamin O.V., Research Institute of Environmental Issues

Building 1, 2nd floor, room No. 212 (the Crisis Center)

9.00–9.15 Session opening

9.15–9.55 New scientific prospects of the power industry and provisions for an integrated safety of the technosphere. *Grachev V.A., SC Rosatom*

9.55–10.35 New version of the ecological management system standard ISO 14001:2015. Practice of implementation.

Zalunaev M.Y., Russian Branch of DQS Holding GmbH

10.35–11.15 Environment protection activities of Rosenergoatom Concern JSC: problems and solutions

Pechkurov A.V., Palitskaya T.A., Rosenergoatom Concern JSC

11.15–11.30 Coffee break

11.30–12.15 Ensuring of environmentally-acceptable conditions of NPP recirculated water system by application of the “blowdown” technology to the NPP heat sink. *Gorskaya O.I., Rostov NPP*

12.15–13.00 The problem of sludge production in water objects used by an operating NPP and its influence on the NPP safe performance.

Kuzmin V.V., JSC NPO Hydrotechproject

13.00–14.00 Lunch

14.00–14.40 Using of the flora and fauna monitoring results for a long-term forecasting of environmental conditions in the NPP placement region (example of Balakovo NPP).

Tregub A.P., Rastegaev O.Y., Voronin M.Y., Khotko N.I., Ryazanov S.V., FSFI “gosniiennp”, Balakovo NPP

14.40–15.20 Preclusion and fighting with biofouling in the process water supply systems as one of the aspects of the NPP safe operation.

Orlova M.I., JSC NPO Hydrotechproject

15.20–16.00 Implementation of the express method for studying of the initial stages of development of the biofouling and phytoplanktonic by means of Olympus CX-41 RF microscope and the “Videotest-Structure 5.2” method. *Seryakov S.A., Kalinin NPP*

16.00–16.15 Coffee break

16.15–18.00 Brief presentations and statements

18.00–18.30 Discussion of presentations. Summing up

Topical area 1.3.3. Emergency preparedness
Chairman: Markov A.P., Rosenergoatom Concern JSC
Co-chairman: Kosov A.D., VNIIAES JSC

Building LKK-1, 2nd floor, room No. 207 (the Crisis Center)

9.00–9.15 Session opening

Markov A.P., Rosenergoatom Concern JSC

9.15–9.40 State of emergency preparedness in REA. Areas of its improvement.

Markov A.P., Rosenergoatom Concern JSC

9.40–10.00 *Discussion of the report, discussion of the topical areas of the emergency preparedness system improvement*

10.00–10.25 Modern technologies for provision of scientific and technical assistance to the Nuclear power plant emergency response team (OPAS) within the System for prevention and liquidation of emergencies of Rosenergoatom. Development and experience of application in course of emergency exercises.

Arutyunyan R.V., IBRAE RAS

10.25–10.45 *Discussion of the report, discussion on the topical issues of technical support to the OPAS group*

10.45–11.00 Coffee break

11.00–11.25 International requirements related to population protection strategies in case of an accident at NPP.

Kutkov V.A, NRC “Kurchatov Institute”

11.25–11.45 *Discussion of the report, discussion on the topical issues of the population protection in case of an accident at NPP*

11.45–12.10 Some examples of justifying calculations of beyond-design-basis accidents taking into account the mobile equipment for the VVER-1000 reactors. Khvostov M.S., JSC OKB GIDROPRESS

12.10–12.30 *Discussion of the report, discussion on the topical issues of BDBA justifications taking into account mobile equipment*

12.30–13.30 Lunch

13.30–13.55 Simulator products for efficiency enhancement of scheduled emergency response drills and major emergency exercises.

Zhuravin A.P., JSC JET

13.55–14.15 *Discussion of the report, discussion on the topical issues of creation of the simulator products to enhance efficiency scheduled emergency response drills and major emergency exercises.*

- 14.15–14.40 Modern approaches to justification of interference in course of a radiation accident at NPP.
Polyantsev S.S., Abutalipov R.A., Kosov A.D., VNIIAES JSC
- 14.40–15.00 *Discussion of the report, discussion on the topical issues on justification of interference in course of a radiation accident at NPP*
- 15.00–15.15 Coffee break**
- 15.15–15.40 On-line evaluation of releases in case of a NPP accident.
Tsarina A.G., Kosykh V.S., Kamaev D.A., SPA “Typhoon”
- 15.40–16.00 *Discussion of the report, overview of poster presentations, discussion on topical issues of operating evaluation releases in case of a NPP accident.*
- 16.00–16.25 Protection measures planning zones as a key element of the modern emergency response system. Problems related to establishment of an emergency zoning concept and their solutions.
Kosov A.D., Illarionenkova D.V., VNIIAES JSC
- 16.25–16.45 *Discussion of the report, overview of poster presentations, discussion of the emergency zoning issues*
- 16.45–17.10 *Overview and discussion of poster presentations.*
- 17.10–17.30 Discussion of presentations. Summing up**

SECTION 2. NUCLEAR POWER DEVELOPMENT

Section Chairperson: Bezzutsev V.S., Rosenergoatom Concern JSC

Co-chairman: Zrodnikov A.V., VNIIAES JSC

SUBSECTION 2.1. ADVANCED NUCLEAR POWER UNIT DESIGNS

Section Chairperson: Bezzutsev V.S., Rosenergoatom Concern JSC

Co-chairman: Zrodnikov A.V., VNIIAES JSC

Building 3

9.00–9.15 Session opening.

Bezzutsev V.S., Rosenergoatom Concern JSC

Zrodnikov A.V., VNIIAES JSC

9.15–9.45 R&D key results substantiating the BN-1200 reactor unit design.

Ashirmetov M.R., JSC Atomproekt

9.45–10.15 Issues of residual heat removal in accident conditions for sodium-cooled fast reactors.

Sorokin A.P., JSC SSC RF-PPI

10.15–10.45 On plutonium using in the closed NFC based on a two-component NPP system with thermal and fast reactors.

Dekusar V.M., Moseev A.L., JSC SSC RF-PPI

10.45–11.00 Coffee break

11.00–11.30 SNF management in the closed fuel cycle based on a two-component NPP system with VVER and BN reactors.

Khaperskaya A.V., SC Rosatom

11.30–12.00 Peculiarities of equipment repair for fast reactors with sodium coolant.

Zenits V.V., Beloyarsk NPP

12.00–12.30 Calculation studies supporting justification of the SVBR-100 reactor fuel cycle security in case of the use of reprocessed uranium.

Dyachenko A.I., JSC Atomenergoprom

12.30–13.30 Lunch

13.30–14.00 Development of the advanced reactor technologies of the 4-th generation within the frames of international forum “Generation-IV”.

Ashurko Y.M., Poplavsky V.M., JSC SSC RF-PPI, Obninsk

14.00–14.30 Prospects of reactors with supercritical water parameters.

Sedov A.A., NRC “Kurchatov Institute

14.30–15.00 1. Coolant flow model in the flow-through part of a reactor with supercritical parameters.

2. Coolant flow model in the reactor cores, based on parabolization of Reynolds equations.

Chusov I.A., NRNU MEPhI

15.00–15.30 Principal design solutions and characteristics of the VBER-600 reactor unit.

Kurachenkov A.V., JSC «Afrikantov OKBM»

15.30–15.45 Coffee break

15.45–16.15 Methods for performance characteristics improvement and residual life extension of reactor core zirconium components of advanced nuclear power units under normal and emergency conditions.

Ivanova S.V., NRNU MEPhI

16.15–16.45 Specificities of the neutronics in an integrated small-size VVER reactor.

Ponomarenko G.L., JSC OKB GIDROPRESS

16.45–17.15 Nuclear units designs for a small-size NPP based on the vessel-type reactor KARAT.

Nikel K.A., JSC NIKIET

17.15–17.45 Isolated thermosyphon PHRS of the VVER reactor primary circuit.

Sviridenko I.I., Sevastopol State University

17.45–18.00 Summing up

SUBSECTION 2.2. DEVELOPMENT OF NEW NUCLEAR POWER UNITS

*Sub-section Chairperson: Davidenko N.N.,
CPI Branch of Rosenergoatom Concern JSC
Sub-section co-chairman: Ivanov Y.A., JSC NIAEP*

Module Building, 3rd floor, rooms No. 17/1, 17/2

9.00–9.15 Session opening

*Davidenko N.N., CPI Branch of Rosenergoatom Concern JSC
Ivanov Y.A., JSC NIAE*

9.15–9.45 Monitoring of NPP construction process in Rosenergoatom Concern JSC.

*Reberger A.M., Rosenergoatom Concern JSC
Mets A.A., JSC KONSIST-OS, Moscow*

9.45–10.15 Summary of development of medium-size nuclear power unit concept designs.

Yashkin A.V., Tolstov E.V., JSC NIAEP, Nizhny Novgorod

10.15–10.45 Ways of improvement of the NPP main buildings of the VVER technologies.

Koltun O.V., VNIIAES JSC

10.45–11.15 Experimental study of joint work of Novovoronezh-2 passive safety systems using the “RU-ZO” large-scale test facility.

*Maltsev M.B., Taranov G.S., Zheltoukhov A.V., Atomenergoproekt,
Moscow*

*Morozov A.V., Kalyakin D.S., Shlepin A.S., Sakhipgareev A.R.,
Ragulin S.V., JSC SSC RF-PPI, Obninsk*

11.15–11.30 Coffee break

11.30–12.00 Issues of strength and residual life of VVER in-core internals for long-term operation.

*Davidenko N. N., Vasilyev V.G., Branch of Rosenergoatom Concern
JSC for Capital Project Implementation, Moscow*

12.00–12.30 Some topical tasks of the nuclear power development on the basis of using of water-cooled reactors.

*Blagovoschensky A.Y., Bor S.M., Mityukov V.N., Saint Petersburg
State Polytechnical University*

12.30–13.00 Mathematic simulation of severe accidents in fast reactors.

*Kascheev M.V., Ashurko Y.M., JSC SSC RF – Institute of Physics and
Power Engineering n.a. A.I. Leipunsky, Obninsk*

13.00–14.00 Lunch

- 14.00–14.30 Information model as a base for effective NPP life cycle management.
Dorobin D.S., NEOLANT OJSC, Russia
- 14.30–15.00 Steam removal system modernization for VVER-TOI steam generator.
Parshikov I.A., Sedov M.K., Soloviev S.L., Starodubtsev M.A., Shandra V.I., Shishov A.V., VNIIAES JSC, Moscow
- 15.00–15.30 Optimization of local heat treatment of the steam generator end-capping girth weld.
Starshinov V.I., Yesipko S.P., Denisenko P.P., Kirillov V.V., Volgodonsk branch of AEM-technology Atommash
- 15.30–16.00 Increase of load-bearing capacity of structural concrete elements by using anisogrid composite structures.
Skleznev A.A., FSUE RD MATI, Moscow
Vasiliev V.V., Razin A.F., CRICM OJSC, Hotkovo
- 16.00–16.15 Coffee break**
- 16.15–16.45 Strength analysis and calculation & experimental verification of the computational models for reinforced concrete beyond the elastic deformation domain, which are applied to reactor BREST OD-300 and safety-important components of NPPs.
Modestov V.S., Lukin A.V., Smirnov A.B., Peter the Great St. Petersburg Polytechnic University, IAMM
- 16.45–17.15 Research of thermohydraulic characteristics of high-voltage and high-temperature transformers by using a full-scale CFD-model of a winding fragment.
Bespalov V.Ya., Vinogradov A.A., Petrov A.V., Sedov M.K., Sidorov A.O., Shishov A.V., NRU MPEI, Moscow
- 17.15–17.45 Production, installation and operation of polar cranes.
Pishmin Yu.I., Naugolnov V.N., Zayarov Yu.V., Pishmin I.Yu., Volgodonsk Engineering Technical Institute — branch of National Research Nuclear University (MEPhI), Volgodonsk
- 17.45–18.30 Discussion of presentations. Session summing up**

SUBSECTION 2.3. COMMISSIONING OF NEW NPPS

Subsection chairman: Katsman A.M., Rosenergoatom Concern JSC

Subsection co-chairman: Deriy V.P., Atomtekhnenergo JSC

Module building, 2nd floor, Room 211

9.00–9.15 Session opening.

Katsman A.M., Rosenergoatom Concern JSC

Deriy V.P., Atomtekhnenergo JSC

9.15–9.55 Main start-up works performed at BN-800 reactor facility of Beloyarsk NPP Unit 4.

Podlatov M.A., Atomtekhnenergo JSC; Pleskov A.O., OKBM Afrikantov OJSC, Nizhniy Novgorod

9.55–10.35 Advantages and disadvantages of the commissioning and reporting documentation system revealed in course of BN-800 nuclear power unit commissioning

Griaznov A.P., Atomtekhnenergo JSC, Smolenskatomtekhnenergo

10.35–11.15 Formal procedures establishing Novovoronezh NPP-2 Unit 1 conformance to criteria for start or end of any commissioning work stages (substages).

Management of non-conformances revealed in the process of the power unit commissioning.

Konstantinov S.S., Atomtekhnenergo JSC, Novovoronezhatomtekhnenergo

11.15–11.30 Coffee break

11.30–12.00 Two lists of the nuclear hazardous works performed at NPP units commissioning stages. Experience in expert evaluation of the programs developed for each stage of Novovoronezh NPP Unit 6 commissioning.

Sudarev O.S., Atomtekhnenergo JSC, Novovoronezhatomtekhnenergo

12.00–12.30 Formalization of reporting documentation on start-up works in the process of NPP unit commissioning.

Kovnatskiy A.A., Atomtekhnenergo JSC, Novovoronezhatomtekhnenergo

12.30–13.00 Organization of individual tests and start-up works on Novovoronezh NPP-2 Unit 1 valves.

Borisov V.V., Atomtekhnenergo JSC, Novovoronezhatomtekhnenergo

13.00–14.00 Lunch

- 14.00-14.40 Analysis of dynamic tests results for Rostov NPP Units 1, 2 and 3.
Veselov M.S., Atomtekhnenergo JSC
- 14.40-15.20 Technical management of start-up works on valves. A modified approach for Rostov NPP Unit 3.
Muzlov D.V., Atomtekhnenergo JSC
- 15.20-15.55 Warranty tests of NPP units.
Tsvetkov I.N., Atomtekhnenergo JSC - Centratomtekhnenergo, Moscow affiliate
- 15.55-16.30 Development of a daily maneuver concept for a VVER-TOI nuclear power unit.
Dolgoplov N.Yu., Atomtekhnenergo JSC - Centratomtekhnenergo, Moscow affiliate
- 16.30-16.45 Coffee break**
- 16.45-17.15 Diagnostic support of start-up works at domestic and foreign NPPs. Goals, functions, perspectives.
Rachkov V.L., Atomtekhnenergo JSC
- 17.15-17.45 Perspectives of start-up works optimization by using the “Virtual nuclear power unit” hardware & software complex
Obraztsov Ye.P., SPbAEP
- 17.45-18.30 Discussion of presentations.**
Session summing up
Session participants

SECTION 3. NUCLEAR POWER ECONOMICS

Chairman: Migalin S.A., Rosenergoatom Concern JSC

Building 1, 2nd floor, № 204 (The Crisis Center)

9.00–9.15 Session opening

9.15–9.45 Goals and tasks of the economic and finance wing of Rosenergoatom Concern JSC.

Migalin S.A., Rosenergoatom Concern JSC

9.45–10.10 Rosenergoatom Concern JSC operation on wholesale electricity and power markets. Results and perspectives.

Hvalko A.A., Novikov A.A., Rosenergoatom Concern JSC

10.10–10.35 NPP competitiveness enhancement by reducing semi-fixed costs of electric power production.

Chorba I.V., Rosenergoatom Concern JSC

10.35–11.00 Electricity costs evaluation methodology: scientific and practical aspects.

Cherniahovskaya Yu.V., State Atomic Energy Corporation Rosatom

11.00–11.15 Coffee break

11.15–11.45 15-month fuel cycle project at Paks NPP.

Czibula Mihaly, Paks NPP

11.45–12.10 Evaluation of nuclear fuel consumption efficiency at Ukrainian NPPs.

Glushenkov R.S., State enterprise National Nuclear Power Company Energoatom (Ukraine)

12.10–12.35 Comparison of power production development options based on NPP, TPP and renewable sources of power.

Pavlov A.S., VNIIAES JSC

12.35–13.00 Competitiveness of extra low capacity energy sources in conditions of Arctic territories of Russia .

Budylov Ye.G., SSC RF IPPE OJSC

13.00–14.00 Lunch

14.00–14.25 Pricing and NPP financing peculiarities in technologically isolated power systems considering the approach of cutting down on semi-fixed costs.

Solovieva S.V., Bilibino NPP

14.25–14.50 Modeling of NPP economic indicators using PC SMAK.

Molokanov N.A., RDIPE OJSC

- 14.50–15.15 Liquid radioactive waste disposal costs formation and accounting at Kola NPP affiliate of Rosenergoatom Concern JSC.
Popov O.A., Kola NPP
- 15.15–15.45 Peculiarities of application of the discounting method to economic evaluation of nuclear power projects .
Smirnova L.S., NRC Kurchatov institute
- 15.45–16.00 Coffee break**
- 16.00–16.25 Economy management of subsidiary enterprises within the envelope of Electric Power Division of State Corporation Rosatom.
Motsoneli N.I., Rosenergoatom Concern JSC
- 16.25–16.50 Uranium resource saving at VVER-1000 reactor transfer to recycled fuel.
Soloviev S.V., NSEE FVE Rosatom CICET
- 16.50–17.25 Present-time cost assessments of non-standard equipment for nuclear power facilities.
Goltsov A.Ye., Molokanov N.A., RDIPE OJSC
- 17.25–18.00 Discussion of the presentations.**
Session summing up.
Session participants

SECTION 4. INTERNATIONAL COOPERATION FOCUSED ON ENSURING NPPS SAFETY

Chairman: Sokolov Yu.A., Rosenergoatom Concern OJSC

Co-chairman: Tarykin V., WANO MC

Building 2, Conference hall

9.00–9.10 Session opening

International and bilateral scientific and technical cooperation

- 9.10–09.35 ISTC today – a resource to ensure efficient, reliable and safe nuclear power production development.
Sokolov Yu.A., Rosenergoatom Concern JSC
- 09.35–10.00 WANO : Looking into the future through analysis of the past.
Aksenov V.I., WANO MC
- 10.00–10.25 The IAEA's perspective on international cooperation for NPP safety.
Tarren P., IAEA
- 10.25–10.50 Peer reviews as an effective tool for improving activities on NPP safe operation and sharing the best international practices.
Vybornov S.V., WANO MC

10.50–11.20 Coffee break

- 11.20–11.55 A long-term and fruitful cooperation between Rosenergoatom and EdF.
Richez G., EdF, France
- 11.55–12.20 Iberdrola nuclear projects in Russia and Ukraine.
Suarez J., Iberdrola, Spain
- 12.20–12.45 IAEA OSART mission as a tool to raise operational safety of Novovoronezh NPP.
Kolyagina I.A., Novovoronezh NPP

12.45–14.00 Lunch

Nuclear infrastructure

- 14.00–14.25 IAEA experience with integrated nuclear infrastructure review (INIR) missions.
Dohee Hahn, IAEA
- 14.25–14.50 On the issue of HRD for nuclear infrastructure development in newcomer countries.
Artisyuk V.V., Atomenergoprom OJSC

- 14.50–15.15 Establishment of nuclear power infrastructure in the Republic of Belarus.
Mihadyuk M.I., Deputy Minister of Energy, Belarus
- 15.15–15.45 Rendering assistance to regulatory bodies of newcomer countries: Russian approach.
Utenkov A.V., Rosthekhnadzor

15.45–16.15 Coffee break

International projects and current matters

- 16.15–16.40 Analysis of laws in the RF, EU and USA, applicable at the stage of deciding on NPP construction site location.
Luneva Ye.V., Agency for capital projects implementation
- 16.40–17.05 Justifying conditions for implementation of the leak-before-break strategy for Mochovce NPP power units 3 and 4.
Kuzmin D.A., VNIIAES
- 17.05–18.00 Discussion of the presentations.**
Session summing up.
Session participants

SECTION 5. HUMAN RESOURCES FOR NUCLEAR POWER

SUBSECTION 5.1. TRAINING OF YOUNG SPECIALISTS FOR NPPS

Chairman: Aksinenko S.P.

Co-chairman: Seleznev Yu. N.

Building 2, 2nd floor, № 215

9.00–9.15 Session opening

Coordination with higher education institutions and education of students

09.15–11.00 Training of specialists and professional development of nuclear power employees at NEI NRNU MEPhI.

Saakyan S.P., NEI NRNU MEPhI

Training system for engineering and scientific manpower for nuclear power industry.

Maksyanin D.V., OKBM Afrikantov JSC

Discussion of the presentations, summing up

FSES-3+ capabilities implementation for improving graduates' practical training; based on experience in applied Bachelors' program nuclear physics and thermal physics development.

Aksinenko S.P., Karmanov F.I., Latynova N.Ye.

Discussion of the presentations, Summing up the topic

11.00–11.15 Coffee break

Tutorship

11.15–13.00 History and perspectives of implementing an information subsystem for maintaining qualifications in labor safety, equipment operation, maintenance, and safety rules for affiliates of Rosenergoatom Concern JSC, based on typical solution developed within REA-B projects.

Petrova S.I., INLINE GROUP CJSC

Patriotic education – the goal for OMA Novovoronezh NPP.

Ogryzkova Ye.A., Novovoronezh NPP

Psychological aspect of safety culture: Use of the theory of generations to form personnel safety culture.

Melnitskaya T.B., NSEE FVE Rosatom CICET

Discussion of the presentations, Summing up the topic

13.00–14.00 Lunch

Professional training (Training Centers)

14.00–16.00 Virtual reality technology implementation to support educational process and further develop qualifications of operation and maintenance staff.

Danina T.V., Salnikov N.V., Neolant CJSC

New forms of staff training for innovative nuclear power units (example of BN-800 power unit).

Tashlykov O.L., UrFU

Inadequate personnel actions: analysis and prevention methods.

Stepanyuk D.A., Leningrad NPP

Discussion of the presentations , summing up the topic

16.00–16.15 Coffee break

16.15–17.30 Poster presentations

17.30–18.00 Discussion of the presentations.

Section summing up

SUBSECTION 5.2. USE OF VETERANS' EXPERIENCE AND EXPERTISE. TUTORSHIP

Chairman: Teplitskiy V.A.

Building 2, 3rd floor, right wing

9.00–9.15 Session opening

Issue under discussion: Use of veterans' expert potential. Tutorship

09.15–09.30 Guidelines on the retirees' involvement and participation in NPP production activities.

Terehin Yu.K., Kalinin regional department of Trans-regional Non-Governmental Organization for Rosenergoatom Veterans (MOOVK)

09.30–09.45 Veterans' experience for nuclear power industry image and progress.

Terehov Yu.L., Balakovo regional department of MOOVK

09.45–10.00 Moral, labor, ecologic and patriotic education of youth, occupational guidance and nuclear power industry, vocational guidance and popularization of achievements.

Smirnov S.E. Rostov regional department of MOOVK

10.00–10.30 Discussion of the presentations, poster presentations overview, discussion on topical areas of utilization of veterans' expert knowledge and tutorship issues

Issue under discussion: Veterans' experience in evaluation of NPP radioactive effects on environment

10.30–10.45 Effectiveness of radiation protection of the population and the environment at operating NPPs in Russia.

Safonov I.S., Federal environmental industrial and nuclear supervision service. Scientific and Engineering Center for Nuclear and Radiation Safety

10.45–11.00 Practical implementation of the safety culture concept by the operating organization as the warranty of preclusion of the events that led to Chernobyl and Fukushima accidents

Poltorakov G.I., Leningrad regional department of MOOVK

11.00–11.30 Coffee break

11.30–11.45 Level of radiation safety at present time.

Yurkov M.V., Smolensk regional department MOOVK

11.45–12.00 Ensuring NPP safety in accordance with current Federal standards and rules.

Patrakov A.I., Smolensk regional department of MOOVK

12:00–12:15 Russian federal standards and rules in the radiation safety field.
Comparison with international recommendations on the radiation safety.

Safonov I.S., SEC NRS, Rostekhnadzor

12:15 –12:30 Procedure for nuclear fuel management at Smolensk NPP.
Antonenko V.M., Smolensk Regional Branch of the International Union of Veterans of Nuclear Energy (MOOVK)

12:30–13:30 Lunch

Issue under discussion: “Veteran experience in safe operation of nuclear power plants, cooperation with young professionals”

13:30 – 13:45 Bus ducts application.

Komarov V.I., Moscow Regional Branch of the International Union of Veterans of Nuclear Energy (MOOVK)

13:45–14:00 NPP steam-turbine plants Efficiency enhancement

Pirogov A.A., Leningrad NPP-2

14:00–14:15 The Visual Reactor Core Control (VRCC) software for generating reactor core load patterns and visualization maps, core control systems.

Legkikh R. Ju., Leningrad NPP

14:15–14:45 Coffee break

14:45–15:00 Study of defects accumulation dynamics in the crystalline structure of the graphite reactor ADE.

Sklyarov A.A., Leningrad NPP

15:00–15:15 Development of the bottom silt processing technology for ecological restoration of Tsimlyansk reservoir.

Gulyaev M.B., Rostov NPP

15:15–15:30 Automated system for non-impact smooth start-up of RBMK-1000 main circulation pump TsVN-8.

Chernov I.S. Smolensk NPP

15:30–15:45 Simulation of VVER-type reactors vibration processes.

Aksyonov K.V., Leningrad NPP

15:45–16:00 Determining a possibility of MCP electric drives self-starting due to a short-term power failure.

Tugov A.S., Leningrad NPP

16:00–16:45 Discussion of the reports, poster presentation review

16:45–17:00 Session summing up.

SUBSECTION 5.4 YOUTH NUCLEAR ENGINEERS AND THE SAFETY PRINCIPLES

Co-chairmen: Antipov S.I., Kirichenko A.M., Kushnarev S.V.

Building 1: 15th floor, room No. 1509/1511

Part I. Plenary Session “WANO Youth Movement - the exchange of international best practices for safe operation”

09:00 Registration of participants

09:15–09:20 Opening session, a welcome address by the Director of WANO Moscow Center
Aksyonov V.I.

09:20–09:40 Co-chairmen reports
Kushnarev S.V., Antipov S.I., Kirichenko A.M.

09:40–10:00 WANO Programs as an effective tool of identification and exchange of NPP safe operation best international practices.
Kirichenko A.M.

10:00–11:45 Using global best practices for safe operation at Balakovo NPP.
Afanaskin D.Ju.

PSR: Nuclear safety culture and efficiency enhancement.
Antipov S.I.

Using the principles of safety culture at Smolensk NPP.
Sherpaev S.E.

Two-component nuclear power system.
Ponomarev-Stepnoy N.N.

Safety of NPPs and the society.
Kushnarev S.V.

Youth community outreach at Kursk NPP,
Fedorov P.V.

Youth participation in ensuring safety at the Kola NPP.
Tsaranu V.V.

11:45 – 12:00 Coffee break

12:00 – 12:30 General discussion, closing Session.

Participants

12:30 – 13:30 Lunch

Part II. Meeting of young nuclear professionals with veterans of the industry: Safety Evolution (30 years since Chernobyl accident)

13:30–13:40 Welcome address by the Director of WANO Moscow Center
Aksyonov V.I.

- 13:40–13:50 Welcome address by the Russian Nuclear Society Executive VP
Kushnarev S.V.
- 13:50–15:20 Ensuring safety during the post-accident period at Chernobyl NPP.
Sorokin N.M.
The activities of REA Veterans' Organization
Cherkasov V.G.
New nuclear technologies
Sarayev O.M.
Exchange of views, summing up.
Participants

15:20–15:50 Coffee break

Part III. Meeting of young nuclear professionals with Rosenergoatom senior managers and NPP directors

- 16:00–16:10 Welcome address by the Director of WANO Moscow Center
Aksyonov V.I.
- 16:10–16:20 Welcome address by Rosenergoatom Director General.
Petrov A.Ju.
- 16:20–16:30 WANO Moscow Center Youth Movement
Uogintas S.O.
- 16:30–16:40 Announcement of the Russian Nuclear Society competition entitled
“Outlook of a future NPP”
Kushnarev S.V.

16:40 Session closing meeting, buffet

PLENARY SESSION / CONFERENCE CLOSING

Building 2: Conference hall

09.30–09.40 Plenary session opening.

Shutikov A.V., Rosenergoatom Concern JSC

09.40–11.00 Section chairmen reports (round table)

11.00–11.30 Summing up the results of the competition for the best section report.

11.30–12.30 Discussion.

Messages and statements from representatives of nuclear power plants, nuclear enterprises and organizations.

12.30–13.00 The overall results of MNTK-2016, closing of the conference.

13:00–14:00 Briefing for mass media

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Address of the Conference venue:

Moscow, Ferganskaya str. 25

Directions:

- “Vykhino” metro station, then by bus № 209, 4th stop (“Art School n.a. Balakirev”)
- Or by route taxi № 209, 610

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