THE TENTH INTERNATIONAL CONFERENCE
ON MATERIAL ISSUES IN DESIGN,
MANUFACTURING AND OPERATION OF
NUCLEAR POWER PLANTS EQUIPMENT

PROGRAMME

CRISM “Prometey”
Saint-Petersburg

7 – 9 October 2008
ORGANIZERS OF THE CONFERENCE

CRISM “Prometey”
Concern “ROSENERGIATOM”
Science and High School Department of St. Petersburg Administration
St. Petersburg Society of Science And Technology

GENERAL SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>October, 6 (Monday)</td>
<td>Arrival of participants Registration of participants Excursion Program.</td>
<td>Whole day From 12 to 18 hrs From 18 hrs</td>
</tr>
<tr>
<td>October, 7 (Tuesday)</td>
<td>Registration of participants Opening of the Conference Plenary Sessions Welcome party</td>
<td>From 9 to 10 hrs 10 hrs From 10 to 18 hrs From 18 to 20 hrs</td>
</tr>
<tr>
<td>October, 8 (Wednesday)</td>
<td>Sections 1-3 meetings</td>
<td>From 9 to 18 hrs</td>
</tr>
<tr>
<td>October, 9 (Thursday)</td>
<td>Section 1 and 3 meetings WG6 and WG7 Closing of the Conference.</td>
<td>From 9 to 17 hrs From 10 to 17 hrs From 17 to 18 hrs</td>
</tr>
<tr>
<td>October, 10 (Friday)</td>
<td>WG6 and WG7 Excursion Program Departure of participants</td>
<td>From 10 to 17 hrs From 10 to 13 hrs Whole day</td>
</tr>
</tbody>
</table>
October 7, 2008 (Tuesday).
9:00 – 10:00. Registration of participants (the second floor near Large Conference Hall).

PLENARY SESSIONS. October 7, 2008 (Tuesday).

PLENARY SESSION 1 (Large Conference Hall, the second floor).
Chairmen: I. Gorynin (CRISM “Prometey”) and V.Asmolov (concern “Rosenergoatom”).

10:00. General Director of CRISM «Prometey” Academician I.V. Gorynin. Opening Address. At the Tenth Anniversary International Conference on Nuclear Power Engineering.
10:25. The Representative of European Commission Mr. R.Ahlstrand (co-authors: M.Bieth, P.Chuilon). EC Supported TACIS Research Projects on VVER Reactor Embrittlement Issues.

12:30 – 13:00. Coffee break (the second floor near Large Conference Hall).

PLENARY SESSION 1 (continuation) (Large Conference Hall, the Second floor).


14:30 – 15:30. Lunch (Green Hall, the ground floor).

PLENARY SESSION 2 (Large Conference Hall, the second floor).
Chairmen: G.Karzov (Russia) and G. Saji (Japan).


17:10. The Chief of Material Science Department of Concern “Rosenergoatom” V.G. Vasiliev (co-authors: N.N. Davidenko, V.N. Lovchev). The Issues of Structural Integrity and Service Life of NPP Equipment and Pipelines.

17:35. The head of managers enterprise “Melitek” I.N. Protasova. Modern development in the field of the equipment for research and quality assurance of materials.

18:00 – 20:00. Welcome Party (Green Hall, the ground floor).

October 8 (Wednesday).
SESSION 1. MECHANICAL PROPERTIES AND STRUCTURAL INTEGRITY.

October 8 (Wednesday). 9:00-11:00 (Large Conference Hall, the second floor).
Chairmen: V. Piminov (Russia) and M. Brumovsky (Czech Republic).


11:00 – 11:30. Coffee break (the second floor near Large Conference Hall).

October 8 (Wednesday). 11:30-13:30 (Large Conference Hall, the second floor).
Chairmen: V. Shvetsova (Russia) and S. Vodenicharov (Bulgaria).

1. **VERLIFE – Basis, Present State and Future Plans.** M. Brumovsky (Nuclear Research Institute, Rez, Czech Republic).

2. **Development of Normative Approaches to the Estimation of VVER RPV Structure Integrity.** V.A. Piminov, I.F. Akbashev (FSUE EDO “Gidropress”, Podolsk, Russia), B.Z. Margolin (FSUE CRISM “Prometey, St. Petersburg, Russia).


13:30 – 15:00. Lunch (Green Hall, the ground floor).

**Meeting 1-3. Behavior of Materials for BN RPV and Internals.**

October 8 (Wednesday), 15:00-18:00. (Large Conference Hall, the second floor).

Chairmen: B. Margolin (Russia) and L. Martin (France).


**October 9 (Thursday).**
Meeting 1-4. Irradiation Effect on Material Properties.
October 9 (Thursday). 9:00-11:00 (Large Conference Hall, the second floor).
Co-chairmen: B. Gurovich (Russia) and L. Toth (Hungary).


2. Effect of Fast Neutron Dose Rate on PWR Pressure Vessel Steel Embrittlement. E.A. Krasikov (Russian Research Centre «Kurchatov Institute», Moscow, Russia).

3. RPV Materials Behavior under Irradiation in Different Ranges of Fluencies. A.A. Chernobaeva, P.A. Platonov (Russian Research Centre «Kurchatov Institute», Moscow, Russia).

4. Investigation of Metal for Rostov NPP-2 RPV. N.A. Shulgan, T.I. Titova (TC OMZ - Izhora), A.A. Chernobaeva, Yu.A. Nikolaev (Russian Research Centre “Kurchatov Institute”, Moscow, Russia), V.I. Bakaldin (“Izhorskiye zavody” JSC, St. Petersburg, Russia).


6. Effect of Residual Stresses in area of Weld 4 for VVER-1000 on Structural Integrity Taking into Account the Variation of Material Fracture Toughness V.I. Makhnenko, O.V. Makhnenko (Paton Institute, Kiev, Ukraine).


11:00 – 11:30. Coffee break (the second floor near Large Conference Hall).

Meeting 1-5. Structural Integrity of VVER Upper Block.
October 9 (Thursday), 11:30-13:30 (Large Conference Hall, the 3-rd floor).
Chairmen: V. Jbannikov (Russia) and J. Zdebor (Czech Republic).


3. Methodical Peculiarities of Strength Calculations for Head of Upper Block VVER-1000 at Lifetime Extension. V.A. Petrov, I.A. Khomich, E.A. Ivanenko (CRISM “Prometey”, St. Petersburg, Russia), V.G. Fedosov (Izhorskiye zavody” JSC, St. Petersburg, Russia), V.A. Piminov (EDO “Gidropress”, Podolsk, Russia).

4. Investigation Results of Damage Tubes for Head of VVER-1000 of Novo-Voronezh NPP the Fifth Unit. V.V. Jbannikov, M.P. Slivkin (Novo-Voronezh NPP, Russia).


13:30 – 15:00. Lunch (Green Hall, the ground floor).

Meeting 1-6. Assessment of Service Life of Various NPP Components.
October 9 (Thursday), 15:00-18:00 (Large Conference Hall, the second floor).
Chairmen: B. Timofeev (Russia) and G. Lenkey (Hungary).
5. Prediction of Residual Service Life of Metallic Structures Elements of the First and Second Generations RBMK-1000 on the Basis of the Comparison of Structure Integrity Characteristics of Two Steel Grades 10CrSiNiCu and 10CrNi1Mo. G.P. Karzov, V.V. Anikovsky, B.Z. Margolin, V.A. Petrov (CRISM “Prometey”, St. Petersburg, Russia).

SESSION 2. CORROSION and CORROSION DAMAGES. October 8, 2008.

Meeting 2-1. Operation Experience and Corrosion Problems.
October 8 (Wednesday), 9:00-11:00 (Conference Hall No.1, the fourth floor, room 541)
Co-chairmen: G. Saji (Japan) and V. Yurmanov (Russia).
1. Fundamental Mechanisms of Corrosion in Russian NPPs (part II): Reassessment of Degradation Experiences. G. Saji (Japan), V.A. Yurmanov (ENES, Moscow, Russia), V.I. Baranenko (VNIIAES, Moscow, Russia), V.A. Fedorova, G.P. Karzov, B.T. Timofeev (CRISM “Prometey”, St. Petersburg, Russia), M. Bakirov, V. Levchuk, S. Chubarov (Centre of Materials Researches and Lifetime Management, Moscow, Russia).
2. Impact of Physical and Chemical Properties of Structural Materials on Operational Reliability of NPP Components. V.I. Baranenko (VNIIAES, Moscow, Russia), G.P. Karzov, G.N. Filimonov, B.T. Timofeev (CRISM “Prometey”, St. Petersburg, Russia), V.A. Yurmanov (ENES, Moscow, Russia).
3. Plant Piping and Component Corrosion Monitoring Using In-Situ Specimens. V.A. Yurmanov (ENES, Moscow, Russia), V.N. Belous (RDipe, Moscow, Russia), V.E. Shvedov, N.F. Shemyatovskaya (VNIIAES, Moscow, Russia).

6. Corrosion Fatigue Curves for Austenitic Stainless Steels. V.M. Filatov, A.V. Komarov (ENES, Moscow, Russia).


11:00 – 11:30. Coffee break (the second floor near Large Conference Hall).

Meeting 2-2. Corrosion of RBMK Reactor Components.
October 8 (Wednesday), 11:30-13:30 (Conference Hall No.1, the fourth floor, room 541)
Co-chairmen: A. Blumin (Russia) and A. Grybenas (Lithuania).


2. Sensitization of Welded Joints for Corrosion Resistant Steel Type 08Cr18Ni10Ti, Improvement of In-Service Inspection Procedure of NPP Tubes on Sensitization Level. A.A. Blumin, N.V. Vasiliev, Yu.V. Stepanov, M.I. Zueva (CRISM “Prometey, St. Petersburg, Russia), A.A. Petrov, N.N. Fomin (Leningrad NPP, Sosnovy Bor, Russia).


4. Rational Selection of Structural Materials for NPP Components. V.N. Belous (RDPE, Moscow, Russia), V.A. Yurmanov (ENES, Moscow, Russia), V.I. Baranenko (VNIAES, Moscow, Russia).

5. Examination of Surface Sediments on the RBMK-1000 Fuel Rods. I.M. Smirnova, S.V. Kuzmin, G.V. Filyakin (FSUE “SSC RF RIAR”, Dimitrovgrad, Russia).


13:30 – 15:00. Lunch (Green Hall, the first floor).

October 8 (Wednesday), 15:00-18:00 (Conference Hall No.1, the fourth floor, room 541).
Co-chairmen: V. Baranenko (Russia) and V.Pokhmursky (Ukraine).

1. Classification of heat exchanging tubes operational damages of steam generators of the NPPs with WWER and development of their calculation algorithms by use neural networks. M.Bakirov, E. Morozov, S. Chubarov (Center of Material Science and Lifetime Management Ltd., Moscow, Russia).

2. Role of Low-Temperature Corrosion in a damage of HET in Steam Generators of PGV Type. Origin of pitting and development of sc cracks in the pitting microenvironment during shutdown, pre-starting and starting conditions of operation. A.A. Blumin, G.P. Karzov, S.A. Suvorov, N.V. Vasiliev (FSUE CRISM


5. **Investigation of Damages Types and Reasons for Dissimilar Welded Joints of Nozzle Units of Novo-Voronezh and Kola NPPs.** V.D. Khodakov, I.L. Kharina, A.E. Korneev (ZNIITMash, Moscow, Russia).

6. **Erosion-corrosion Behavior of Pipeline Structural Materials in Single-phase and Two-phase Flows.** V.I. Baranenko, O.M. Gulina (VNIIAES, Moscow, Russia), V.A. Yurmanov (ENES, Moscow, Russia).


---

**SESSION 3. MATERIALS, TECHNOLOGY AND INSPECTION.** October 8 and 9, 2008.

**Meeting 3-1. Modern Base Material in Nuclear Industry.**
October 8 (Wednesday), 9:00-11:00 (Small Conference Hall, the second floor).
Co-chairmen: G. Karzov (Russia) and O. Makhnenko (Ukraine).


2. **Computer Modeling of Technological Processes of Manufacturing Large-Sized Complex-Configuration Forged Products.** V.M. Golod, E.L. Giulikhandanov (St. Petersburg State Technical University, St. Petersburg, Russia), G.P. Karzov, I.V. Teplukhina, I.I. Grekova (FSUE CRISM "Prometey", St. Petersburg, Russia).

3. **Heat Treatment of Large-Sized Forging from Cr-Ni-Mo-V Steel.** V.A. Durynin (OOO “OMZ-Spetzsteel”, St. Petersburg, Russia), V.V. Zukanov (CRISM «Prometey», St. Petersburg, Russia).


11:00 – 11:30. Coffee break (the second floor near Large Conference Hall).

**Meeting 3-2. New Welding Material in Nuclear Industry.**
October 8 (Wednesday), 11:30-13:30 (Small Conference Hall, the second floor).
Chairmen: E. Mikhaleva (Russia) and U. Rindelhardt (Germany).


13:30 – 15:00. Lunch (Green Hall, the ground floor).

Meeting 3-3. LBB and Effect of Thermal Ageing.
October 8 (Wednesday), 15:00-18:00 (Small Conference Hall, the second floor).
Co-chairmen: M.B. Bakirov and L. Pecinka (Czech Republic).


4. Strength of Nodular Graphite Cast Iron Spent Fuel Cask TUK-128 under Mechanical Impact. A.G. Kazantsev, N.N. Alexandrov, A.A. Silev (CNIIITMASH, Moscow, Russia), M.V. Radchenko (ENES, Moscow, Russia), A.A. Zubkov (CKTI, St. Petersburg, Russia).


Meeting 3-4. In-Service Inspection.
October 9 (Thursday), 9:00-11:00 (Small Conference Hall, the second floor).
Chairmen: A. Varovin (Russia) and P. Kauppinen (Finland).


2. Experimental Stand of Nuclear Research Institute Rez Plc for Qualification of In-Service Inspection Techniques. L. Pecinka (Nuclear Research Institute, Rez, Czech Republic).


5. Efficiency of Procedure of Manual Ultrasonic Test for Weld Unit of Collector and Steam Generator Case PGV-1000. A. N. Razygraev, N. P. Razygraev (NPO ZNIITMASH, Moscow, Russia).

6. Mock-up of Damage for Weld Unit of Collector and Steam Generator Case PGV-1000 Using the UST Results. A. N. Razygraev, N. P. Razygraev (NPO ZNIITMASH, Moscow, Russia).


11:00 – 11:30. Coffee break (the second floor near Large Conference Hall).

Meeting 3-5. Material in NPP with RBMK Reactors.
October 9 (Thursday), 11:30-13:30 (Small Conference Hall, the second floor).
Chairmen: M. Skotnikova (Russia) and P. Trampus (Hungary).


13:30 – 15:00. Lunch (Green Hall, the ground floor).

Meeting 3-6. Application of Material Properties at Structural Integrity Assessment. October 9 (Thursday), 15:00-18:00 (Small Conference Hall, the second floor)
Chairmen: S. Bor (Russia) and J. Benitez (Sweden).

1. Application of Duel-Purpose Technology of Designing RPV for Various Nuclear Installations. S.M.Bor (St. Petersburg, State Polytechnic University, St. Petersburg, Russia).


3. Failure of Cylindrical Pressure Vessel with crack. A.Alekseev, A.Levin, A.Syromjatnikova (IPhTPN, Yakutsk, Russia)

4. Procedure of RPV Service Life Prediction for Nuclear Installation on the basis the Model of their Operation. S.M.Bor (St. Petersburg, State Polytechnic University, St. Petersburg, Russia)
