

# International Association for the Properties of Water and Steam

## Russian National Committee (RNC)

### Report Second Half-Year of 2014- First Half-Year of 2015

1. RNC active participation in organization of next seminars for engineers and technology specialist from Russian power engineering companies:
  1. Cycle chemistry at power plants;
  2. Today technologies for cycle chemistry monitoring systems;
  3. Today experience of water treatment systems operation;
  4. Water treatment and cycle chemistry for combine cycle power plants.
2. Three meetings of RNC have been held. Current problems are investigated.

#### Publications list

1. Pokrovski G.S., Akinfiev N.N., Borisova A.Y., Zotov A.V., Kouzmanov K. Gold speciation and transport in geological fluids: insights from experiments and physical-chemical modelling. From: Garofalo, P. S., Ridley, J. R. (eds) Gold-Transporting Hydrothermal Fluids in the Earth's Crust. Geological Society, London, Special Publications, 402, pp. 9 – 70, 2014, doi: 10.1144/SP402.4
2. Hall D.M., Akinfiev N.N., LaRow E.G., Schatz R.S., Lvov S.N. Thermodynamics and efficiency of a CuCl(aq)/HCl(aq) electrolyzer. *Electrochimica Acta* 143 (2014) 70-82 (<http://dx.doi.org/10.1016/j.electacta.2014.08.018>)
3. Akinfiev N.N., Plyasunov A.V., Pokrovski G.S. An equation of state for predicting the thermodynamic properties and vapour–liquid partitioning of aqueous Ge(OH)<sub>4</sub> in a wide range of water densities. *Fluid Phase Equilibria* 392 (2015) 74-83. (doi:10.1016/j.fluid.2015.02.010)
4. Petrova T.I., Selesnev L.I., Bogatireva Yu.V. Flow-accelerated corrosion in heat recovery steam generation at combine-cycle power plants. // *New in Russian power engineering*. 2015 №2 – p -14 – 24.
5. Ochkov V.F., Orlov K.A., Aleksandrov A.A., Ochkov A.V. Properties of Water and Steam: Network, Open, and Interactive IT Resources // *Thermal Engineering*, 2015, Vol. 62, No. 5, pp. 378-387.
6. Ochkov V.F., Ustujanin E.E., Djo Ko Ko, Voloshuk V.A. Information and engineering support for thermal, nuclear and industrial power engineering // *Energy saving and water treatment*. No. 1, pp. 57-61.
7. Thermal technique etudes with Exel, Mathcad and Internet. Book. Ed. Ochkov V.F. 2015 – 336 p.
8. Ochkov V.F. Formulas in scientific publications, problems and answers// *Cloud in Science*. Vol.1 No. 3, pp. 421-456.

9. Ochkov V.F., Orlov K.A., Djo Ko Ko. "Cloud" functions and patterns of engineering calculations for NPP // Thermal Engineering, 2014, No. 10, pp. 68-72.
10. Egoshina O.V., Voronov V.N., Nazarenko M.P., Tabakov I.A., Kolushnicina S.A. Development and organization of cycle chemistry monitoring systems at thermal power plants // Power engineer. No. 1, pp. 14-17.
11. Egoshina O.V., Voronov V.N., Rogov A.S., Aye Min Lagg. Experimental research of dynamic properties of water chemistry analyzers // Thermal Engineering, 2015, No. 5, pp. 63-66.
12. Egoshina O.V., Petrova T.I., Voronov V.N., Nazarenko M.P., Aye Min Lagg. Experimental unit for investigation of corrosion processes and scaling formation processes on heat-exchange surfaces under the high thermodynamic parameters // Industrial power engineering. 2015, No. 5, pp. 43-46.
13. Larin B.M., Larin A.B. The state of the technology of treatment of aqueous working medium at Russian thermal power stations. // Thermal Engineering, 2014, No. 1, pp. 68-72.
14. Yuzbasheva, E.Y., Gotovtsev, P.M., *et al.* Biodiesel production via enzymatic catalysis (2014) Applied Biochemistry and Microbiology, 50 (8), pp. 737-749.
15. Reshetilov A.N., Kitova A.E., Ivahnenko A.A., Gotovtsev P.M., Vasilov R.G., Gutorov M.A. Accumulation of electrical energy from biofuel cell. // Ovchinnikov bulletin of biotechnology and physical and chemical biology. 2014 V10 №4 p. 27 – 32
16. Badranova G.U., Gotovtsev P.M. *et al.* Devices for medical implants energy supply and materials for their construction. // Ovchinnikov bulletin of biotechnology and physical and chemical biology. 2014 V10 №4 p. 54 – 66
17. Gotovtsev, P.M., Yuzbasheva, E.Y., *et al.* Immobilization of microbial cells for biotechnology industry applications. Current state and perspective technologies. // Biotechnologia 2015 №2 p. 8 – 21
18. Egoshina O.V., Voronov V.N., Yarovoy V.O. Analysis if operation of cycle chemistry controlling systems at combine-cycle power plants. Water treatment and cycle chemistry at thermal power plants. Conference proceedings. 26-28 May 2015 pp. 61-68
19. Egoshina O.V., Kuzina K.E. Characteristics of pH measurements in highly diluted solutions. National congress in power engineering. Conference proceedings. September 2014 pp. 127 – 131
20. Egoshina O.V., Makarishiva N.A. Comparison analysis of dynamic characteristics of automatic analyzers of oxydgen. National congress in power engineering. Conference proceedings. September 2014 pp. 304 – 309
21. Egoshina O.V., Makarishiva N.A., Aye Min Lagg. Investigation of dynamics of automated ammonia dosing systems in laboratory conditions. Current state and perspectives of electrical and thermal power engineering. Conference proceedings. 2015.

22. Egoshina O.V., Makarishiva N.A., Stoliarova E.A., Aye Min Lagg. Calculation of anionic compounds in clarified water based on electrical conductivity measurements. 3d All-Russian scientific and technical conference pf post graduate, graduate students and young scientists. Conference proceedings. 22 – 23 May 2015 pp. 956 – 960
23. OchkovV.F., Ustujanin E.E. Analysis of Internet resources about thermophysical properties of substances. XIV All-Russian conference on thermophysical properties of substances. Conference proceedings. 2014 – pp. 195-198
24. OchkovV.F. Modern progress in publication of data bases about thermodynamical properties of substances. XIV All-Russian conference on thermophysical properties of substances. Conference proceedings. 2014 – pp. 15-16
25. OchkovV.F., Djo Ko Ko. On-line calculation, cloud functions and patterns on thermodynamic properties of substances. XIV All-Russian conference on thermophysical properties of substances. Conference proceedings. 2014 – pp. 179-180
26. OchkovV.F., Ustujanin E.E., Djo Ko Ko. Data extrapolation of water in critical ares IAPWS-IF95 – density and pressure. All-Russian conference on thermophysical properties of substances. Conference proceedings. 2014 – pp. 198-201
27. Lazukin A.V., Krivov S.A., Gotovtsev P.M., *et al.* Application of surface discharge as a basis of autonomous high-voltage electro-technical units. Conference proceedings. XV International conference “Electromechanics, electrotechnology, electrotechnical materials and components. Conference proceedings. 2014 – pp. 246-247