

# International Association for the Properties of Water and Steam

## Russian National Committee (RNC)

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### Report Second Half-Year of 2013- First Half-Year of 2014

1. RNC active participation in organization of next seminars for engineers and technology specialist from Russian power engineering companies:
  - Cycle chemistry at power plants;
  - Today technologies for cycle chemistry monitoring systems;
  - Today experience of water treatment systems operation;
  - 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. Pokrovskii G.S., Akinfiyev 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, 2014
2. Thermo-technical etuds with Exel, Mathcad and Internet. V.F. Ochkov (Ed). BHV-Peterburg 2014 – 336 p.
3. Tagirov B.R., Baranova N.N., Zotov A.V., Akinfiyev N.N., Polotnyanko N.A., Shikina N.D., Koroleva L.A., Shvarov Yu.V., Bastrakov E.N. The speciation and transport of palladium in hydrothermal fluids: Experimental modeling and thermodynamic constraints. *Geochimica et Cosmochimica Acta*, 117 (2013), 348–373
4. Akinfiyev N.N., Plyasunov A. V. Application of the Akinfiyev–Diamond equation of state to neutral hydroxides of metalloids ( $B(OH)_3$ ,  $Si(OH)_4$ ,  $As(OH)_3$ ) at infinite dilution in water over a wide range of the state parameters, including steam conditions. *Geochimica et Cosmochimica Acta* 126 (2014) 338-351
5. Akinfiyev N.N., Tagirov B.R. Zn in Hydrothermal Systems: Thermodynamic Description of Hydroxide, Chloride, and Hydrosulfide Complexes. *Geochemistry International*, 2014, Vol. 52, No. 3, pp. 197–214.
6. Petrova T.I., Gotovtsev P.M., Bogatireva Yu.V., Dyachenko F.V. Influence of surface-forming amines on ion exchange resins capacity. *New in Russian Power Engineering* 2014. No 4.
7. Gotovtsev P.M., Lomonosova M.A., Butylin V.V., Gorin K.V.. Possible Technologies for the microalgae harvesting by flocculation with bioflocculants application *Ovchinnikov bulletin of biotechnology and physical and chemical biology*. 2013 V9 №3 p. 75 – 80

8. Namsaraev Z.B., Gorin K.V., Gotovtsev P.M., Lomonosova M.A., Butylin V.V., Shapovalova A.A., Vasilov R.G. Microalgae as potential source of biomass for bioethanol production. *Ovchinnikov bulletin of biotechnology and physical and chemical biology*. 2013 V9 №4 p. 38 – 42
9. Komova A.V., Namsaraev Z.B., Gorin K.V., Gotovtsev P.M., Badranova G.U., Vasilov R.G. Maximum efficiency of solar light energy conversion in biofuel and the ways of it increase. *Ovchinnikov bulletin of biotechnology and physical and chemical biology*. 2013 V9 №4 p. 48 – 51
10. Gotovtsev P.M., Namsaraev Z.B., Gorin K.V., Komova A.V., Butylin V.V., Badranova G.U., Lomonosova M.A. Mathematical modeling of intracellular processes. *Ovchinnikov bulletin of biotechnology and physical and chemical biology*. 2013 V9 №4 p. 59 – 71
11. Yuzbasheva E.Yu. Gotovtsev P.M., Mostova E.B., Perkovskaya N.I., Lomonosova M.A., Butylin V.V., Vasilov R.G., Sineoky S.P. Production biodiesel by enzymatic catalysis. *Applied Biotechnology and Microbiology*. 2014 №1 p. 8-24.
12. O.V. Egoshina, V.N. Voronov, M.P. Nazarenko Modern state of cycle chemistry monitoring systems at thermal power stations according to the experience gained at the Moscow Power Engineering Institute and Element Research and Production Center, *Thermal Engineering*, 2014, Vol. 61, #3, pp 214-220
13. Ochkov V.F., Orlov K.A. Thermo-technical calculations: from in-build functions to cloud functions. *Bulletin of Ivanovsk power engineering institute*. 2014, №1 p. 5-10.
14. Ochkov V.F., Joe Ko Ko. Differential equation – water droplet fly. *Water Purification, Water Treatment, Water Supply*, , 2014, № 3 p. 50-56.
15. Ochkov V.F., Piskotin S.A. Cloud functions of working fluids in power engineering. *Izvestiya vuzov. Power engineering problems*. 2013, № 10-11 p. 91-98.
16. Ochkov V.F., Orlov K.A., Ochkov A.V., Znamensky V.E. Application pf cloud computing for thermo-technical calculations. *Thermal engineering* 2013, № 9 p. 71-77.
17. Panteleev A.A., Ryabchikov B.E., Horushiy O.V., Larionov C.Yu. Choosing of schemes of water treatment units based on membrane technologies from reliability and economy point of view. *Water supply and water remove* 2014 No1-2, p. 99 – 112
18. Ryzhenkov A.V., Kushakov A.V., Lukin M.V. Potential of surfactants molecules. Experience of surfactants technologies application in municipal heat system of Moscow. *Water magazine*. 2013 No 11 p.32-33
19. Ryzhenkov A.V. About field of scientific center “Wearability” activity. *Reliability and safety of power engineering*. 2014. №2(25), p.3-7
20. Kachaligin G.V., Ryzhenkov A.V., Medvedev K.S., Bichkov A.I., Parfenenok M.A. Modern technological application for ion-plasmonic surfaces forming on parts of power engineering equipment. *Reliability and safety of power engineering*. 2014. №2(25), p.8-12.

21. Kurshakov A.V., Ryzhenkov A.V., Ryzhenkov O.V. Increasing of reliability and economical efficiency of steam turbine by microdosing of ODA in turbine. Reliability and safety of power engineering. 2014. №2(25), p.13-17.
22. Ryzhenkov A.V., Lukin M.V., Pogorelov S.I., Kurshakov A.V., Karpunin A.P. Results of surfactantes technology application in district heating systems in 2003-2013. Reliability and safety of power engineering. 2014. №2(25), p.18-22.
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24. Volkov A.V., Parigin A.G., Pomorcev M.Yu., Ryzhenkov A.V., Hovanov G.P. Experimental investigations of modernization of surface of flow part of pump type "D". Reliability and safety of power engineering. 2014. №2(25), p.26-27.
25. Volkov A.V., Kurshakov A.V., Ryzhenkov A.V., Grigoriev S.V., Epstein K.L. Energy supply of far settlings. Reliability and safety of power engineering. 2014. №2(25), p.29-32.
26. Ryzhenkov A.V., Zilova O.S., Kachalin G.V., Batrakov A.A., Burmistrov A.A., Lepehov A.P. Problems of quantitative all-layer analysis of modified surface layer and protective surfaces based on nitrites, carbides and carbonitrides of metals that applied in power engineering. Reliability and safety of power engineering. 2014. №2(25), p.46-51.
27. Ochkov V.F., Voloshuk V.A., Orlov K.A., Ochkov A.V. "Cloud" Service for Computer Simulation of Air-Conditioning and Refrigerating Systems // First International Conference on Energy and Indoor Environment for Hot Climates, February 24-26, 2014 | Doha, Qatar.
28. O.V. Egoshina, Complex approach for working out cycle chemistry monitoring at power plants, 16<sup>th</sup> Conference on the properties of water and steam, 1-5 Sept. 2013, London, UK, pp 119
29. Petrova T.I., Gotovtsev P.M. Selection of Water Chemistry for Fossil Plants with Aluminum Alloy Heat Exchangers, 16<sup>th</sup> Conference on the properties of water and steam, 1-5 Sept. 2013, London, UK, pp 104
30. Gotovtsev P.M., Petrova T.I., Voronov V.N. Mathematical models application at the cycle chemistry monitoring systems. 16<sup>th</sup> Conference on the properties of water and steam, 1-5 Sept. 2013, London, UK, pp 120
31. Ryzhenkov V.A., Pogorelov S.I., Ryzhenkov A.V. Improving the efficiency of water transport systems. 16<sup>th</sup> Conference on the properties of water and steam, 1-5 Sept. 2013, London, UK, pp 120