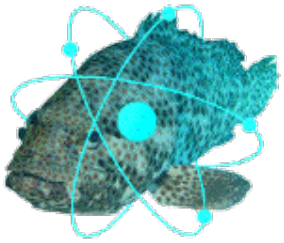

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KNOWLEDGE MANAGEMENT OF WATER TREATMENT IN NUCLEAR AREA: THE BELARUSIAN STATE UNIVERSITY CASE STUDY

Wednesday 30 May 2018 12:00 (20 minutes)

This study reviews the unique experience of research in the water treatment applied in educational process. The Faculty of Chemistry of the Belarusian State University (BSU) works in close contact with the Research Institute for Physical and Chemical Problems, which originally stemmed from the Faculty itself, but later separated. The experts of the Research Institute and Faculty of Chemistry developed the new solutions of the water treatment problems. The new technology for water treatment to improve drinking water quality has been proposed. It can be implemented on the scale of large cities at the water treatment plants and at small settlements as well. In cases of emergencies an independent mobile autonomous water treatment plant or portable individual water treatment kit can be used.

The course "Water Chemical Regime"is implemented into the curriculum. It gives an overview of issues of the water chemistry support at operating NPP. It attempts to provide basic knowledge on water pollution and treatment to students and give them hand experience of water treatment. During the practical part the participants realize measurements of real samples contaminated as a result of Chernobyl catastrophe, modeling of waste water treatment. The educational strategy of this course is active learning based on the principles of cooperative learning and pear-lead team learning.

As the international course for winter or summer school we proposed "Water issues at NPP". This course plans to give an overview of issues of the water chemistry support at operating NPP. The aim of this course is to introduce participants on water related safety issues at NPP. It attempts to provide basic knowledge on water pollution and treatment to students and give them hand experience of water treatment.

The strategy of knowledge society development is favored by the openness of educational resources, novel methods of education and teaching, including distance learning. Methodical maintenance of labs has been created in video format, which consistently demonstrates the performance of lab by the students themselves. This material is accompanied by a detailed description, theoretical explanation necessary for the successful finishing of the work. For instance, the videolab "Modeling of NPP Laundry Waste Water Treatment"has been created.

Summing the activity we note with satisfaction that the state-of-the-art and multidisciplinary education together with the strong international communications and research will allow our students to be fully qualified specialists in nuclear engineering and water treatment area.

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