



KNPP REVIEW

KOZLODUY NPP REVIEW

ISSUE 2

MARCH-APRIL 2009

KOZLODUY NPP 35 YEARS CLEAN ENERGY

KOZLODUY NPP PLC SOCIAL FACILITIES



One of the ways to retain highly qualified staff is to ensure living conditions and quality of life

comparable with those in any contemporary European city. The Kozloduy NPP owns up-to-date facilities for sport, recreation and culture which are available not only for Kozloduy NPP employees and their families, but for all the citizens and guests of the region. Social facilities and services are provisioned by the Collective Labor Contract as a per cent of the assigned salaries. Thanks to the favorable financial status of the Company in the last few years, this percent was increased at the end of 2008 from 16% to 18%. The funds, assigned to social and cultural services make it possible to maintain activities that are

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AGREEMENT FOR STORAGE FACILITY CONSTRUCTION SIGNED

A contract was signed between Kozloduy NPP Plc and JV IBERDROLA Ingenieria y Construccion S.A.U./ BELGOPROCESS (Spain) on 16th April 2009 for the construction of a facility with high capacity for reducing the volume of solid radioactive waste (RAW). The contract was signed by Ivan Genov, KNPP Executive Director and Francisco Lopez, Nuclear Production Director, IBERDROLA. I believe that today we are laying the foundations for a successful cooperation, based on the long years

administered by the EBRD and Kozloduy NPP.

The facility will be constructed on the KNPP site, as the re-processing will be made in a completely closed system. The installation will be used for treatment of solid RAW

generated during the operation of units 1-6 as well as those that are going to be generated during the decommissioning of the closed units 1-4 and stored on the plant site. After their reprocessing a reduction of the volume of low level wastes shall be achieved. Resultant waste is going to be vitrified thus assuring an up-to-date solution of the issue related to their long-term and safe storage. An Environmental Impact Assessment and a Safety Analysis Report shall be made after the contract signing and then the construction of the facility shall start.

“I believe that today we are laying the foundations for a successful cooperation, based on the long years of experience and the authority of our companies”



of experience and the authority of our companies, said KNPP Executive Director. The project is funded by the Kozloduy International Decommissioning Support Fund (KIDS),



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JAPANESE GUESTS TO KOZLODUY NPP

On March 23rd 2009 Kozloduy NPP was visited by Takako Hirose - Commissioner, the Japan Atomic Energy Commission; Daisuke



Hirayama – Secretariat of the JAEC; Yoshihiro Fuchigami - Counsellor for the Atomic Energy Bureau of Science, Technology and Innovation Policy, Nabuyuki Matsamoto - Second secretary for economic affairs at the Embassy of Japan to the Republic of Bulgaria. The guests were heartily welcomed by Mitko Yankov, Safety and Quality Director, accompanied by a team of Kozloduy NPP managers and experts from various divisions, including, Operation, Decommissioning, International programmes, Human resources, etc.

Mitko Yankov extended Kozloduy NPP Management gratitude to the Japanese government for the opportunity granted to Kozloduy NPP operators to visit Japanese nuclear power plants and exchange valuable operational experience with their Japanese colleagues. During the meeting the Japanese guests were familiarized with the history and the present day state of all six units of KNPP as well as with the stages and specific VVER-440 reactors decommissioning procedures and sources to finance the process. Special attention was paid to the issue of how to retain and utilize accumulated knowledge and experience after shutting down the utilities. The entire policy of Kozloduy NPP with regard to further motivation, social benefits, opportunities to increase qualification and educational levels was also in the focus of the discussions. Special interest was evoked by Project 27 – a programme to involve Units 1 - 4

specialists to gain competence related to decommissioning activities.

During the discussion held on the communication policy and the high level of public approval of Kozloduy NPP, Ms Hirose commented: "We are deeply impressed

by this fact, because we put a lot of effort to improve the image of nuclear power plants for they are rather reluctantly accepted in Japan. Our greatest challenge now is to make clear to the public that the use of nuclear power for peaceful purposes is extremely advantageous." The delegation continued the discussions during the plant walkdown. The Japan Atomic Energy Commission was established on January 1, 1956 and has five commissioners. Its mission is to conduct planning, deliberations and decision-making regarding basic policy for research, development and utilization of nuclear energy, including formulation of the framework for Nuclear Energy policy in compliance with the Nuclear Materials, Fuel and Reactors Regulation Act.

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A MEETING IN LITHUANIA

A regional seminar of the International Atomic Energy Agency (IAEA), organized by the Lithuanian State Nuclear Power Safety Inspectorate (VATESI) took place on March 2 - 6, 2009. The topics discussed were related to Safety analyses in support of NPP modernizations. There were 33 representatives from 9 countries - Armenia, Bulgaria, Slovakia, the Czech Republic, Romania, Lithuania, Russia and Ukraine. Experts from the regulatory bodies of the Armenian Nuclear Regulatory Authority (ANRA), the Lithuanian State Nuclear Power Safety Inspectorate (VATESI), the Romanian National Commission for Nuclear Activities Control – CNCAN, the Ukrainian State Nuclear Regulatory Administration – (SNRA), from the Nuclear Regulatory Authority of the Slovak Republic – NRASR), as well as experts from Chernobyl NPP (Romania), Dukovany (the Czech Republic), the Bohunice NPP and Mochovce NPP (the Slovak Republic), Kozloduy NPP (Bulgaria), the Rovno NPP and Zaporozhe NPP (Ukraine) attended the conference as well as representatives of the nuclear facilities equipment production company Hidropres (Russia). The participants became familiarized with all IAEA documents, regarding safety standards related to nu-



clear power plants modernizations. Certain practices that are new for the industry from the USA, Spain and Finland in the area of deterministic and probabilistic analyses were presented. A variety of issues were discussed, such as preparation and stages within the modernization process, policy, role and responsibilities of

the regulatory bodies; modernizations related to the configuration of the plant, modernizations of the control systems, temporary modifications, modifications in safety analyses reports (SAR), safety assessment and analyses, methods used to classify design modifications, the role of the regulatory body with regard to the mode of permission to implement modernizations, related to safety, etc. During the discussions the participants were informed of the Kozloduy NPP Units 5 and 6 Modernization program structures, with the main stages of its implementation as well as with areas of safety issues reviewed and assessed by IAEA experts during the Follow-up mission in November, 2008. The experts, attending the conference were also familiarized with the achievements of the Bulgarian NPP regarding the implementation of the various types of analyses to enhance safety in nuclear power plants.

WANO –MOSCOW CENTRE MISSION TO KOZLODUY NPP

A World Association of Nuclear Operators (WANO) - Moscow Centre mission was conducted at Kozloduy NPP from March 23 to March 27 on Technical support and maintenance works in NPPs with VVER-1000 reactors as a part of the preparations for the OSART mission. Experts on maintenance activities, control and automation devices from Rovno and Kalinin NPPs as well as WANO Moscow centre representatives took part in the event. On behalf of Kozloduy NPP, 24 experts were involved in the mission. The Ukrainian and Russian experts shared their experience within the scope of the mission: related to the application of the efficient maintenance self-



assessment indicators, the preparations needed and performance of the maintenance activities, analyses of the maintenance works implementation, registered defects management, etc. Within the framework of the mission, certain topical problems related to preparation, performance and report of technical service and maintenance

works were discussed and operational procedures of Secondary circuit equipment, Electrical equipment, Control systems, etc. were reviewed. On the last day of the mission the experts shared their observations and presented the Draft of their Final report, the latter being expected to be communicated to Kozloduy NPP within the next three weeks.



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ONE –DAY MANAGER



KNPP has always devoted special attention to young people, taking care of them and communicating with them is among the priorities in the company social policy. Thus following this tradition on 31st March 2009 KNPP took part in the “One-Day Manager Initiative” conducted by The Junieur Achievement Foundation under the auspices of the Minister of Finances of the Republic of Bulgaria. This is an initiative in which well-known businessmen, politicians, leaders and managers offer their seats to young people to introduce them to their everyday work and challenges and make them try walking in their shoes for one day .

“My participation in the ‘One-day manager’ project was an interesting challenge. I had the chance to see how Kozloduy NPP is managed and such a lesson at the finish line of my last school year turned out to be extremely useful. Participating in the process of the plant real management, I understood that there are exceptional responsibilities in life and one can not shoulder them without possessing the necessary qualities and professional skills. “

Elena Tzibrova





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OPERATIONS PERSONNEL TRAINING

In compliance with the National Regulatory Agency Regulations of 2004 for the arrangement and order of acquiring professional qualification and the arrangement for issuing of licenses for specialized training and certificates of authority to utilize nuclear power, Kozloduy NPP organizes 20 day courses for nuclear utility operators on annual basis. For certain positions involved in the actual operation of the units another five day course of lectures has been organized at the Ledenica recreation centre each year since 2005. From February 16 to March 27, 2009 the annual training of the senior operation personnel of Electricity Production-2 was performed by 12 of the most eminent experts in the matter. The lectures covered such topics as:

- Operational events analysis
- The International Nuclear Event Scale,
- The ASSES methodology to analyze root causes of events in NPPs.
- Radiation and Dosimetry Control Systems
- Operational experience and implementation of a new generation nuclear fuel for WWER-1000 reactors.
- Communication during operational interrelations and teamwork
- The in-core control system CBPK-M (modernized) for Units 5 and 6

The objective is to combine and enhance qualification of operational staff and to implement various practices of team building.



WORKING MEETING IN CHERBOURG, FRANCE

On March 19 and 20 Cherbourg, France, hosted the third working meeting of the Group on reliability of services in the nuclear fuel cycle within the framework of the Global Nuclear Energy Partnership – GNEP. 18 representatives of 10 countries that have signed the Cooperation Agreement - the USA, France, Australia, Korea, Poland, Romania, Japan, Jordan, China, Bulgaria and two IAEA representatives attended the meeting. Bulgaria was represented by Valentin Stanchev - Head of Spent fuel facility at Kozloduy NPP and Ivo Naev - Head of Reactor physics technologies, Kozloduy NPP Electricity Production-2.

The Third working meeting of the Group on reliability of services in the nuclear fuel cycle within the framework of the Global Nuclear Energy Partnership – GNEP was chaired by Mark Humphrey - a nuclear physicist from the USA Department. Reports were presented by Polish and French representatives who chaired the two subgroups to summarize the facts and specify the completion of the nuclear fuel cycle criteria. The IAEA report on Security of supplies evoked greatest of interest and gave rise to lengthy comments and discussions with regard to security of fresh fuel supplies. Some important issues were emphasized such as contracting supplies with different licensed manufacturers, keeping reasonable amounts of fresh fuel on site and licensing different transport vehicles and means. All participants were pleased with the AREVA Management invitation to visit the spent fuel reprocessing plant *La Hague*, near Cherbourg, this being the biggest spent nuclear fuel reprocessing plant in the world to service countries like Japan, Germany, Belgium, etc.. The Third working meeting of the Group on reliability of services in the nuclear fuel cycle within the framework of the Global Nuclear Energy Partnership – GNEP presented a perfect opportunity for the participants to exchange information related to their achievements and outline the prospects of nuclear power production in the future.

FIRST QUARTER PRODUCTION SURPLUS TO THE PLAN

During the first three months of the year Kozloduy NPP produced 4 471 686 MWh this was 6.93% more than the planned amount. In this period Unit 5 has generated a surplus of 6.75%, while Unit 6 has over fulfilled the plan by 7.1%. Throughout the whole period 1000 MW Units 5 and 6 operated according the schedule as agreed with the system operator without any deviations from the limits and conditions regarding the safe operation of nuclear power plants.



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Social Facilities



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important for the Company and to provide better living conditions in a broader sense. These facilities include the Sports and recreation centre, the KNPP Culture House, the Workers' hostels in Kozloduy, the Ledenica Recreation and Health center in the Balkan mountains as well as the vacation facility under construction in Kranevo, on the Black sea coast. All facilities were included in the Energy efficiency program of the Company to be updated to meet current standards and requirements.



WORKERS' HOSTELS - Hostel-1 is a 14 storey building with 128 single rooms and 36 flats, 11 kitchen facilities, 11 offices, a coffee bar etc. It is currently undergoing a major renovation. Hostels-2 and 4 are four-storey buildings with a total of 78 flats and nearly 180 Kozloduy NPP employees and their families are accommodated there .

VISITS

Students from the Technical University of Varna studying Electrical Power Engineering visited the plant MCR and the TH of Units 5 and 6 and the SGY on 13th March 2009.



The Faculty of Electrical Engineering, Electronics and Automatics of the University in Ruse initiated annual visits for their students to the plant and this year their group included 65 visitors.

The German and Bulgarian participants in the International Youth Exchange Project of the New Idea Association visited the plant Information Center, the MCR and TH of Units 5 and 6 and the Viewing Gallery.

47 students and teachers from the Vocational Electrical Engineering school in Stara Zagora visited the plant on 26th March.





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BULGARIAN PARTICIPATION IN THE GLOBAL NUCLEAR POWER PARTNERSHIP

The ever more widespread use of the economically efficient and greenhouse gases free nuclear power worldwide - that is one of the major policy objectives as set before the Global Nuclear Energy Partnership (GNEP), the latter being a part of the USA - Russia initiative on modern energy and power production.

GNEP was founded on September 16, 2007 in Vienna, Austria during a meeting of Ministers, invited by Samuel Bodman - USA Energy Minister. The forum was attended by the energy ministers of France, Russia, China, Japan, USA as well as ministers of countries that were invited to join the GNEP. The Republic of Bulgaria was also invited to join the organization and sign the Declaration on the Global Nuclear Energy Partnership Principles which correspond to the principles and policy of the Republic of Bulgaria in the area of nuclear energy and radioactive waste management. The Declaration was signed by sixteen more countries. The structures through which GNEP accomplishes its activities were established - the Executive committee (ministers, deputy ministers), Management group (directors and experts) and Working groups on infrastructure development and reliability of services within the nuclear fuel cycle. Bulgaria is represented at the Management group by Mitko Yankov - Safety and Quality Director of KNPP and Vassil Hadzhiev - Head of Scientific Support and Development Department of the plant.

MANAGEMENT GROUP - THIRD MEETING IN JAPAN

The GNEP Management group meeting, held April 7 - 9, 2009 in Tokyo was attended by 16 partner countries delegations, 6 observer countries and two international observer organizations - the International Atomic Energy Agency and The Generation IV International Forum, or GIF.

At the opening of the Meeting USA president



Meeting of GNEP – 01.10.2008, Paris

Barack Obama's speech on nuclear energy was presented. A major point in his speech was the right of each country of access to nuclear power, provided the Treaty on non-proliferation of nuclear materials is observed, this

being the main priority. According to the preliminary program, the meeting considered and discussed the Minutes of the Ministers' meeting at the GNEP Executive committee, held on October 1, 2008 in Paris, France, the 2009 Management group Working Plan, Working groups' reports on infrastructure development and reliability of services within the nuclear fuel cycle activities, etc.. Within the framework of its Report, Japan presented information on the January 2009 seminar on global nuclear fuel supplies. More information on details and trends on the nuclear fuel markets, uranium enrichment etc. can be found at <http://www.mofa.go.jp/policy/energy/iaea/seminar0902/index.html>, .

Tomash Yakovsky - representative of the Ministry of Economy of Poland stated the willingness of the Polish side to organize training for nuclear energy staff and reactor operators, this would include the opportunities offered by the Kozloduy NPP Training centre. The participants visited the Research nuclear energy centre Tokai - Mura, the Nuclear studies institute, the Research proton accelerator complex, the JRR-3 - the Japanese research reactor, the JOYO experimental reactor, the High Temperature Test Reactor HTTR for hydrogen production, etc. The next meeting of the GNEP ministers was scheduled for October 23, 2009 in Beijing, China.

Vasil Hadzhiev - Head of Scientific Support and Development Department



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SPORTS

SWIMMING - THE CHAMPIONS TO BE PROUD OF



March 28, 2009. Sports and Recreation Centre. Winners of the traditional Swimming Championship for Workers – breaststroke, crawl, butterfly, backstroke.



KOZLODUY NPP VETERANS STILL IN BEST OF SHAPE

Bansko - the world renowned Bulgarian ski resort hosted the Veteran Workers' Ski Championship, March 5-8, 2009, where Kozloduy NPP representatives proved to be among the best of all 345 alpine giant slalom skiers to win a bronze and two silver medals. This is the second greatest achievement for the season after Kozloduy NPP skiers won the First Open Ski Festival in Semkovo (the Rila mountains winter resort).

ARM WRESTLING - THREE BRONZE MEDALS AT OPEN TOURNAMENT, FOUR SILVER MEDALS AT THE REPUBLICAN CHAMPIONSHIP

The Sixth Blagoevgrad Arm Wrestling Tournament, March, 2009 brought 3 bronze medals for Kozloduy NPP team to pave the way to the four silver medals won by KNPP sportsmen at the Republican Championship with a total of 320 competitors.

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THE WEB!**

www.kznpp.org

CONTACT US

We look forward to hearing your views.
Please feel free to contact us.

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