



Nuclear workers celebrate professional holiday



Tsanko Bachiiski (left) gets his diploma from Ivan Genov

On June 17 the workers of Kozloduy NPP celebrated their professional holiday, the Day of power generation workers.

Mr Tsanko Bachiiski was named Nuclear Engineer of 2006 at a special ceremony. He is the head of Maintenance Division at Units 5 and 6. Mr Bachiiski planted the 32nd tree in the memorial alley of Kozloduy NPP where each tree stands for one year of our company's history.

The program of the holiday included various initiatives and sporting events. The members of the athletic clubs organized a short marathon as well as a cycling competition. Motorcyclists drove from Kozloduy NPP to the Sports Complex which was quite an attraction for the citizens of Kozloduy.

Furthermore, competitions in tug-of-war were organized as well as in volley-

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ball, arm-wrestling, swimming, table tennis, etc. The winners received diplomas and small trophies.

In the evening, the House of Culture hosted a special ceremony. Mr Ivan Genov, Executive Director, greeted the guests on the occasion of the holiday. He gave a diploma to Galina Yanakieva, teacher at the Art Studio of the House of Culture, in recognition of the important role of the Studio in the town's cultural life. Another diploma went to the Theatrical Group.

Kozloduy NPP becomes champion again



The Kozloduy NPP's team became the all-round champion in the Fifth Open Balkan Workers' Sports Festival "The Balkans Invite for Peace" which took place in the Black Sea resort Albena from June 21

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Minister Ovcharov awards a prize to Kozloduy NPP



On the occasion of the professional holiday of power generation workers the Ministry of Economy and Energy

awarded a special diploma to Kozloduy NPP for its professionalism and high motivation of personnel.

Minister Rumén Ovcharov handed the diploma in person on a special ceremony in Sofia's Palace of Culture attended by various utility representatives.

A personal diploma was presented to the former Executive Director of Kozloduy NPP Ivan Ivanov for his proactive civic position regarding energy industry in Bulgaria.

Accents

Kozloduy NPP takes part in international nuclear forum

The 5th international annual nuclear forum took place in the sea resort of Riviera from June 2 to June 4, 2006. The event was organized by Bulatom, the Bulgarian Nuclear Forum, member of Foratom. This year the forum was entitled "Nuclear Energy and Ecology" and was held under the patronage of the Ministry of Economy and Energy and the Nuclear Regulatory Agency. It was a good opportunity for experts and politicians to exchange views and ideas about the future development of the nuclear energy in the Balkans, bearing in mind security of supply and ecology.

The program of the conference included various panels with reports and round tables.

Fifteen Kozloduy NPP specialists took part in the working groups. They provided a professional insight and expertise in the sphere of nuclear energy.

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Kozloduy NPP becomes champion again

to 25, 2006.

The Kozloduy NPP athletes got the prestigious first place in competition with over 2,000 participants from 22 countries. These included Belgium, Brazil, Israel, Russia, Vietnam, etc. The athletes competed in 17 sports. The Kozloduy NPP representatives won the first place in five disciplines: track-and-field (women), tug-of-war (men and women), and arm-wrestling (men and women). The team got 10 bronze medals too: swimming (men and women), shooting (women), mini football (men), beach football (men), tennis (women), chess (women), bridge (men and women) and darts (men). The men's track-and-field team got a bronze medal as well. The final collection of medals included four fourth places, five third places and one sixth place.

Czech specialists visit Kozloduy NPP



The president of the State Office for Nuclear Safety of the Czech Republic Ms Dana Drabova visited Kozloduy NPP on June 20, 2006. She was accompanied by her colleague Mr Petr Krs, vice-president for management and technical support.

The visit was at the invitation of Mr Sergey Tsochev, chairman of the Bulgarian Nuclear Regulatory Agency. The guests met with Mr Mitko Yankov, Director of Safety and Quality at Kozloduy NPP. He answered questions regarding the operation of the plant. Ms Radelina Tranteeva, Head of Safety Department, made a presentation about Kozloduy NPP, modernization programs and safety-related modifications.

The visitors walked around the control rooms of Units 2, 3 and 6. They also visited the Full-Scope Simulator at the

Kozloduy NPP's Training Center. After the visit, Ms Drabova shared her impressions: "It was a great pleasure to visit Kozloduy NPP, the people were so nice and friendly. We know quite a lot in the Czech Republic about Bulgarian Nuclear Program and the cooperation and information exchange have already long tradition.

Nevertheless, it is always better to see

"My overall impression is that Kozloduy NPP is carefully operated and well maintained plant with dedicated and enthusiastic people"

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and walk down the plant than listen to presentations. I was especially interested in Kozloduy 5 and 6 (VVER 1000), because there is substantial operational experience and also modernization program, and the Czech Regulatory Authority can benefit from the feedback and use your experience for our Temelin NPP assessment and supervision. I was very glad to hear from the staff of Kozloduy NPP that the contacts with Temelin are quite frequent. My overall impression is that Kozloduy NPP is carefully operated and well maintained plant with dedicated and enthusiastic people. It is really a pity that your older units have to be shut down for political reasons."

Anniversary

30 years metrology assurance at KNPP



Prof. Hristo Radev (left) congratulates Todor Todorov

This year Kozloduy NPP celebrates the 30th anniversary of the company metrology department.

Everything started in 1976 when a special Metrological Laboratory was established within the Technological Measurements and Automation Department. The laboratory was transformed over the years and became a unit Departmental Metrological Control (1976-1981), Metrology Department (1981-1991), Departmental Metrology Service (1991-1994), Metrology and Standardization (1994-1998). A long way of development was gone and a new department was established – Metrology Assurance.

Major Activities

The major task for the specialists at the Metrology Assurance Department is to provide unity, accuracy and reliability of measurements at Kozloduy NPP.

In fact, metrology assurance means that specific scientific methods are applied as well as regulations and norms needed to guarantee unity and accuracy of measurements.

The major goal of the Metrology

Assurance Department at Kozloduy NPP is to provide metrology assurance for operational and maintenance activities including control of precision of measurements, control over methods and procedures of measurement and testing. The work of the metrology specialists covers several areas:

- Development of standards
- Organization of metrological control of measurement devices
- Quality assurance in the department
- Inspection
- Implementation of new methods and techniques for calibration and check-up of devices
- Preparation of laboratories for licensing and accreditation

Personnel Training

All these major activities are included in the metrology assurance development program. The goal is to reach a level of quality complying with the modern trends and requirements for measurement devices.

Today, the department has 31 initial standards and 189 working standards through which it assures precision and reliability of various measurements at Kozloduy NPP.

The metrology experts have at their disposal six laboratories with modern equipment for different types of measurements. These labs cover 96 percent of the metrology control of measurement devices at Kozloduy NPP. The other 4 percent are legally regulated and are performed by state organizations and accredited laboratories.

To provide adequate quality assurance, a special guide was prepared in compliance with the Bulgarian State Standards BDS-ISO 9001:2000. Calibration activities are also performed following the General Requirements

30 years metrology assurance at KNPP

Regarding Laboratories' Competences for Testing and Calibration.

Preventive control over the work of various structures in the plant resulted in common use of metrologically assured measurement devices. Today, control bodies affirm that metrology control at Kozloduy NPP is at a professionally high level.

In the process of reconstruction and modernizations of Units 3, 4, 5 and 6 a lot of new testing techniques for new measurement systems were implemented. The metrology assurance of these activities was flawless although it was a real challenge to the experts.

High Professional Qualification

Comparative measurements were done in both Bulgarian and German laboratories which proved professionalism of staff at the Metrology Assurance Department. Training is the foundation of high level of expertise. There is hardly a person at this department who hasn't gone through post-graduate courses in metrology.

It is beyond doubt that these specialists possess high qualification, good theoretical knowledge and professional experience. Thus, these experts can:

- check and calibrate a large variety of measurement devices
- do maintenance and tuning
- acquire knowledge in new methods in short time
- develop and validate calibration techniques and check-ups of devices
- do input control and testing of equipment at delivery
- do highly precise measurements
- do consultations and training of staff in technical measurements

-take part in technical committees as experts.

"We have a good reason to take pride in what we're doing because we have been and we are a leading center of the industrial metrology in the country," says Todor Todorov, head of the Metrology Assurance Department.



Prof. Hristo Radev:
Technical University, Sofia

"In a company as important as a nuclear power plant the quality of measurements is of paramount importance. Measurements should provide accurate, timely and sufficient information. This requires two factors: high qualification of staff and state-of-the-art equipment. It is typical for the Metrology Assurance Department to have a perfect combination of both factors.

I cannot help noticing that there is a strong aspiration for permanent development of qualification both on behalf of staff and management. The metrology specialists undergo post-graduate training at the Technical University in various courses, and the most effective of all is individual specialization which ends with a state final certification examination. We are very satisfied at the university by the serious attitude demonstrated by KNPP specialists."

Modernization

Upgrades take place at the Switch Yard

The Switch Yard at Kozloduy NPP has two major functions: distribution of generated electric power from the units and supply of energy for house loads needs including power supply for the Bank Pumping Station.

The Switch yard provides technical service to the high voltage power line "Atom" (220 kV) and "Neutron" (110 kV). The Switch Yard is technically connected with the nuclear units since some protective elements are situated in the control rooms of the yard. Here are also situated the commercial electric meters. The control rooms of the Switch Yard is the only place at Kozloduy NPP where the whole electric scheme is visualized including back-up transformers, back-up electrical boards and the connections between them.

The Switch Yard is the center of the system's emergency protective automation which guarantees dynamic stability of the power grid of Bulgaria. Moreover, the Switch Yard is on the boundary between Romania and Bulgaria thus being the place where information is received from big generation and consumption capacities in the country (such as Chaira HPP). In case of switch-off of a 1000 MW unit the automation separates the two systems or unloads the Bulgarian grid through an automated power limiting system.

The Switch Yard underwent a serious modernization recently. Replacement of metering transformers started on July 1 in compliance with the higher requirements



Kozloduy NPP Switch Yard

for electrical power metering. It is anticipated that the modernization would be finalized by 2008.

Since October 2006 to the end of 2007 all the analogue protective relays will be replaced with microprocessor relays of new generation. An information system will be designed for collection, processing, archiving and analysis of data from relays and recorders of transient electric processes.

In the first half of 2006 was finalized the replacement of all switches 0.4 kV on the on-site boards of the Switch Yard. The replacement of 400 kV circuit breakers is ongoing and would be completed in 2007.

According to the rules for electrical power measurements the producer must have a control measurement system which duplicates the energy market measuring. Pursuant to this requirement, design, supply, mounting and commissioning of control measuring system with static electric meters is scheduled for this year.

Chemists celebrate anniversary

On June 23, 2006 the Information Center of Kozloduy NPP hosted a meeting of the chemists working at the company. The event was organized to celebrate the 20th anniversary since the first chemical department was established at Electricity Generation 2, a company division comprising Units 5 and 6.

Ms Katia Minkova, head of Engineering Assurance, opened the meeting with a presentation which illustrated the development of the chemical activities over the last 20 years. The most important dates were mentioned in Ms Minkova's speech covering

various achievements and challenges the team had to face.

A special emphasis was put at the international experience and its application at Kozloduy. Today, the quality of work in the chemical labs at Kozloduy NPP corresponds to the best standards and practices worldwide.

The chemists and their retired colleagues had a walk down around Units 5 and 6. They evoked memories of the early days of the chemical and radiochemical activities on the plant site.

Visitors come to Kozloduy NPP to get first-hand information

A record-high number of visitors, 522, came to Kozloduy NPP in the Open Doors Day on June 3, 2006.

The guests walked about various buildings and facilities, including control rooms and turbine halls of Units 2, 4 and 5. The groups were guided by KNPP experts who explained the functions of each facility and answered numerous questions regarding operation.

A major attraction was the demonstration of the Fire Brigade at Kozloduy NPP. The children got the opportunity to give a glimpse at the plant from a 52-meter ladder. Environmental monitoring specialists made a demonstration of sample-taking in front of the visitors. The samples were analyzed in a specially equipped truck. The experts explained the essence of their various activities in regard to environmental monitoring and ecology.

The youngest visitor that day was 8-month-old Antonio Dimitrov.

The statistics shows a 50 percent increase in the number of visitors to Kozloduy NPP in the first half of 2006 as compared to 2005.



This illustrates a rising public interest toward the Kozloduy NPP operation and proves lack of prejudices against nuclear energy.

In May and June 2006, 1156 people visited Kozloduy NPP. 43 percent of these visitors were students and pupils from Sofia, Botevgrad, Vidin, Plovdiv and other Bulgarian towns. The company was also visited by 59 journalists from Armenia, Azerbaijan, the Czech Republic, Germany, Georgia, the Netherlands, Portugal, Slovakia, Spain, etc.



Mitko Yankov (right) hands the awards to the young painters

More than 700 children participate in contest

On May 16, 2006 were officially announced the winners of the Fifth National Drawing Contest for Children "Kozloduy, Energy, Nature." The competition was open for children age 6 to 15 in three different age groups.

This year, 39 participants received awards for their drawings. Mitko Yankov, Safety and Quality Director, handed the awards to the young painters at a special ceremony. He greeted the children on behalf of the KNPP management and pointed out their dedication and talent.

It has become a stable trend that Kozloduy NPP receives in this contest a larger number of entries each year. This year we received drawings by 727 children from 64 art schools in 32 towns.

Theatrical studio gets award

The Theatrical Studio at the House of Culture received the first place in the 9th National Amateurs' Theaters Festival. The Kozloduy theatrical company performed "The Woman-Cannibal" by Ivan Radoev directed by Velichka Neycheva. The festival took place from June 1 to 8 in the Black Sea resort Kavarna.



Kozloduy NPP's Theatrical Studio won the first place

The event was organized by the Ministry of Culture, Municipality of Kavarna, and Community Center "Saglassie". Forty theatrical groups from Bulgaria and abroad took place in the selection program, and 26 of them continued in the contest program. The jury was chaired by Prof. Nadezhda Seykova who presented the award to the Kozloduy actors.

KOZLODUY NPP REVIEW

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