

KOZLODUY NPP



### Dear readers,

When we review our activities in the last year, we should highlight that year 2005 was successful for the Bulgarian nuclear energy sector.

During 2005 we kept doing our best so that Kozloduy NPP confirmed its reputation of reliable, efficient and competitive electricity supplier in Bulgaria and South-Eastern Europe. At the same time, the company followed its policy of continuous safety upgrades thus contributing to the worldwide process of safety improvements.

In 2005, Kozloduy NPP continued to sell on the deregulated electricity market where the company had the chance to be the first producer in 2004. We have successfully delivered supplies to privileged customers at freely negotiated prices.

Our good business results were achieved in compliance with all safety requirements.

No events have occurred in the last year with radiation impact on the site and beyond it, which comes to prove the positive appraisals of safety at KNPP by international expert organizations. For several years now, there has not been a case of exceeding the annual individual effective dose limit.

Bulgarian nuclear engineers have a very good reason to be proud. We did not have a single case of reactor trip during the year. On December 22, 2005 we marked nine years without a reactor trip at Unit 6. This achievement sets a world record and exceeds by far the WANO criteria according to which one actuation per two cycles indicates high plant reliability.

By following the best world practices we prove on a daily basis that our achievements are an adequate response to the high European Union requirements to nuclear industry with respect to safety, security of electricity supply, and reduction of harmful emissions.

I would like to extend my thanks to all of our staff and our partners for their efforts, enthusiasm and commitment over the year.

IVAN IVANOV EXECUTIVE DIRECTOR

# **GENERATION**

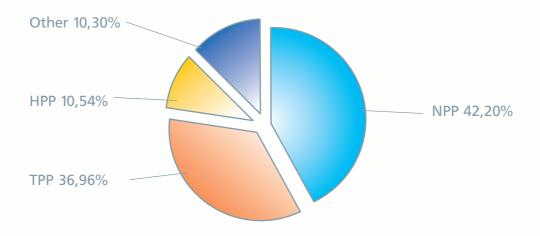
### LEADING POSITIONS IN ELECTRICITY GENERATION

In 2005, Kozloduy NPP provided to the national energy system 17,343,126 MWh of net electric energy, operating in compliance with the safety and radiological requirements.

The annual production target was exceeded by 4.73 percent. The planned annual amount of 17,810,655 MWh was reached on December 19. This is a clear confirmation of the stable trend in the last several years of meeting the targets in advance. The gross power generation amounted to 18,653,081 MWh.

The share of Kozloduy NPP in the national overall generation is 42.2 percent which is a 2 percent increase compared to 2004.

Kozloduy NPP's share in the gross national electricity generation



The good results are due to the fact that units operated at a higher load in the winter months and because of optimized duration of planned outages. Moreover, they are due to the high reliability of equipment and extraordinary professionalism of staff.

The excellent generation results made possible to meet the higher demand for electricity in recent years both in Bulgaria and the region.

The role of Kozloduy NPP for the security of supply was once again confirmed just before Christmas. On December 21, 2005 Kozloduy NPP was awarded a special prize for its contribution to Bulgaria's electricity generation. The company got the award in the security of supply category. These awards were given for the third time in 2005. They are a professional recognition of the significant contribution the awarded companies have for the sustainable development in one of the most important sectors – the energy sector.

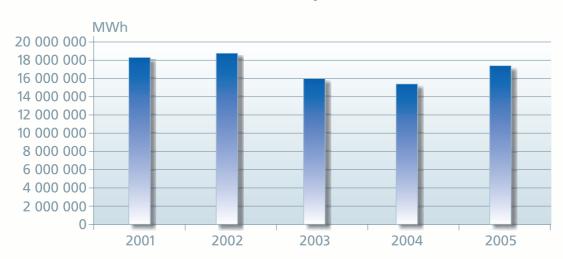




#### Legend:

- 1. Dispatch Center restriction mode
- 2. Unplanned shut down of turbine
- 3. Unplanned variation of capacity

### **Electricity Sales**



The net electricity delivered by Kozloduy NPP in 2005 was 17,343,126 MWh while 16,528,099 MWh were planned. The actual sold electricity by Kozloduy NPP in 2005 exceeds the planned amount by 4.93 percent.

Kozloduy NPP has been on the deregulated market for one year now and receives a greater interest on behalf of privileged customers and distributors.

### **GENERATION**

The market quota of 500,000 MWh set by the State Energy and Water Regulatory Commission for the first half of 2005 was accomplished by 92.03 percent.

The quota for the second half was set at 550,000 MWh and was accomplished by 100 percent. The overall amount accounts for 5.82 percent of the total annual electricity generated at Kozloduy NPP. Despite the limited quotas, the plant has proven its role as a reliable partner and a serious producer which is a factor on the Bulgarian electricity market.

The share Kozloduy NPP has on the deregulated market amounts to 40 percent which is almost equal to the share in the national electricity generation. These facts illustrate the serious contribution Kozloduy NPP has for the offset and the development of the deregulation process in the country.

### **MAINTENANCE PROGRAM**

Human, engineering and financial resources were successfully managed in the process of planning and organizing the maintenance activities during the year. As a result of the excellent organization and high quality of implemented measures, the planned duration of outages was shortened.

The decision to implement certain maintenance activities while the units were in operation was considered a good one provided that safety and reliability were not compromised. This approach was coordinated with the Nuclear Regulatory Agency (NRA) and allowed for implementation of all activities in the foreseen scope. A key factor was the timely delivery of spare parts and materials.

In the course of the outages a number of reconstruction and modernization measures were implemented. Thus, the safety level was improved even further. A current maintenance was performed on systems and equipment so as to guarantee a safe and reliable operation.

Kozloduy NPP invested nearly BGN 46 million into the maintenance program in 2005.

The planned overall duration of outages between 2002 and 2005 was 1,432 days. Instead, the real duration was 1,244 days. This provided additional 188 days of electricity generation and extra profit of approximately BNG 126.100 million.



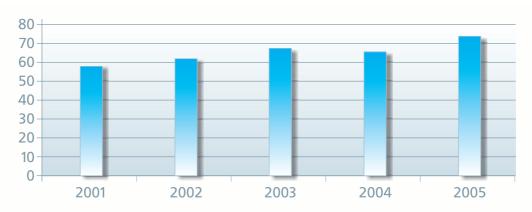
Outage campaign 2005: planned outage and real duration

Due to the maintenance measures implemented in 2005, Kozloduy NPP units will be operated safely and reliably till the next planned outages in 2006.

In 2005, the availability of Kozloduy NPP generation capacities (19,701,768 MWh) was 2.73 above the annual plan. The unplanned outages for the six operating turbine generators were minimal (27 hours/ year). The reduction of outages provided additional availability.







There is a stable trend of increasing the load factor for Kozloduy NPP units. In 2005, the load factor was 73.94 percent which is the highest value for the last 15 years. The increase of the load factor of the capacities is due to the high safety culture and high reliability of facilities and equipment at the plant.

### THERMAL ENERGY PRODUCTION

In 2005, the produced thermal energy amounts to 167,294 MWh. This quantity completely covered the needs of the local households, industry and the plant-in-house demands. 85,287 MWh of thermal energy were supplied to the town of Kozloduy; 65 percent of the total thermal power was supplied to the households.

By the end of the year, the heating supply efficiency was increased after an efficiency enhancement program was completed.



# **SAFETY**

Both management and staff at Kozloduy NPP believe that safety is a top priority in all activities and everyone are accountable for safety policy implementation. The strict adherence to the safety requirements is enforced by the legal framework and the respective licenses.

In 2005, all KNPP units operated in compliance with the licenses issued by the Nuclear Regulatory Agency.

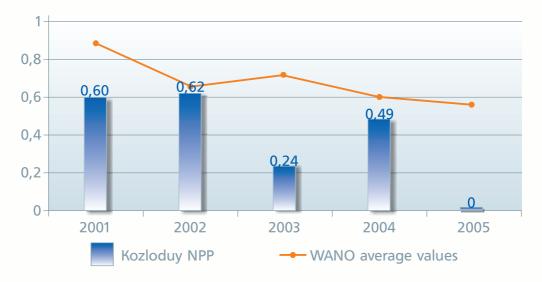
### **NUCLEAR SAFETY**

In 2005, the coefficient of unplanned reactor trips which indicates safe and stable operation of facilities had lower values than the world average ones. On December 22, 2005 a new record was set: Kozloduy NPP's Unit 6 achieved nine years without a reactor trip. At the same time, Unit 5 has on its record another significant accomplishment: 7 years and 7 months without a reactor trip. The nuclear industry worldwide has not registered such an achievement so far.

According to the World Association of Nuclear Operators' criteria, one reactor trip per two cycles indicates high reliability.

Kozloduy NPP's coefficient of reactor trip actuations per 7,000 hours in the last 5 years is better than WANO average values.

#### Reactor trips for 7,000 hours



In 2005, there were neither events that resulted in radioactive contamination on the site or the environment, nor any that led to excessive radiation doses to personnel.

The total number of reported events to the Nuclear Regulatory Agency was 62 including events with no significance in terms of safety. 43 of them were rated level "0" ("deviation"), and were reported according to the International Nuclear Event Scale (INES).

#### 

Reported events to the NRA according to INES

Number of events

In recent years the number of events per unit rated above "0" has been low. At the same time, the number of reported and analyzed deviations has increased due to the high attention personnel pays to them. In result, precautionary measures are undertaken aiming at prevention of possible real events.

### RADIOLOGICAL PROTECTION

In the last seven years, there has not been a case of exceeding the radiation dose limit of 100 mSv per 5 consecutive years, set by the Bulgarian legislation. Furthermore, there has not been a case of exceeding the annual individual effective dose limit of 50 mSv in the last nine years. This is due to the efforts aimed at higher radiological control and constant implementation of the ALARA principle ("as low as reasonably achievable").

The average personnel individual dose for 2005 is 0.63 mSv. The maximum individual dose did not exceed 30 percent of the permissible limit.

Correlated to the number of operating reactors, the collective dose at Kozloduy NPP for 2005 is 0.5 manSv/unit. These figures are comparable to the WANO data about other reactors worldwide.

## 1,2 1 0,9 0,8 0,6 0,4 0,2 0 2001 2002 2003 2004 2005

WANO indicators (man Sv/unit)

### Collective dose per unit

No variations of the background radiation levels in the restricted area were registered during the year. The gamma radiation dose on-site is within the range of the natural gamma background for the region.

Collective dose per reactor (man Sv/unit)

# MANAGEMENT OF RADIOACTIVE WASTE (RAW) AND SPENT NUCLEAR FUEL (SNF)

The company policy regarding RAW management and SNF management aims at reducing the impact on the population and the environment. The specialists abide by the requirements of the Joint Convention on Safety of RAW Management and Safety of SNF Management, Safe Use of Nuclear Energy Act and the National Strategy for Safe Management of SNF and RAW.

Pursuant to the relevant legislation, a Radioactive Waste State Company was created with a division in Kozloduy.

RAW-Kozloduy was established at the beginning of 2005 by separating RAW Management Department from the KNPP structure.

In 2005, the Nuclear Regulatory Agency issued an operating license to the Radioactive Waste Management Complex through RAW-Kozloduy. The technologies used at the Complex guarantee that human health and environment are protected.

The Complex Radioactive Waste Management Program was updated in 2005 based on new normative documents in the sphere of RAW management. This ensures that all international norms and standards are applied.

Kozloduy NPP has found appropriate ways of managing the spent fuel following the safety requirements.

After storage in a spent fuel storage pool, the fuel assemblies are removed to the Spent Fuel Storage Facility (pool type) which is common for all the units. Its capacity allows the storage of SNF assemblies until the commissioning of a new Dry Spent Fuel Storage Facility.

A part of the SNF generated at Kozloduy NPP was transported to Russia for reprocessing and long-term storage.

### **EMERGENCY PLANNING**

The reactors operated by Kozloduy NPP belong to the most widely spread type in the world - pressurized water reactors, which have proven their safety and reliability.

Although probability of potential incidents is low, Kozloduy NPP has developed an emergency plan in compliance with existing regulation and international standards. The plan, which is updated annually, contains a set of measures aimed at maintaining a constant readiness for emergency response.

Kozloduy NPP has the needed systems and equipment as well as well-trained specialists who can implement the envisaged emergency plan measures. Thus, a potential incident could be kept under control and impact on the staff, the public and the environment could be minimized.

In May 2005, a National Drill "Protection – 2005/CONVEX-3" was organized with international partners in order to plan measures in case of a trans-border radioactive contamination. The Kozloduy NPP participants proved that there was an excellent interaction between KNPP and the regional and national emergency response authorities.

#### **ENVIRONMENTAL PROTECTION**

During the whole period of KNPP operation, since 1974 till now, a constant environmental monitoring has been performed to examine the plant impact on environment. The collected data shows that the radiological parameters within the monitored area do not differ from the natural background levels of 0.06- $0.16~\mu$ Sv/h. There hasn't been a variation in 2005 either. The radiological status of main components such as air, water, soil and plants was not influenced by the 30-year-long operation of the nuclear plant. Dose values in the 30-kilometers zone around Kozloduy NPP are negligibly low: below 0.1 percent of the natural background. The radiological status within the 100 km zone does not indicate deviations.

### Gaseous, Aerosol and Liquid Releases

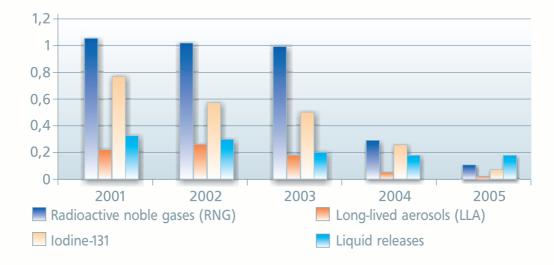
Kozloduy NPP provides constant control of Gaseous, Aerosol and Liquid Releases. The collected data is being compared with legally permitted values by the Nuclear Regulatory Agency. Releases are also controlled by the Ministry of Health and the Ministry of Environment and Waters.

Kozloduy NPP Gaseous and Aerosol releases contribute to less than 0.2 percent of the permitted dose for the public, and less than 2 percent of the permitted values. These indicators illustrate the efficient and safe operation of the plant.

The radiological parameters of the Danube River water do not indicate a trend of radiological contamination resulting from KNPP operation. The overall beta activity falls within the values typical for natural water reservoirs in the area.

The registered results do confirm the efficiency of the water purification systems of the KNPP technological cycle.





### **Public Exposure Monitoring**

In the last decade, the additional exposure of the public within the 30 km area resulting from Kozloduy NPP operation was less than 0.1 percent of the natural background radiation which is limited to 1 mSv by the Basic Norms for Radiation Protection-2004.

The normalized collective effective dose of the public resulting from gaseous releases is comparable to the average values of other similar reactors worldwide. (Based on data by the United Nations Committee on the Effects of Atomic Radiation, 2000.)

The values of some radioactive noble gasses and iodine-131 are lower than world averages. Public exposure to liquid releases of Kozloduy NPP is also negligibly low.

### Radioecological Monitoring

The constant radioecological monitoring within the 3 km area is performed by Kozloduy NPP's own automated system. It is integrated in the national system.

The results from the plant radiological monitoring are being verified each year by independent radioecological studies under two parallel programs. These are conducted by the Ministry of Environment and Waters and the National Center on Radiobiology and Radiological Protection. Additional comparative studies are done within the 30 km zone.

In 2005, the radioecological status of environment around Kozloduy NPP was in compliance with the radiological protection legislation. Radiological indicators are within the limits of the natural radiation background.

### **Conventional Waste**

At Kozloduy NPP non-radioactive waste is collected separately according to relevant legal regulations. Recyclable waste is given to external organizations, and non-recyclable waste is safely stored. Since 2001, Kozloduy NPP has operated a repository for non-radioactive household and industrial waste.

By the end of 2005 in this repository were stored approximately 26,000 m<sup>3</sup> of waste.

Kozloduy NPP applies a special non-radiation monitoring in the process of the repository operation. Subject to control are waste, weather conditions, and underground water.

Reports with the analyzed results are sent to the Executive Agency on the Environment and the Regional Inspectorate on Environment and Waters in Vratsa.

By the end of 2005, a Program for Non-radioactive Waste Management was prepared till 2010. A license extension was requested from the Environment and the Regional Inspectorate on Environment and Waters.

Kozloduy NPP has implemented two programs for non-radioactive monitoring following the regulations of the Act for Restriction of the Harmful Impact of Waste on the Environment. These programs concern the repository for conventional waste and water releases. Annual reports with programs' results are sent to the Executive Agency on the Environment and the Regional Inspectorate on Environment and Waters.

The usage of surface water from the Danube and from underground sources is done in line with the Water Act permissions.

### Contribution to Clean Environment

A series of weather anomalies and disasters in 2005 led to a humanitarian crisis in various parts of the world. These disasters confirmed the fact that the humankind has already faced the aftermath of the climate change.

A real alternative in the efforts to constrain global warming is highlighting the role of the nuclear energy in reducing harmful releases in the atmosphere. Nuclear electricity generation does not produce green house gasses as by-products.

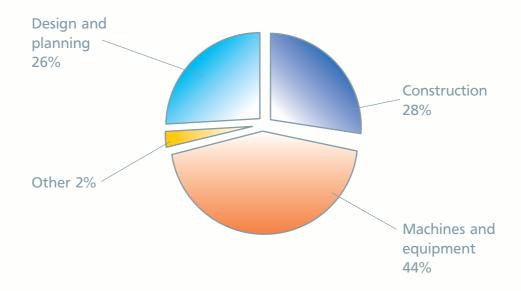
Since its commissioning in 1974 till the end of 2005 Kozloduy NPP has generated environmentally-friendly electricity which prevented the harmful effects of approximately 660 million tons of green house gasses (in carbon dioxide equivalent), more than 24 million tons of sulphur dioxide and one million tons of dust containing natural radioactivity.

Kozloduy NPP's management shares the view that nuclear energy is clean and environmentally-friendly. Thanks to Kozloduy NPP Bulgaria can meet the targets under the Kyoto Protocol for limiting emissions of greenhouse gasses.



# **INVESTMENT PROJECTS**

In 2005, Kozloduy NPP's investment program amounted to BGN 128.647 million. Financing was provided mainly with company's own funds amounting to BGN 125.243 million. Moreover, additional BGN 3.404 million came from other sources.



Despite the high safety level achieved at Kozloduy NPP, new technical upgrades under modernization programs were implemented at all the operating units. In 2005, 28 percent of the investments went for construction works. For design work and planning were spent 26 percent of the investments and for machines and equipment went 44 percent.

The investment program was aimed at several measures intended to improve safety. These were measures under Units 3 and 4 Modernization Program; measures under Units 5 and 6 Modernization Program; modernization of the environmental monitoring system; computer systems modernization; measures to improve security at Kozloduy NPP, etc.

The investment program envisaged also additional analyses, instructions and scientific investigations.

### **MODERNIZATION OF UNITS 3 AND 4**

The implementation of measures improving safety and reliability continued during the planned outages in 2005, in line with the NRA licenses.

In 2005, the modernization programs for Units 3 and 4 were completed thus continuing KNPP's efforts to increase safety further. Sixteen technical measures were implemented on each Unit. Thirteen of these required licenses from the Nuclear Regulatory Agency.

The following were the most significant measures:

- Alteration in the algorithm of work of the Reactor Coolant Pumps. This eliminates the need of operator's intervention in case of technical problems.
- Completion of the reconstruction of the floor drain purification and processing system. The equipment was entirely replaced by a new one. Normal operation is ensured for the years ahead since this equipment will be also necessary in the decommissioning phase.
- Final implementation of the filtered venting system at Units 3 and 4.

The implementation of the filtered venting system is the final stage of the modernization of the accident localization system. These modernizations measures bring Units 3 and 4 to a safety level which is comparable with that of modern nuclear plants with regard to accident localization and accident management.

### MODERNIZATION OF UNITS 5 AND 6

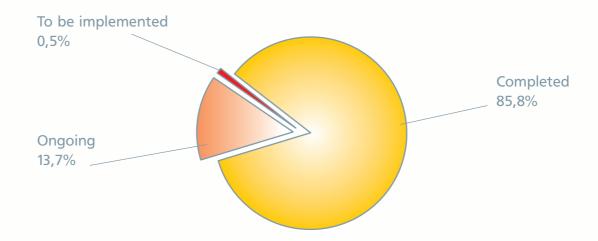
Units 5 and 6 Modernization Program is implemented to ensure that these units conform to all the contemporary safety requirements for reactors VVER-1000/B320. Furthermore, following the worldwide trend of extended life cycle of units, the implemented measures extend the lifetime of the units with 15 years.

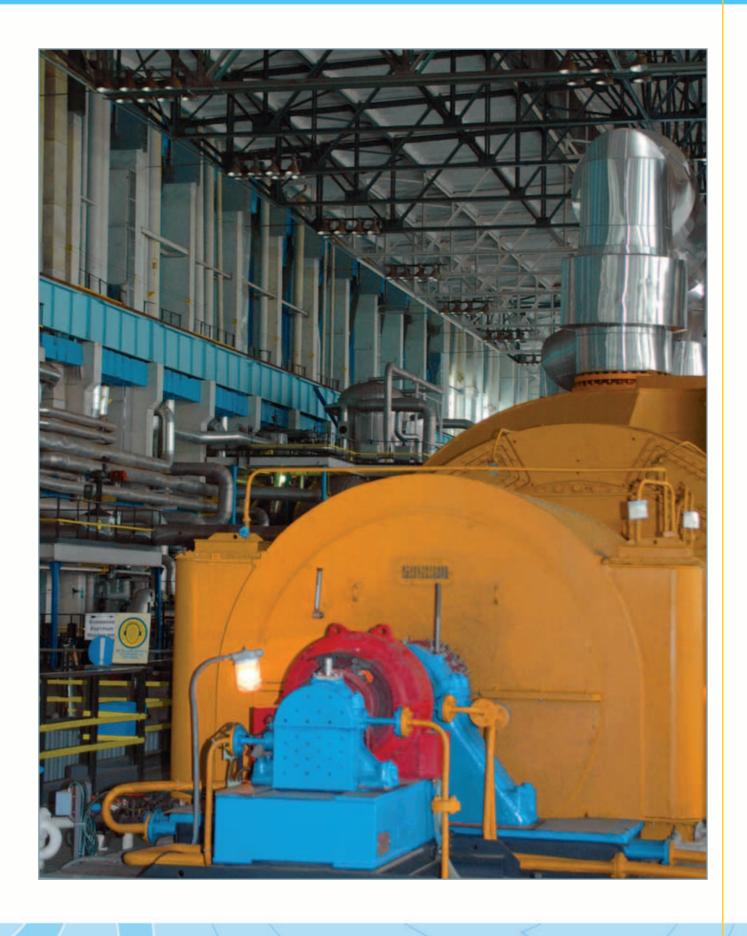
Main activities during 2005 were targeted at modernization of I&C systems, electrical equipment and mechanical parts.

The implemented measures of the Modernization Program reached 85.8 percent of the total scope of planned measures. A complex evaluation shows that 97.72 percent of the measures under the contract with the European Consortium Kozloduy were implemented and so were 83.82 percent of the measures under the contract with Westinghouse. 51.45 percent of the measures under KNPP's own investment program were also implemented.

These figures illustrate the success of the team implementing the Modernization Program: specialists from the Modernization and Investment Division at KNPP, the experts from the European Consortium Kozloduy, from Westinghouse, and the consultants from Parsons E&C.

### Status of Units 5 and 6 Modernization Program





# FINANCIAL STATUS

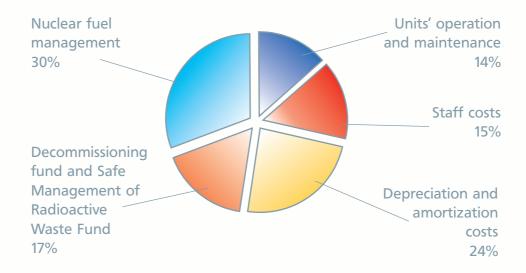
Finance-wise, 2005 was among the most difficult years for Kozloduy NPP. The company makes 92 percent of its revenues from selling electrical power. The balance is formed by the difference between the sales income and the expenditures, or between sale price and cost price.

Kozloduy NPP has been selling electricity on the deregulated market but production quotas have been set by the state. Indeed, in 2005 the major part of our sales, 94.2 percent, was on the regulated market at prices determined by the State Commission for Energy and Water Regulation. Only 5.8 percent of the sales were made on the liberalized market at freely negotiated prices, thus ensuring 8 percent of the income. The record-low regulated sale prices from October 1, 2005 (enforced for one year) had a negative impact on the financial status of the company. The extra income from above - plan sales and sales on the open market could not make up for the losses due to the lower prices on the state-regulated market. Therefore, Kozloduy NPP calculated a loss of BGN 27 million before taxes.

Regardless of the unfavorable financial conditions, the production plan was met together with safety upgrades and fulfillment of obligations to trade partners, state budget, social funds and personnel. This was possible thanks to well-structured business goals and successful management of resources.

The company undertook measures to optimize its expenditures but they could not fall below certain levels that guarantee safe operation.

### Structure of Operating costs for 2005



**KOZLODUY NPP** 

Kozloduy NPP fulfilled its obligations with regard to the spent fuel management; the cost of activities related to spent fuel amounts to 12 percent of the operating costs structure.

Since 1999, two special funds have been established: Nuclear Facilities Decommissioning Fund and Safe Management of Radioactive Waste Fund. In 2005, Kozloduy NPP deposited in both funds BGN 117.250 million, and BGN 1.329 million was taken from the funds for company needs. Following a decision of the Council of Ministers, the installments to both funds were cut by half, effective of January 1, 2007.

According to the strategy for postponed decommissioning of Units 1 and 2 (with a 5-year license for zero-power operation) the expenses for their maintenance are covered by the income from operating Units. Only part of these expenses comes from the Nuclear Facilities Decommissioning Fund. Kozloduy NPP uses only 1.5 - 1.7 percent of the decommissioning installments it has made to the budget.

The depreciation costs were increased by 4 percent in 2003-2005 due to implementation of various modernization measures on Units 5 and 6.

The company fulfilled its obligations to the staff as required by relevant legislation.

Kozloduy NPP paid a total of BGN 29.167 million to the social funds and met its duties to social insurance, re-qualification and unemployment funds, health insurance funds, etc. The company also paid BGN 8.369 million for additional insurances.

Kozloduy NPP paid taxes amounting to BGN 146.763 million.

In two consecutive years Kozloduy NPP has received the Big Taxpayer Award from the Financial Ministry, which proves the great contribution to the state budget.

Since January 2005, Kozloduy NPP has been applying the International Standards on Financial Reports approved by the EU Commission. The financial report for 2004 was restated according to these standards, too.

The Balance Sheet and the Income Statement presented hereby reflect the financial status of the company in a summarized form. Following the requirements of the Accountancy Act, the full financial report will be also published on the Kozloduy NPP's site www.kznpp.org.

### FINANCIAL STATUS

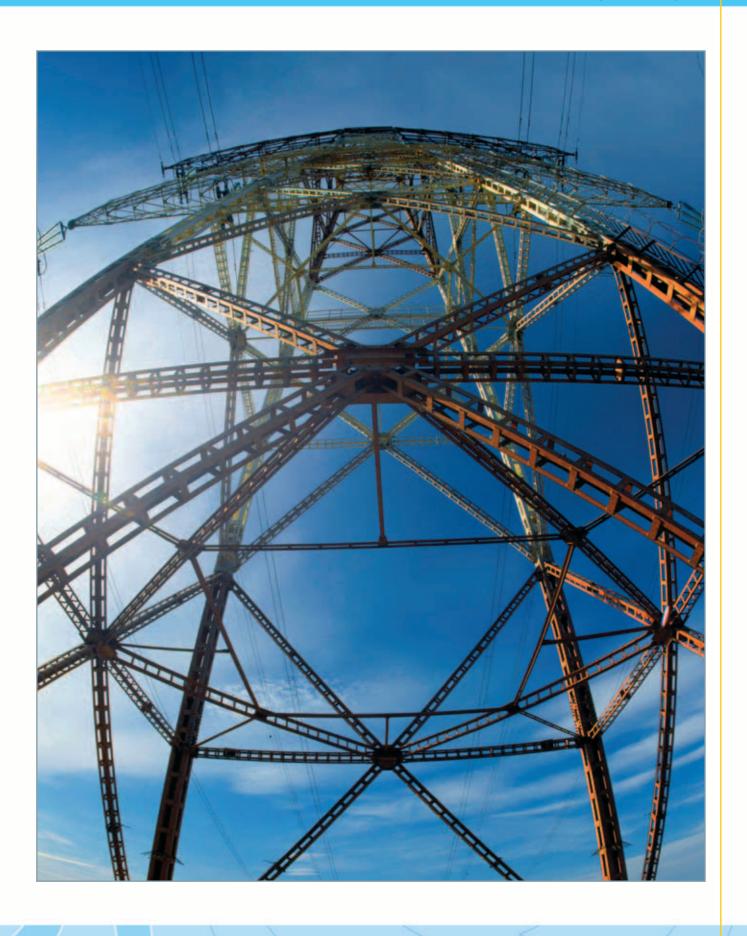
### BALANCE SHEET AS PER DECEMBER 31, 2005 (in thousands of BGN)

ASSETS	2005	2004
Non-current assets:		
Tangible assets	1 407 506	1 410 884
Intangible assets	69 178	64 595
Financial assets	75	75
Investments in associates	929	197
Deferred tax assets	4 535	0
Deferred expenses	42	84
Total non-current assets	1 482 265	1 475 835
Current assets:		
Inventories	178 706	185 504
Trade debtors and other receivable	88 818	117 182
Cash and cash equivalents	100 570	126 054
Tax receivables	4 942	2 900
Deferred expenses	45 094	3 784
Total current assets	418 130	435 424
Total assets	1 900 395	1 911 259
EQUITY AND LIABILITIES		
Equity:		
Share-capital	101 716	101 716
Reserves	992 961	1 004 447
Retained earnings from prior period	(9 245)	(11 726)
Retained earnings from current period	(28 844)	3 971
Total equity	1 056 588	1 098 408
Liabilities		
Non-current liabilities:		
Bank loans and borrowings	546 327	480 271
Deferred tax liabilities	77 496	75 098
Provisions	11 569	1 407
Contingent liabilities	42 524	67 478
Total non-current liabilities	677 916	624 254
Current liabilities:		
Trade and other payables	90 717	63 340
Bank loans and borrowings	17 827	14 584
Current portion of interest bearing borrowing	18 875	13 223
Tax payables	25 639	28 386
Provisions	12 525	39 815
Other payables	308	29 249
Total current liabilities	165 891	188 597
Total equity and liabilities	1 900 395	1 911 259

### INCOME STATEMENT FOR THE YEAR ENDED 31 DECEMBER 2005 (in thousands of BGN)

	2005	2004
Revenue	719 949	644 969
Cost of sales	(681 880)	(627 222)
Gross profit/(loss)	38 069	17 747
Other operating income	10 260	9024
Administrative expenses	(32 949)	(21 256)
Profit/(loss) from operations	15 380	5 515
Financial income/(expenses)	(41 904)	(2 492)
Revaluation of assets	(783)	(319)
Income of associates companies	3	-
Profit/(loss) before taxes	(27 304)	2 704
Tax expenses	(1 540)	(3 663)
Net profit/(loss) for the year	(28 844)	(959)

**KOZLODUY NPP** 



# **HUMAN RESOURCES MANAGEMENT**

Kozloduy NPP Human Resources Management main priority is to maintain and develop motivated personnel.

### PERSONNEL STRUCTURE

In the last five years, several measures were applied to gradually reduce the number of staff in line with the worldwide practices in the nuclear industry. By the end of 2005 the number of employees at the company was 4,923 or 26 percent less than in 2000.

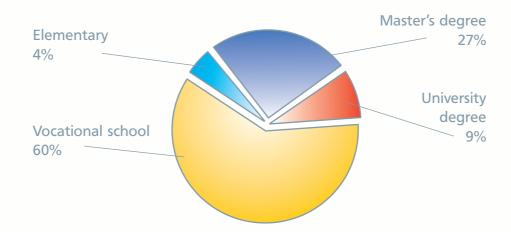
There are several ways to reduce staff. One is that employees in certain positions are encouraged to choose the option of early retirement, and people who reached a retirement age retire. The other is that non-essential activities were outsourced to other companies.

The system for personnel selection gives everyone the chance for a career development in Kozloduy NPP. Vacant positions are advertised nationally and are taken by the most trained and experienced candidates.

The educational level of staff is generally high. 27 percent of personnel have Master's degrees, 9 percent received Bachelor's degrees, and 60 percent have vocational school diplomas.

Retention of qualified personnel is a top priority of KNPP management, especially in the light of the Belene NPP project. An individual performance appraisal is carried out once a year. As a result of the appraisal, measures are taken to improve performance, usually in the form of additional training. Managers encourage the development of each individual's potential.

#### Staff Educational Structure



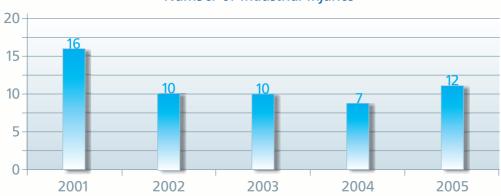
**KOZLODUY NPP** 

### WORKING CONDITIONS

Due to the successful efforts of the management to provide safe and healthy work environment, to limit existing hazards and periodically assess the occupational factors, there were no serious industrial injuries in the last five years.

The statistics shows that the number of injuries had decreased between 2001 and 2004. In 2005, the industrial injuries have gone up in numbers due to the large-scale modernization program at Units 5 and 6.

Kozloduy NPP management aimed its efforts at risk assessment and corrective measures to reduce existing risks of injuries.



Number of Industrial Injuries

### **TRAINING**

Kozloduy NPP personnel have the opportunity to continuously maintain and improve their qualification and knowledge. Four different types of training are applied to increase staff qualification: initial training, follow-up training, specialized training and re-qualification training. Training takes several forms:

Theoretical: lectures, seminars, interactive computer training, etc.

Practical: through workshops, laboratories, mock-ups, computers, etc.

Training of licensed operators and line managers is done at the Simulator Facility equipped with a Full Scope Simulator for VVER-1000 and a Multifunctional Simulator for VVER-440. The Simulator Facility is used to test various engineering concepts, to make analysis and to probe instructions before they are applied on the respective units. Upgrade programs are implemented on the simulators to ensure that they correspond to the referent units. Using simulators gives personnel the chance to get trained for their everyday duties as well as to check up for possible mistakes resulting from routine work. Thus, experts can plan the scope and duration of future training.

### **HUMAN RESOURCES MANAGEMENT**

The Training Center provides all the necessary materials and technical resources for the various forms of training in compliance with the international standards and the normative documents.

18,133 employees participated in 1,415 courses during 2005. Certification was completed for 7,380 employees of KNPP and other companies working on the plant site.

### SOCIAL RESPONSIBILITY

Each year Kozloduy NPP allocates a significant amount of money for various social activities, health care and prophylactics, recreational and cultural activities of staff and their families. BGN 8.918 million were paid to staff in 2005 for these activities.

Extra benefits were also provided, like additional non-mandatory health insurance, additional non-mandatory retirement funds, mandatory medical prophylactics, etc. These illustrate the social responsibility of the company.

In 2005, Kozloduy NPP and British Nuclear Group implemented a joint project aimed at maintaining and improving motivation at the plant. In result, Kozloduy NPP got a new methodology for motivation assessment based on the best world practices and reflecting the specific company needs. Through this project the staff will have the opportunity to assist plant's management in the future development of plans and strategies. It set the beginning of a new practice of involving everybody in the improvement of various practices aimed at optimization of performance.

The project received the prestigious Responsible Business Award by the Bulgarian Business Leaders Forum. The power plant was awarded third place in the Investor in Human Capital category. The national award proves the successful implementation of KNPP human resources management policy.

In 2005, Kozloduy NPP initiated a summer student internships program as a part of the national Student Internships Program "Bulgarian Dream". The onset of this program is a part of the corporate responsibility policy of the company. On the other hand, this policy provides for attracting qualified young personnel to Kozloduy NPP. This is a good opportunity for the company to select well-prepared specialists who may one day become KNPP employees.



# INTERNATIONAL COOPERATION

Keeping up with the contemporary standards in nuclear industry is only possible in close cooperation with the International Atomic Energy Agency, the World Association of Nuclear Operators (WANO) and other international organizations and major companies in nuclear.

During 2005, Kozloduy NPP continued its cooperation with the Moscow Center of WANO. Specialists from KNPP were included in international teams of the organization and participated in peer reviews in the USA, Russia, Hungary, etc.

In addition Kozloduy NPP hosted two WANO conferences. In July NPP deputy-directors on the economic matters gathered for a regional seminar. They discussed the development of the deregulated energy market in Bulgaria. On September 13-14, Kozloduy NPP hosted a meeting of chief-engineers of nuclear plants members of the Moscow Center. The theme of the conference was Modernization of Units VVER-440 and VVER-1000 Aimed at Higher Safety Level and Extended Lifetime.

Kozloduy NPP also participated in IAEA expert missions. Specialists from the plant took part in missions in China, Romania, France, Brazil, Armenia, etc.

At the beginning of 2005, a final seminar took place at Kozloduy NPP under the IAEA project entitled "Preparation of personnel involved in decommissioning."

Two IAEA experts paid a visit to Kozloduy NPP. These were Mr Byung-Koo Kim, Director of Division for Europe and Latin America, and Mr Josef Sabol, in charge of Bulgaria in the European Section.

The International Atomic Energy Agency sent a team to conduct an expert mission at KNPP with regard to knowledge management. The mission emphasized the need of ensuring an appropriate transfer of knowledge in the nuclear industry - especially in the light of the construction of the Belene nuclear plant.

Several projects were initiated under the Nuclear Safety Program of the UK Department of Trade and Industry. One of them was the development of an action plan for maintaining motivation in the lead up to units' closure. Another project was aimed at development of procedures for human errors data collection and HEART quantification technique for human reliability analysis. The Evaluation of Antecedents Project is still going on at the company.

Kozloduy NPP participated in initiatives of various international organizations such as the World Nuclear Association, European Nuclear Society, and the European nuclear forum FORATOM (through Bulatom). These events gave an opportunity for experts to meet and exchange views, ideas and experiences.



# **PUBLIC RELATIONS**

Kozloduy NPP's managers implement a policy of openness and transparency regarding public access to information. This policy addresses the public interest to nuclear power and nuclear technology.

In 2005, our open doors days attracted more than 700 visitors who came to obtain first-hand information about the plant's operation. Many others came over the year to the Information Center.

Furthermore, dozens of politicians, diplomats and international experts visited Kozloduy NPP. Among our visitors were H.E. Mr Jeremy Hill, UK Ambassador to Bulgaria, H.E. Mr Harald Kindermann, Ambassador of Germany to Bulgaria, and Mr Hans-Holger Rogner, head of the IAEA's Planning and Economic Studies Section. A group of European Parliament Members visited Kozloduy NPP headed by Mr Terrence Wynn. The company was also visited by the Bulgarian Minister of Energy and the Minister of Interior.

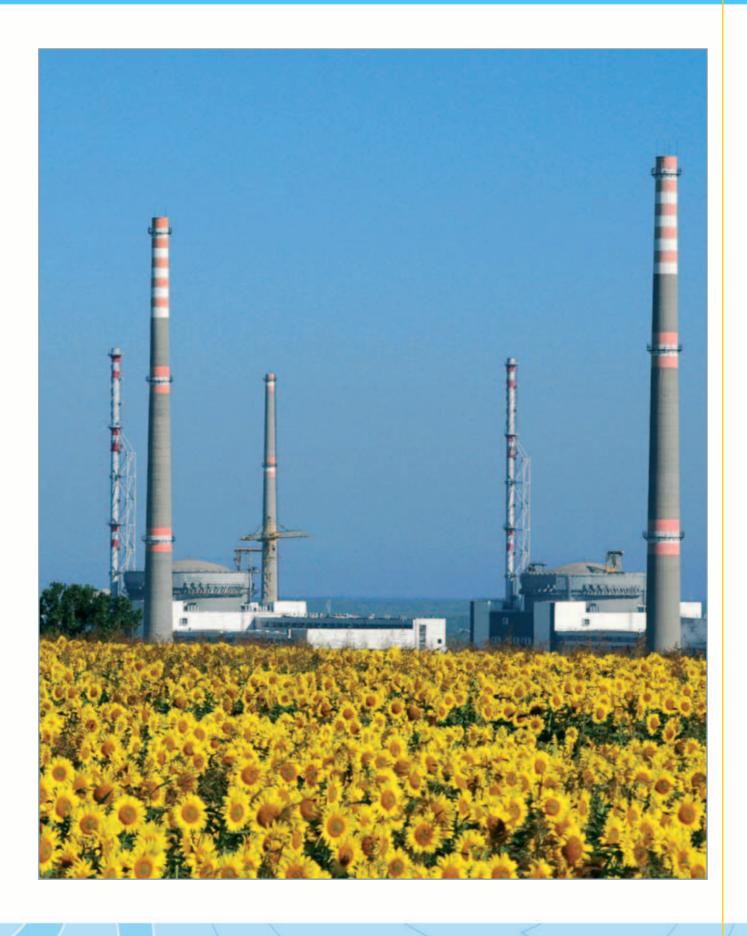
The Public Relations department has been providing information to the media on a regular basis. Journalists from central and local media attended meetings and official visits at the company. They also came to various press conferences and briefings to meet with the managers and get information about business results and prospects for future development.

We publish the bimonthly company magazine Parva Atomna which is among the oldest company digests in the country. The magazine marked its 15th anniversary in 2005. It gives its numerous readers information about the nuclear plant with regard to technology, human resources, business targets, modernizations, etc. Among our subscribers are several national institutions, NGOs, scientific and business centers, and various newsrooms. Furthermore, the department publishes Kozloduy NPP Review, an English language bulletin for our international partners and stakeholders.

The PR department has also published newsletters, leaflets and brochures in both English and Bulgarian. They have been sent to our partners in Bulgaria and abroad, to NGOs, high schools, universities, etc. Information materials are available on paper as well as online.

In terms of corporate communication, the PR department has regular radio programs for the personnel that are broadcast every day. The programs provide information about vacant positions, current events, culture, sports, etc.

Kozloduy NPP's web address is www.kznpp.org where users can find up-to-date information about the company. It is worth mentioning that 36 percent more people have visited the web-site as compared to 2004, and this is a stable trend.



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The annual report of Kozloduy NPP was approved by the Board of directors on April 6, 2006. It is distributed freely in both Bulgarian and English. The report is also available at www.kznpp.org

**KOZLODUY NPP** 

