



DEAR READERS,

In this annual report, I have the pleasure to present to you the overall results of the operation of Kozloduy NPP in 2006.

This was another successful year which will mark its place in the company history with a series of remarkable achievements in all spheres of our plant's operation.

With just four operating units Kozloduy NPP generated 19.5 billion kilowatt-hours of electricity. This amount exceeds the production in 2005 by approximately one billion kilowatt-hours, and comes close to the generation in 2001 when Kozloduy NPP had six operational units. This fact has made 2006 the most successful year with regard to production results.

Kozloduy NPP affirmed its leading position on the deregulated market and fulfilled by 100 percent its contractual obligations with eligible customers.



In 2006, we did not have any events with a negative impact on safety due to the high safety culture of our personnel. For a second year in a row Kozloduy NPP didn't have a single unplanned scram at any of its reactors. At the end of 2006, on the 22nd of December, we beat our own record with regard to this indicator: at Unit 6 we achieved ten years without automatic unplanned scram.

Among the major events over the year, I would like to point out one which set a serious challenge to the plant personnel. This was the closure on the 31st of December of two 440-megawatt units, Units 3 and 4, which are completely functional, profitable and have many times been independently assessed as having no safety deficiencies. Despite the lack of any technical arguments, these units were shut down following a decision of the Bulgarian Council of Ministers in line with the obligations of Bulgaria under the EU Accession Treaty.

Even though Units 3 and 4 were closed, Kozloduy NPP continues to be the major electricity producer in Bulgaria. The plant satisfies the electricity demand on the national electricity market. However, in the Balkans, where the nuclear plant has made up for the power shortages in the recent years, many neighboring countries have voiced their concerns about the electricity supply crisis directly caused by the loss of the output from Units 3 and 4.

The efforts of the nuclear engineers to prove the necessity of further operation of both units were backed up by supporters of nuclear power on national and international level. The overwhelming public support we got from experts, politicians and nuclear organizations gives us a reason to believe that the well-founded safety and reliability of Units 3 and 4 will get recognition once more – by making a positive decision to renew the operation of these facilities. Such a decision would significantly contribute to the ambitious task set by the European Union – a 20-percent-reduction of greenhouse emissions in the atmosphere by 2020.

IVAN GENOV EXECUTIVE DIRECTOR

GENERATION KOZLODUY NPP – MAIN SUPPLIER OF ELECTRICITY

Due to the generation results of Kozloduy NPP in 2006 the demands for electricity both on the national electricity market and in the Balkan region were satisfied. Once again, the stable electricity generation of the nuclear power plant made up the electricity deficit in the neighboring countries and Bulgaria ranked fourth in Europe in terms of export of electricity for the year.

In 2006, being the largest electricity generating company in Bulgaria, Kozloduy NPP provided for 42.6% out of the overall electricity generation in Bulgaria.

The sustainable and effective operation of nuclear facilities, whilst being in compliance with all nuclear safety and radiation protection Kozloduy NPP share in the national electricity generation (%)



requirements was the main reason for meeting the dispatcher's schedule.





Legend

- 1. Dispatch Center Restriction mode
- 2. Planned shut down/load reduction
- 3. Unplanned shutdown/load reduction



As early as 12th December, 2006, the nuclear power plant reached the planned annual amount of 18 158 264 MWh.

By the end of the year an additional amount of 1 334 955 MWh was generated thus reaching a total amount of 19 493 219 MWh - 7.4% more than the planned output!

The generation in 2006 is commensurate with the amount generated by the plant with six units in operation, and it ranks second in terms of amount generated since the year 2002, when the record generation of 20 221 719 MWh in the history of Kozloduy NPP was achieved.



This achievement has been the most significant one up to now, having the four units in operation and it is a result of the reliable and flawless operation of nuclear facilities within the optimal operational regimes, with reduced annual scheduled outage periods and with minimal unscheduled downtimes.

The implementation of the annual production program is 107.35%, which is the highest result achieved for the last 10 years.

The best performance in the plan

Kozloduy NPP's share in the gross national electricity generation in 2006



implementation for the year belongs to the 440-MW Units 3 and 4 – by 113.16% and 110% respectively. In 2006 Unit 3 generated 3 321 435 MWh, and Unit 4 – 3 432 245 MWh, which makes the share of the two 440-MW units in Kozloduy NPP electricity generation for the year amount to 35%.

Units 3 and 4 of Kozloduy NPP were disconnected from the grid on 31st December 2006. The units were closed following a decision of the Council of Ministers of the Republic of Bulgaria on the 21 December 2006 to fulfill the commitments of the country under the European Union Accession Treaty.

Unit 3 was in its 22 fuel cycle while Unit 4 – in its 21st at the moment of closure, however the design lifetime of units with VVER-440 reactors is 30 fuel cycles.

Since its commissioning 26 years ago Unit 3 of Kozloduy NPP has generated 68 703 260 MWh of electricity, and Unit 4 – 66 711 966 MWh. The electricity sold by Kozloduy NPP in 2006 is with 7.5% more than the planned amount. While the plan was 16 865 169 MWh, the net active electricity supplied to the national grid throughout the year is 18 130 174 MWh.



800 million kWh more than in 2005 were supplied to cover the demands of the national electricity grid and of eligible consumers.

15 589 306 MWh, or 86% out of the overall net supply of electricity was for the regulated market under the contract with the National Electricity Company. 2 540 868 MWh which is 14% of the plant net electricity production was supplied to the deregulated market.

The nuclear power plant was the only electricity producer that fully utilized the market quota imposed by the State Energy and Water Regulatory Commission and completely met the schedules contracted for supplies to eligible consumers and sellers. KNPP share in the market sales in the country for the year amounts to 61%.

AVAILABILITY

Except for the electricity, throughout the year Kozloduy NPP also provided for availability of the generation capacities amounting to 19 780 688 MWh, or 1.33% more than the maximal amount planned for the year.

The additional availability beyond the amount



planned was achieved as a result of the reduction of outage downtimes.



In 2006 the Load Factor for Kozloduy NPP was 77.27%. The results in the year in terms of optimal generation, improvement of maintenance activities organization and the reduction of outage downtimes as well as minimizing the unscheduled downtimes led to the highest Load Factor value for the last 10 years.

The highest Load Factor values for the capacities installed for calendar time belong to Units 3 and 4 - 86.17% and 89.05% correspondingly, that goes beyond the world trends.

There is a stable trend of increasing the Load Factor for the last years which is due to modernizations implemented and to the high



safety culture that brought to improvement of reliability and safety in nuclear facilities operation.





The maintenance program in 2006 was implemented in accordance with the schedule approved for the year. Within the scheduled downtimes the planned outages of units were conducted as well as routine repairs of facilities and refueling of reactors with fresh fuel.

For a successive time the approach of implementing certain maintenance activities to pieces of equipment that can be repaired while the units were in operation was used without compromising and reducing safety and reliability.



Kozloduy NPP has funded the maintenance program completely by its own financial resources. 48 261 thousand BGN were invested in the program implementation in 2006.



THERMAL POWER GENERATION

The thermal power generated in 2006 amounts to 162 470 MWh and is intended to meet the plant-in-house demands and the demands of the town of Kozloduy.

80 610 MWh thermal energy was provided for the household consumers, for the public and economic sector in the town of Kozloduy. The largest share in the consumption of thermal power still belongs to household consumers – 63%.











Safety in Kozloduy NPP is top priority and is subject to independent state surveillance by the Nuclear Regulatory Agency (NRA) by the Council of Ministers of the Republic of Bulgaria, the Ministry of Environment and Water, and the Ministry of Health. All KNPP activities are adherent to the national legislation, the recommendations of the International Atomic Energy Agency as well as the good practices in nuclear engineering.

The results achieved in 2006 in all aspects of safety prove that protection of people's life and health as well as environmental protection is of paramount importance both for plant management and personnel.

Kozloduy NPP activities are in compliance with the provisions specified by the permissions and licenses, issued by NRA.

In accordance with the commitments stipulated in the Accession Treaty for Bulgaria to EU and following the order issued by the Minister of Economy and Energy requests for amendment of Units 1-4 licenses were submitted and the following orders were received by NRA chairman:

• The orders dated 06.12.2006 amended the licenses for operation in "E" mode of the Units 1 and 2 closed at the end of 2002 (a condition when the nuclear fuel is removed from the reactor core and is stored in at-the-reactor pools in compliance with all requirements for safe operation). By amending the licenses in the scope of activities permitted were included some activities for dismantling of equipment that is not related to the safe spent fuel storage in pools and activities related to preparation for decommissioning in line with the Updated strategy for Decommissioning of Units 1-4 of Kozloduy NPP.

• The orders dated 27.12.2006 amended the licenses for operation of Units 3 and 4 that were closed on 31 December 2006. In line with the new provisions the scope of activities permitted is restricted to nuclear facility operation in "E" mode specified in the technological regulation of the relevant unit. These amendments have been effective since 1 January 2007.

On 25.04.2006 Kozloduy NPP was granted a License for using ionizing radiation sources for performing control functions – x-ray inspection of closed volumes, that is valid until 2011.

On 05.10.2006 Kozloduy NPP was granted a License for specialized training for activities at nuclear facilities and for conducting specialized training and issuing qualification certificates for operation in ionizing radiation sources environment that shall be conducted by the Training Centre. The license shall be valid for 5 years and it is the first one of its kind in Bulgaria.

72 licenses were issued throughout the year for the implementation of engineering solutions.

The number of reactor scrams for 7000 hours of operation for Kozloduy NPP in 2006 is still keeping lower values than the world average according to the data provided by the World Association of Nuclear Operators - WANO.

According to WANO criteria, one scram per two years of operation appears to be indicative for high safety and reliability of operation. No scrams at all were registered at Kozloduy NPP units in 2005 and 2006.

The impressive 10 years of operation of Unit 6 without scram celebrated at the end of 2006 and 7 years and 7 months achieved at Unit 5 (within the period 07.04.1994 - 09.11.2001) rank the 1000 MW reactors of Kozloduy NPP among the most reliable and safely operated reactors in the world.

operation, 2002 - 2006 0.8 0.72 0.62 0.60 0.57 0.6 0.66 0.49 0.4 0.24 0.2 0 0 0

2004

2005

2006

2003

Kozloduy NPP – averaged

2002

Scrams per reactor for 7000 hours of

In 2006 the total number of 53 operational events was recorded in the Nuclear Power Plant. They were reported to the Nuclear Regulatory Agency and the Ministry of Economy and Energy according to the criteria of the "Regulation on the conditions and arrangement for informing the NRA about events in nuclear facilities".

Regulatory Agency 57 60 53 50

INES events reported to the Nuclear

According to the International Nuclear Event Scale (INES) 14 of the operational events reported were below the scale, 37 (70% of the total number) were ranked level "0" (deviation) - below INES scale. In 2006 two events, after the analysis was conducted were ranked as level "1" (anomaly) and level "2" (incident). These were "Reactor power limitation of Unit 4 because of a feed water steam generator regulator failure on 26.03.2006 (level "1") and "Three Group 9 control rods sticking" of Unit 5 on 01.03.2006 (level "2").







The year 2006 was the tenth in a row where Kozloduy NPP has remained well within the annual radiation effective dose limit for radiation exposure of 50 mSv to professionals, as well as the limit of 100 mSv within five consecutive years as specified in the Basic Norms for Radiation Protection – 2004.

The maximum individual effective dose in the year was less than 27% of that specified by the regulations annual limit. The collective effective dose at Kozloduy NPP in 2006 follows the steady trend of reduction, observed during the latest ten year period.

For 2006 the personnel collective dose normalized per operated units at Kozloduy NPP was 0.27 manSv/unit. The averaged value of this indicator for reactors of the PWR type (analogous to the VVER) in 2005 was 0.65 manSv/unit, according to the "WANO 2005 Performance Indicators" Report. These results of Kozloduy NPP are completely comparable and for certain years are even better for this type of reactor used worldwide (according to WANO data).

The results achieved in the area of radiation protection are due to the strict dosimetry control, to organizational improvements in

1.0 0.8 0.8 0.7 0.71 0.65 0.6 0.61 nan Sv/unit 0.5 0.6 0.5 0.4 0.27 0.2 0.0 2002 2005 2006 2003 2004 Collective dose per unit [man Sv/unit] WANO indicator [man Sv/unit]

Collective dose per unit, 2002 - 2006

performance of maintenance activities and the systematic implementation of the ALARA principle to minimize exposure dose loads.

The measurements made of the gamma radiation rate at points controlled on site show no deviations from the specific for the region natural radiation conditions and values of $0.08 - 0.21 \ \mu Sv/h$. The levels, registered during the period are within the limits of $0.07 - 0.12 \ \mu Sv/h$.





All nuclear facilities at the power station are subject to permanent control by the IAEA inspectors in compliance with the Additional Protocol to the Agreement between Bulgaria and the IAEA, ratified in 2000 on the implementation of the warranties to be observed, concerning the Non-proliferation treaty. The supervision activities of IAEA are being performed through periodical inspections in cooperation with the Nuclear Regulatory Agency.

Eleven routine inspections to review compliance with the Non-proliferation treaty have been conducted in 2006 by IAEA and NRA inspectors. No violations nor non-compliances were found concerning amounts of nuclear materials declared and available.

In the nuclear power plant, spent fuel (SF) is stored in conditions that comply with all safety requirements. After a certain period of storage into at-the-reactor pools the fuel assemblies are moved to a wet spent fuel storage facility, common for all the units. A part of the fuel, spent by Kozloduy NPP is transported back for re-processing and long-term storage to Russia. After the trilateral Agreement between Bulgaria, Russia and the Ukraine signed in 2006, transportation of SF from Bulgaria to Russia has been restarted. In 2006 a procedure for the technical design of a new dry spent fuel storage facility of the container type was initiated to be agreed by NRA.

The low and middle radioactive waste resulting from the process of the Kozloduy NPP operation are submitted for reprocessing to the Specialized enterprise "Radioactive wastes – Kozloduy", being a part of the stateowned enterprise "Radioactive wastes".

The state-of-the-art technologies used to reprocess radioactive waste ensures a reliable protection of human health and the environment.

PHYSICAL PROTECTION AND EMERGENCY PLANNING

Protection of nuclear facilities and nuclear material at Kozloduy NPP is performed in accordance with a deliberately developed program, specifying a series of practical measures. To ensure the physical protection state-of-the-art methods and technical devices are being employed. Physical protection is ensured by a specialized police unit.

To improve the level of security of Kozloduy NPP a modern system for control of people and vehicles entering the site was installed in 2006 as well as a number of new generation metal detectors. The security systems at the NPP have also been additionally rendered safe by means of the newly installed standby diesel generator.

For the improvement of the physical protection of the plant two more projects have been completed in cooperation with the IAEA. A new signal security system for control of rooms from safety systems as well as on doors, emergency exits, premises, shafts were installed and put in operation. The x-ray device installed ensures precise control of hand luggage before access to the NPP is granted. The mandatory components of emergency NPP preparedness of Kozloduy documentation, specialized software, emergency organization, systems, equipment and devices, training are kept up in compliance with the stipulations of the national legislation as well as the internationally accepted safety requirements. Thus all prerequisites are in place to handle any possible emergency and minimize the consequences for staff, population and the environment.

To meet the new regulations of the NRA the Emergency plan of Kozloduy NPP was updated in 2006 together with the emergency plans for fresh and spent fuel transportation, the emergency procedures, the emergency plans of the Regional Directorates "Fire Safety and Protection of Population Service" and the emergency plan of the Police department at the Kozloduy NPP.

The training for operational staff of EP-1 and EP-2, the emergency structures on "Emergency planning level II and III" and

some other staff was conducted as planned. Emergency drill according to a previously prepared scenario on "Major blackout at VVER-1000, Unit 5 (6)" was conducted.

A new version of software for the information system was introduced in the Emergency management centre. The radiation emergency methodology on radiation consequences and protection measures for population was updated and a new version of the program (EPA DOSE), based on a new numerical model for determination of the gammabackground filed and a very short-range forecast, concerning its change is being developed.

Experts from the structures of the emergency units at Kozloduy NPP took part in international projects of the European Union – the ASTRID (Assessment of Source Term for emergency Response based on Installation Data) and RODOS (Real-time On-line DecisiOn Support system) programs, within the framework of the EURANOS project.

FIRE PREVENTION

In order to maintain up-to-date level of fire prevention Kozloduy NPP applies the present day normative documents, the standards and recommendations of the fire risks analyses as well as the international practices in this area.

Fire extinguishing and emergency rescue activities as well as the State fire prevention control on site of the power plant are performed by the Regional Directorates "Fire Safety and Protection of Population Service" at KNPP. The status of fire prevention preparedness at Kozloduy NPP is controlled by the General Directorate "Fire Safety and Protection of Population Service" which conducts reviews on regular basis.

With the improvements of fire-alarm and fire-extinguishing systems made within the framework of the Modernization program of the units efficiency was significantly enhanced and fire hazards reduced. No fire incidents with significant material damage occurred at the NPP in 2006.





GASEOUS, AEROSOL AND LIQUID RADIOACTIVE RELEASES

Gaseous, aerosol and liquid radioactive releases from Kozloduy NPP are constantly under control and are included as indicators for the effective and safe operation of the plant.

Gaseous and aerosol releases into the atmosphere in 2006 were significantly lower than the values that are considered to be admissible for safe operation – below 1% of the limits as stipulated by the Nuclear Regulatory Agency.

Waters from the technological cycle of the NPP are subjected to special processing and purification. As a result the total and specific radioactivity recorded in the technological and out-of-balance waters released by Kozloduy NPP into the Danube River in 2006 continued to be considerably below the limits as set by the NRA and coordinated with the Ministry of Health and the Ministry of Environment and Water. Radiation analyses of the Danube

Total activity of gaseous, aerosol and liquid releases (RANG, LLA, lodine131) in % of the allowable average annual values



River show no radiological contamination due to the operation of the Kozloduy NPP. The gross beta background activity indicates values that are normal for natural basins.

PUBLIC EXPOSURE MONITORING

The additional exposure of the public within the 30 km area from Kozloduy NNP operations is negligibly low. The maximum individual effective dose of the population resulted in by gaseous aerosol effluents and liquid releases from Kozloduy NPP into the environment is as low as 0.17% of the exposure to natural radiation background (2.3 mSv), 0.38% from the 1 mSv limit, concerning public (set by the Basic Norms for Radiation Protection -2004) and about 65 times below the limit of 0.25 mSv/a for exposure to radioactive releases from an NPP. The maximum assessed dose is below the limit to be released of control -10 µSv/a (Basic Norms for Radiation Protection - 2004).

The normalized collective effective dose of the population from gaseous aerosol effluents is completely comparable to the average value for the reactors of the same type worldwide, (United Nations Committee on the Effects of Atomic Radiation, 2000).

The values of dose rates, registered in recent years, concerning some indicators for radioactive noble gases and lodine-131 are comparable with world averages. Public exposure dose to KNPP liquid effluents is also negligibly low.

RADIO-ECOLOGICAL MONITORING

The range and scope of radio-ecological monitoring of Kozloduy NPP are in compliance with the requirements of the national legislation and good international practices in countries with a well-developed nuclear industry.



In accordance with programs on radioecological monitoring of Kozloduy NPP in 2006, 2405 samples from various environmental elements – air, water, soil, plants, milk, fish, agricultural products – were examined. A total of 3868 analyses were made to determine radioactivity of these samples and 1728 measurements performed with portable dosimeter devices and stationary thermo-luminescent dosimeters.

In order to ensure compliance with the requirements of the national legislation on radiation protection in force, the results of the in-plant radiation monitoring of the NPP are compared with the independent radioecological surveillances made according to parallel programs – of the Ministry of Environment and Water and the National Centre on Radiobiology and Radiation Protection.

The results obtained prove the radioecological parameters under consideration in the Kozloduy NPP region correspond most

Sampling structure (%) in the total scope of radioecological monitoring, 2006

completely to the normative requirements. The radiation parameters of the ecological components are within the normal limits of values typical for the region.

The conclusions made on basis of radioecological monitoring in 2006 absolutely confirm the findings of past years of lack of assessable impact by Kozloduy NPP operation on the environment and population in the region.

Kozloduy NPP contributes to conservation of the environment in yet another practical way – by means of saving emissions of hazardous greenhouse gases. With the electricity generated only in 2006 KNPP has saved the harmful impact of over 27 million tons carbon dioxide (CO_2), more than 1.2 million tons of sulphur dioxide (SO_2), about 80 thousand tons nitrogen oxides (NO_x) and 53 thousand tons of dust, containing natural radioactivity. This effect is in line with the world tendencies to limit ozone destructive emissions into the atmosphere.





Paying special attention to environment protection in all aspects of its activities, Kozloduy NPP has developed and is implementing a Management of Nonradioactive Wastes program. This program envisages activities to the end of 2010. The permit to handle wastes, issued by the Regional Inspectorate on Environment and Water in Vratza is being renewed on a regular basis.

In compliance with the tendencies of the present day as well as the requirements of the law, non-radioactive wastes in Kozloduy NPP are collected separately. Wastes, not liable to reprocessing or recycling are stored at a non-radioactive waste repository, located on site. In accordance with the program for nonradiation monitoring control is performed on incoming wastes, on waste and underground waters, the meteorological conditions are examined as well.

The results from the monitoring and those from the physical and chemical tests performed on underground and waste waters from Kozloduy NPP are being presented in the annual report submitted to the Executive Agency on Environment and the Regional Inspectorate on Environment and Water in Vratza.



INVESTMENT PROJECTS

IMPLEMENATION OF THE INVESTMENT PROGRAM

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Implementation of the Investment program of Kozloduy NPP is a means to achieve the main objective – to keep compliance of units with up-to-date requirements, concerning safety and to enhance reliability and effective operation.

To implement the Investment program in 2006, 82.2 million BGN was spent. The main part of the funding relies on own resources amounting to 79.2 million BGN and 3 million BGN is from the Kozloduy International Decommissioning Support Fund.

58% of the money spent is allocated for supply of machinery and equipment (M&E), the share of design and development (D&D) expenses being the second biggest part and the rest of 14% – for construction and installation works (CIW).

A considerable part of the investment expenses was designated to finance activities of Units 5 and 6 subdivisions.

The rest of the expenditure was designated for implementation of measures of the longterm programs on continuous improvement of operational safety and reliability of Units 5 and 6, enhancement of Units 3 and 4 safety; on improvement of safety of the Structure of the expenses made for acquisition of long-term assets



Spent fuel storage facility and to ensure implementation of conditions ensuing from its license; on measures to increase the level of physical protection of the NPP; on replacement of measuring transformers in the open switchyard; for modernization of relay protection systems with new generation microprocessor protection systems and the creation of an information system for them and recorders of electric transient processes.

The registered as long-term assets items in 2006 amount to 180 million BGN with 148 million BGN planned, performance thus reaching 122%.



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MODERNIZATION OF THE 440 MW UNITS

Despite the decision for the Units 3 and 4 shutdown, to maintain and still further improve safety continues to be the main priority including implementation of modifications and improvement of systems and equipment. Major attention has been paid to systems related to safe storage of spent fuel.

Heater chambers of the installation for reprocessing floor drains (Water cleanup-3) were replaced in the year to ensure the conditions necessary for the reliable operation of Units 1 and 2 systems during decommissioning.



MODERNIZATION OF 1000 MW UNITS

The extent of completion of the large scale Modernization program for the 1000 MW Units 5 and 6 at the end of the year reached 94.3%. The Program that was started in 2001 contains a complex of 212 specific measures. As per 31.12.2006 two hundred

Implementation status of Units 5 and 6 Modernization program as per 31.12.2006



of the measures planned were completely implemented and there are still 12 more in the process of execution.

For the implementation of Units 5 and 6 Modernization program 23.997 million Euro was spent in 2006, thus reaching the total of 466.8 million Euro spent or 95% of the budget of the program.

The main measures that were implemented in 2006 were as follows: replacement of control systems for the primary circuit of Unit 5 and secondary circuit of Unit 6 with modern digital systems; safety systems cable trays labeling; improvement of fire resistance of fire-proof doors; improvement of seismic resistance of equipment, of supporting constructions, of pipe works; reconstruction of the blowdown system of steam generators.



Activities ensuing from the analysis made on the emergency feeedwater system and due to peculiarities of technological modes of the steam generator feedwater system were successfully implemented.

The positive results have already been registered and shall be finally confirmed with the successful completion of the Modernization program to result in Units 5 and 6 full compliance with contemporary requirements for nuclear power plants and have been related to:

• Improvement of safety by means of reduction of dose levels on personnel, reduction of hazards and improvement of potential to manage accidents.

 Improvement of safety culture and staff awareness by means of mastering new technologies and transfer of "know-how". Enhancement of reliability via replacement of out-of-date equipment and installation of modern technological equipment.

• Optimization of availability by improving operational and maintenance procedures, implementation of modern diagnostic equipment to assess status of the plant, broadening the scope of information with the help of the computer systems at the units.

 Reduction of outage periods through organizing activities in parallel to the outage and implementation of the "critical path" planning method.

• Extension of life-limits by means of replacement of equipment and verification the capacity of existing equipment to be operated on for a longer period.



FINANCIAL STATUS

Despite low prices of electric power at the regulated market and heavy regulation restrictions Kozloduy NPP PIc ended the year 2006 with profit totaling 2.338 million BGN.

The production surplus and sales at the nonregulated market made up for the predicted Company loss, as estimated with the actual 2006 prices of electricity. A favorable factor was the increase of sales on the free electricity market, the share going up from 6% in 2005 to 14% in 2006, resulting in a rise in revenues in this segment.

The revenues from sales increased by 8.895 million BGN on 728.844 million BGN for the previous year. The major part of that increase – 95.6%, was due to sales of electricity and availability, including 16.5% sales on non-regulated market.

The greater part of operational expenditures is due to statutory requirements and this limits the possibilities to decrease the total amount of expenditures of the Company. The structure of expenditures of Kozloduy NPP Plc in the recent years has been relatively constant. The depreciation allowances, cost of nuclear fuel management and payments "Nuclear Facilities Decommissioning to Fund" (NFDF) and "Safe Management of Radioactive Waste Fund" (SMRWF) constituting the greater share of expenditures for 2006.

Regardless of the negative economic circumstances in which Kozloduy NPP Plc operates and the numerous regulation restrictions, the Management of the plant ensured all necessary for the normal operation activities and the Company finished the year without any overdue payments. All obligations to personnel, concerning labor and social legislation were met strictly Structure of Kozloduy NPP PIc expenditures in 2006



observing normative requirements. For the year 2006 a sum totaling 26.368 million BGN was contributed to social funds, including social insurances, staff re-qualification, unemployment as well as health insurances. To additional schemes 8.957 million BGN was contributed.

The Company fulfilled its obligations, concerning spent fuel management, that constitutes 11% of structured expenses. In 2006 quantities of spent fuel totaling 74.753 million BGN were transported to Russia for technological storage and reprocessing as envisaged in the "Strategy of safe management of radioactive waste".

All taxes and fees due to the State Budget totaling 261.790 million BGN, were paid including 119.901 million BGN contributions to NFDF and SMRWF funds. Deductions for these funds constitute 17% of expenses.



Though Units 1 & 2 have been shut down, the Company receives insignificant resources from the SMRWF fund for their financing. For the year 2006, 829 thousand BGN was spent.

A new kind of activity for the Company was to exercise the right to trade electricity. In 2006 with a decision of the State Energy and Water Regulatory Commission (SEWRC), a ten year License №L/216-15/18.12.2006 to trade electric power was issued to Kozloduy NPP Plc. With the further development of this activity KNPP has the opportunity to become a competitive supplier of electric power for its secure and permanent supplies at reasonable prices.

For a second consecutive year, the Company the International Accountancy applied adopted Standards, by the European Commission in compliance with regulation (EO) Nº1606/2002 European of the Parliament.

The balance sheet and report on revenues reflect the proprietary and financial status of the Company. The complete financial report will be published in compliance with the Accountancy Act and at the website of Kozloduy NPP PIc (www.kznpp.org).



BALANCE SHEET AS PER 31.12.2006 (in thousands of BGN)	2006	2005
ASSETS	_	
Non-current assets:	4.070.074	4 050 400
	1 2/3 8/4	1 256 128
	45 538	61 206
Financial assets	/5	/5
Investments in associates	1 229	929
Deterred tax assets	-	4 535
Expenses for future periods	20	42
Expenses for acquisition of TA	99 207	159 350
	<u>1 419 943</u>	<u>1 482 265</u>
Current assets:		
Inventories	147 732	178 706
Trade debtors and other receivables	105 473	88 977
Cash and cash equivalents	145 916	100 570
Tax receivables	1 105	4 722
Expenses for future periods	4 276	45 094
	404 502	418 069
	<u>1 824 445</u>	<u>1 900 334</u>
Equity:	101 710	101 716
Share-capital	101 716	101 716
Reserves	986 721	992 961
Petrined earnings from prior period	(9 994)	(9 245)
Hetained earnings from current period	4 /12	(28 844)
	<u>1 083 155</u>	<u>1 056 588</u>
Liabilities		
Non-current liabilities:		
Bank loans and borrowings	543 403	546 327
Deferred tax liabilities	47 283	77 496
Provisions	9 612	11 569
Deferred income	33 144	42 524
	633 442	677 916
Current liabilities:		
Trade and other payables	40 326	90 717
Bank loans and borrowings	-	17 827
Current portion of interest bearing borrowing	29 307	18 875
Tax payables	25 348	25 639
Provisions	12 620	12 525
Deferred income	247	247
	107 848	165 830
	<u>1 824 445</u>	<u>1 900 334</u>
INCOME STATEMENT FOR THE YEAR ENDED 2006	2006	2005
(in thousands of BGN)		
Revenue	728 844	719 949
Cost of sales	(713 798)	(681 880)
Gross profit/(loss)	15 046	38 069
Other operating income	10 880	10 260
Administrative expenses	(16 276)	(32 949)
Profit/(loss) from operations	9 650	15 380
Financial income/(expenses)	(7 312)	(41 904)
Revenues /(expenses) from revaluations of assets	-	(783)
Income of associates	-	3
Profit/loss before taxes	2 338	(27 304)
Tax expenses	2 374	(1 540)
Net profit/(loss) for the period	4 712	(28 844)

HUMAN RESOURCES MANAGEMENT STAFE STRUCTURE



KNPP Management policy concerning human resources corresponds to the best global practices in the nuclear industry. Since 2002, the number of staff has decreased by some 100 – 150 each year as result of the effort to optimize working practices. At the end of 2006, the number of employees at the Kozloduy NPP PIc was 4 796.

the measures implemented in Among recent years to reduce staff with proven effectiveness is the policy to let those with the right to retire to do it, to encourage early retirement under the conditions of labor of categories 1 and 2, to categorize activities as essential or non-essential to the plant's operation. Appointments to vacant positions are made only in cases of proven necessity. Well accepted is the system implemented for internal staff selection at Kozloduy NPP to ensure opportunities for personal professional development and to ensure that the vacant job position shall be occupied by highly qualified and experienced specialists only.

The year 2006 witnessed the lasting trend

Staff educational structure at Kozloduy NPP PIc



to maintain high educational status of staff. University graduates with master's degree are 26%; another 9% of the employees have graduated from universities with other degrees. The group of staff between 35 and 40 years old is the largest group as far as age of personnel is concerned.



The Management of Kozloduy NPP PIc puts every effort to ensure and maintain healthy and safe working conditions for its employees. All staff of the NPP are provided with personal protection equipment, free protective food is ensured as well as reduced working time.

Risk assessment on the working place is made on a regular basis and if needed corrective measures are implemented to eliminate or minimize existing hazards.

The trend of keeping industrial safety accidents at low levels is being maintained, their number for 2006 being the lowest for the last 5 years. Indicators, featuring employee injuries at Kozloduy NPP have also registered lowest values for the last 5 year period.



Number of employee injuries

TRAINING

Organization of training in Kozloduy NPP includes thorough analysis of training needs; continuous assessment and improvement of training planned programs, keeping adequacy of training materials to suit the actual state of the units at Kozloduy NPP; conduct of an efficient training process.

Kozloduy NPP Training Centre is equipped with all the necessary training materials and technical facilities to perform different types of training in compliance with international standards and normative documents. The process of training is conducted under the guidance of highly qualified lecturers and instructors. All contemporary forms of training are being applied - theoretical training

(lectures, seminars, interactive computerized training, structured self preparation under the quidance of a trainer); practical training in working conditions, simulator based training, including on a full-scale simulator.

A mandatory element of the specialized contemporary training of nuclear reactor operators is the simulator training. At the Simulator complex of the Training centre, operators get their training in conditions that are as realistic as possible on the Full-scale VVER-1000 simulator and the Multifunctional VVER-440 simulator. Simulators are also used to verify new technologies and operational instructions. modernization proposals to be implemented, etc.

In 2006, 1 444 training courses were conducted with 16 433 participations by Kozloduy NPP employees. The number of participants from outsourcing organizations or contractors, performing activities on site of Kozloduy NPP that got their training and attestation is 5 907.

A contribution to integration of industry and the educational system in the country is the opportunity Kozloduy NPP affords for training students in operational conditions. This kind of training is a part of the long term policy of the nuclear power plant to keep close contacts with universities being the source of highly educated specialists in the future. A pronounced recognition for the quality of training in operational conditions is the trend observed in the recent years towards a permanent increase in the applications for practice of trainees, submitted by educational institutions. In 2006 a group training of 140 students from the Sofia Technical University, the Integrated Technical College - Sofia, the Sofia University "St. Kliment Ohridski" was conducted. In addition 200 students from the Professional vocational school on



nuclear power engineering in Kozloduy took part in the plant's annually organized 14 days professional training.

Foreign universities and other educational institutions in recent years have also shown interest in training in operational conditions. 45 students from Turkey (Hacettepe University, Ankara), Macedonia "Ss. Cyril and Methodius" Skopje University as well as students from Poland (the Warsaw Polytechnics) and the "Al. Bernard" Professional lycee, France were trained in 2006.

With the license issued in 2006 the NRA authorized Kozloduy NPP Plc to conduct specialized training thus introducing a new procedure in training specialists, whose job descriptions require licensed training. License parameters are as a priority consistent with the needs and requirements of Kozloduy NPP Plc, but they include possibilities to train foreign customers as well. Obtaining the license, Kozloduy NPP Plc ensures compliance of training with normative requirements and currently appears to be the only authorized organization to perform these activities.



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The strategy on the future development of Kozloduy NPP Plc aims at preservation of highly qualified personnel and is founded on the conviction that the high motivation of employees is of major significance for the successful performance of the Company.

To cover expenses on social activities mainly in the sphere of ill-health prevention, sport, recreational and cultural activities in 2006 more than 11 million BGN was spent.

Kozloduy NPP Plc personnel take advantage of additional voluntary health insurance and voluntary pension scheme. Each year obligatory preventive medical check-ups are organized, possibilities are also available for personnel to visit and make use of the services of the Recreation centre.

In correspondence with the latest developments in the nuclear plant – the shut down of two more units at the end of the year, a Program on management of social consequences resulted in by decommissioning of Units 1 – 4 of the Kozloduy NPP was adopted. The Program includes the first decommissioning stage and aims to mitigate negative social consequences for personnel. The main priorities in this period will be to provide employment for the qualified personnel at Units 1 – 4; social protection of staff, subject to shedding, and to maintain social status of KNPP employees and their families.

In the year 2006 Kozloduy NPP PIc showed concern not only towards its own staff but also to create a favorable environment for the development of young people in Bulgaria and organized, and for the second time carried out, a practicing program. This program is an intrinsic element of the process to update the approach in selecting and attracting specialists to work at Kozloduy NPP PIc.

For the summer practices in 2006, 22 students from different universities were approved to be trained in specialties, applicable at the KNPP. The program was successfully completed with thesis papers on projects, the development of which was assisted by the heads of the corresponding structural units.

The modern and successful approach of Kozloduy NPP in terms of Human Resources Management received yet another recognition in late 2006. The power plant was awarded the prestigious second place of the Annual Responsible Business Awards by the Bulgarian Business Leaders Forum.









Implementation of best world recognized practices in the field of nuclear industry is a deciding factor to maintain operation of the Bulgarian nuclear plant in compliance with contemporary international standards and safety criteria. Kozloduy NPP Plc exchanges information and operational experience on a regular basis keeping close cooperation with the IAEA, the World Association of Nuclear Operators (WANO) and a number of international organizations and leading in nuclear companies.

In 2006 Kozloduy NPP took an active part in the seminars, conducted in Bulgaria by the IAEA on physical protection against sabotage and configuration management of equipment and documentation of the "Belene" project. Kozloduy NPP took part in preparation and the performance of the joint technical meeting of the IAEA, NRA and the Institut for Nuclear Research and Nuclear Energy with the Bulgarian Academy of Sciences on the "Experience in handling deep fuel burn-up and its economic indicators".

In 2006 experts from the plant participated in a series of international seminars and regional projects on technical cooperation with the IAEA. Among the main topics for the discussions were: extension of the operational period of the VVER reactors; Units 1 & 2 of Kozloduy NPP decommissioning management; vent analysis; deterministic and



probabilistic safety analysis in management of operational safety of the NPP; development and implementation of heavy accidents management in NPPs; efficient management of organizational modifications of nuclear facilities; management of RAW in NPPs with VVER type reactors; management of organizational changes and management of human resources.

In 2006 Kozloduy NPP continued its active partnership with the Moscow based WANO centre. Experts from the NPP took part in 8 seminars and conferences under the auspices of the organization.

The nuclear power plant participated in IAEA as well as WANO expert reviews. Experts from Kozloduy NPP were involved in missions at Bushehr NPP in Iran; WANO peer reviews in Monju NPP – Japan, in Tianwan NPP – China, in Beloyarsk and Kola NPPs – Russia. Bulgarian experts were a part of the WANO teams on technical support in Finland and the technical mission in the Ukraine on "Optimization of maintenance cycles and steps to maintenance of equipment in accordance with its technical condition"

With the active support of Kozloduy NPP in 2006 the following international events were conducted in Bulgaria: International nuclear forum "Nuclear power and ecology" – organized by BULATOM; Bulgarian-Russian seminar on "Experience in operation and implementation of fuel for the new generation VVER reactors"; seminar on "Licensing and control during preparation works for decommissioning of equipment and installations" with the participation of GRS – Germany.

Taking part in the international programs on nuclear safety, developed by the Department of Trade and Industry (DTI) of Great Britain



and with the implementation of five projects, financed by the program, cooperation was established with leading companies in the areas of: improvement in the quality assurance system; improvement in the process of nuclear safety assessment; development of training materials and methods as well as a training course on "Human factor".

A number of foreign delegations and influential representatives of various international organizations visited Kozloduy NPP during the year. Among all other worth mentioning we need to point out the visits of representatives of the European Nuclear Society; representatives of the French trade unions in nuclear, the delegation of the People's Republic of China, experts from the Sandia National laboratory – the USA, representatives of the Bulgarian-German industrial chamber of commerce, representatives of the regulatory bodies of Romania and the Czech Republic, the delegation, led by Her Majesty's deputy ambassador; the delegation of the regulatory body and the embassy of the USA.



PUBLIC RELATIONS

The public opinion in Bulgaria has been traditionally supportive of the nuclear industry. There is a long record of consistent policy of information dissemination with regard to all aspects of plant activities which contributed to the high public support.

In 2006, the dialogue with media and society was particularly intensive which was partly provoked by the large-scale debate on the future of nuclear industry in Bulgaria after the closure of Units 3 and 4 and in respect of the Belene NPP project. In this context, the increased attention to Kozloduy NPP came as a natural consequence, so the company planned and implemented various PR activities.

Kozloduy NPP takes into consideration the media's role in the dialogue between the company and the public, thus continuing to develop and enhance cooperation with news organizations. The media were timely informed about all the important events at the plant with 82 press releases. For major events, the plant organized news conferences and briefings. We welcomed media professionals who decided to get first-hand information regarding plant operation and management concepts. Journalists were given access to the site and conditions were provided for media coverage in line with specificity of different media and authors' approach to topics. At various occasions, 240 journalists visited Kozloduy NPP to receive relevant





information. The plant was visited by media representatives from major Bulgarian news organizations as well as journalists from The New York Times, Euronews, ARD, The Associated Press, Reuters, France Presse, etc.

Our practice over the years has proved that getting a personal impression is the most natural way to obtain objective information as regards safe operation and professionalism of personnel. Holding this view, Kozloduy NPP continued to provide assistance and encourage visits at the plant. The number of visitors in 2006 increased by 35 percent as compared to 2005. Our guests had the opportunity to get familiar with activities of various plant departments following special individual or group programs. Walkdowns included control rooms and turbine halls. About 1 000 people from all parts of Bulgaria visited Kozloduy NPP during the Open Doors Days in June and October.

Additionally, trying to inform the public at any occasion, Kozloduy NPP continued to publish the company digest Parva Atomna which covers various events and sheds light on less known aspects of plant operation. This publication and the annual report of Kozloduy NPP are well known and serve as a





primary source of information for numerous organizations, institutions and media. In 2006, we sent the English language version of "Parva Atomna" and the English edition of the annual report to a large number of international partners so Kozloduy NPP got even greater popularity among nuclear professionals and EU institutions.

The web page of our plant www.kznpp.org is the other useful source of news about Kozloduy NPP. In 2006, the number of visitors raised by 44 percent as compared to 2005 which comes to prove that a larger number of people received relevant information as regards plant operation.

In our information policy, we pay special attention to Kozloduy NPP's personnel. In order to ensure efficient corporate communications, Kozloduy NPP relies on two major channels. The local area network (Intranet) contains information about plant operation and various social activities. Online polls are published to provide feedback on issues that are important to personnel. Furthermore, the daily radio broadcasts of "AEC Novini" ("NPP News") provide additional information directed to the company employees. In 2006, the radio broadcasts were improved by adding new programs at listeners' request.



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