



FOCUS

UNITS 5 & 6 SAFETY ASSESSMENT PERFORMED

AIM

The aim of safety reassessment is to assess:

-the level of performance of up-to-date normative safety requirements in terms of technologies used, scientific knowledge and analytical methods, the effect of the modifications performed and the ageing of equipment, organizational structure;

-compliance with up-to-date licensing requirements ;

-non-compliances with the latest normative requirements and the adequacy of measures to cope with non-compliances ;

-the overall safety level and to confirm that it meets today's requirements;

APPROACH

The requirements of the Regulation for Nuclear Plant Safety have been followed and the selected approach was that described in IAEA Safety Guide NS-G-2.10.

REFERENCE LEVEL

Non-compliance is defined as a deviation or difference between the current status of Units 5 and 6 and the effective normative requirements and international operational experience. The documents defining today's requirements for nuclear power plant safety are: NRA existing normative regulations IAEA and WENRA regulations, Reactor Safety Reference Levels, March 2007; Russian normative documentation. This list of documents was used to determine the reference level of non-compliances.



The performance of a periodic safety assessment is a requirement both of the Bulgarian legislation regulations and the effective operating licenses of Kozloduy NPP Units 5 and 6 .

AREAS

The nine areas cover all aspects of operation and were determined in accordance with Safety Standards Series, Periodic Safety Reviews on NPPs; Safety Guide NS-G-2.10, IAEA , Vienna, 2003 (8):

site characteristics, Plant design, Existing analytical methods for safety analysis, Operational experience and effectiveness of the feedback in the period reviewed, Organization of operation; Indicators of safety and effectiveness of safety and quality management, Quantity, level of personnel training and qualification; Emergency planning, Radiological impact on the environment. These areas including 109 factors and 449 criteria were presented to and discussed with NRA representatives.

STAGES AND ACTIONS

The exercise was performed in four stages: Project preparation and organization, conducting analysis and assessment , Writing of a summarized report, elaboration of a Program with corrective actions or improvements in terms of safety and submitting to NRA.

The first three stages have been completed and the fourth is ongoing.

FINDINGS

The results demonstrate: high level in terms of nuclear, radiological and technological safety commensurate to the best plants in the world of the same type; the design and the operational practice meet the requirements of the national legislation and the international safety standards. Corrective actions for some of the non-compliances are under way and the others are included in the future program of corrective actions.

In conclusion the findings of the safety reassessment proved that there are no limitations for the safe operation of Kozloduy NPP Units 5 and 6 and this is the rationale to file an application with NRA for an operating license renewal of Units 5 and 6.

KRASIMIR YORDANOV

Chief Technologist, Engineering Support, EP-2



Inside this issue:

Outage	2
Certification	2
Visits Round-up	3
Sport events	4
Culture	6

KOZLODUY NPP FULFILLS NINE MONTHS PLAN

On August, 20, 2008, Kozloduy NPP more than fulfilled the plan to generate 10 257 123 MWh for the first nine months of the year. 11 200 000 MWh is the expected amount of electricity to be generated by the end of these nine months. This is by far ahead of schedule and the result achieved is due to the good organization and effective outage performance that resulted in a shorter outage period and more than 300 00 MWh supplied for the national grid.

GENERATION

JULY 2008

Unit 5 – 305 128 000 kWh*

Unit 6 – 747 501 000 kWh

Total – 1 052 629 000 kWh

*The planned annual outage of unit 5 was completed on 18th July 2008.

AUGUST 2008

Unit 5 – 740 691 000 kWh

Unit 6 – 480 069 000 kWh**

Total – 1 220 760 000 kWh

**Unit 6 planned annual outage started on 23rd August 2008.



ANNUAL OUTAGE

FILTERS AT THE 3rd CPS OF UNIT 5 REPLACED

The replacement of filters in the third Circulation Pump Station of Unit 5 was a part of the planned equipment replace-



ment during the 2008 outage. These filters separate mechanical particles (algae, leaves etc.) from the service water coming from the Danube river in order to provide the normal operation of condensers. The original filters installed in 1986 were manufactured by GEA-EST but the company has terminated the manufacture of these filters and it impedes their maintenance. The newly installed filters are PR-BW 800, manufactured by the German company Taprogge. They meet all up-to-date requirements, have passed successfully the functional testing and since 18th July 2008 have

been in operation. There is no need to stop the circulation pumps to flush the filters and thus decrease the power of the operating unit by 50-100 MW. Therefore the replacement of these filters had a significant economic effect by not requir-

ing lower power operation during these flushing activities. Filters PR-BW 800 have already been installed in 2002 on 4th CPS of Unit 6 and they have been working flawlessly since that time.

The operation process of these filters proved to be highly efficient and reliable and because of this in 2007 a decision was made for replacement of Unit 5 filters and the financial resources were provided by the Investment program of Kozloduy NPP.

UNIT 5 ANNUAL OUTAGE SUCCESSFULLY COMPLETED



The planned annual outage of the 1000 MW Unit 5 of Kozloduy NPP was completed thirteen days ahead of schedule. The unit was connected to the grid on July 18th, 2008 after BNRA review and the granting of the restart permission .

During the outage of Unit 5 , that started on June 7th, all planned maintenance activities were performed as well as preventive maintenance and refueling of the

Equipment was replaced according to the planned financial resources provided by KNPP Investment Program.

The whole scope of activities planned was carried out successfully and with high quality due to the professionalism of the plant specialists.

The same upgrading that will be implemented at Unit 6 during the outage downtime will ensure the correspondence with the world trends for continuous safety enhancement of nuclear facilities.

In line with the annual operating schedule of these facilities, Unit 6 was stopped on August 23rd for planned outage.

THIRD CERTIFICATE FOR THE QUALITY SYSTEM OF THE INSPECTION BODY A TYPE—NON-DESTRUCTIVE TESTING CENTER

The third certification audit of the Quality Management System of the Inspection Body A type NDT Center at Kozloduy NPP was conducted on July 3rd and 4th, 2008 to review the compliance with the requirements of ISO 9001. The NDT Center has passed through two triennial certification periods when the control of activities has been performed in line with the Quality Management System certified under BSS EN ISO 9001. The quality management system of the Inspection Body A type NDT Center incorporates the requirements of BSS EN ISO/IEC17020 that are essential for the inspection bodies. It also includes the requirements of KNPP Quality Management System

The Inspection Body of A type – NDT Center has been set up as a separate unit in Kozloduy NPP structure and is under the direct control to the Executive Director. Within the period 1997-2001 it was an Accredited testing laboratory. Since 1999 it has been developing and maintaining a certified Quality Management System in accordance with the requirements of BSS EN ISO 9001, and since 2005 the center has been establishing an Integrated management System in line with the requirements of BSS EN ISO 9001 and of BSS EN ISO/IEC 17020. The procedure for accreditation as Inspection Body by the EA BAS started in 2006.





**OPEN TO THE WORLD
VISITS ROUND-UP**

ENGLISH DELEGATION VISITED KOZLODUY NPP

A delegation from Copeland Municipality, West Cumbria, UK visited the site of Kozloduy NPP on July 9th, 2009. The delegation included the Socio-Economic Manager in Sellafield Ltd. (the NPP in Cumbria)- **PHILIP GREATORREX**, Organization Development Manager in Cumbria County Council—**KATIE HORNBY**, Head of enterprise and Strategic Partnerships Faculty of health at University of Cumbria-**MARTIN GANNON** and representatives from Kozloduy Municipality.

They were introduced to the current status of the plant , the units' modernization, and visited the Main Control Rooms and the Turbine Halls of Units 2 and 6.

They shared their experience and good practices in activities related to social management, human resources management during decommissioning of Sellafield units and the plant contribution to the social development of their region.



DIPLOMATIC VISIT



STUART PETERS -2nd Secretary EU/Economic at the British Embassy Sofia was on a visit to Kozloduy NPP on July 22nd accompanied by the economic officer at the British Embassy – **EKATERINA BAKALOVA**. The visit was under the initiative of the British Diplomat who attended the official opening of the Business Incubator Kozloduy , which is a part of

the Business centre established with the help of the UK's Department for Business, Enterprise and Regulatory Reform.

This investment was within the British governmental programme for decreasing the negative economic consequences after the closure of nuclear facilities in Central and Eastern Europe.

THAILAND CIVIL SERVANTS ON A STUDY VISIT

Representatives of the Civil Service of the Kingdom of Thailand made a visit to Kozloduy NPP on 26th August .

The delegation was led by Mrs **BENCHAWAN SRANGNITRA**—Deputy Secretary—General , Office of the Civil Service Commission at the Office of the Prime Minister.

They were acquainted with the plant history, the current status

and economic and environmental advantages of nuclear power engineering. The guests were interested in nuclear power plant operation safety and effectiveness. They also visited the 440 MW Unit 2 and the 1000 MW Unit 5.

The visit was organized within the a development Programme organized by the Civil Administration College of Thailand .





CORNER –STONE CEREMONY FOR THE DRY SPENT FUEL STORAGE FACILITY



The corner stone for the Dry Spent Fuel Storage Facility (DSFSF) was laid on the 30th July, 2008 on KNPP site.

Delegates of the German Consortium NUKEM-GNS that will construct and provide the equipment for the Storage, EBRD, Bulgarian partner companies , Kozloduy NPP management, the Mayor of Kozloduy Municipality all participated.

ULF KUTSCHER—the Administrative Director of Nukem Technologies GmbH in his speech underlined how important it is to have good cooperation between partners except for the solid foundation for the construction of a building.

The Executive Director of Kozloduy NPP **IVAN GENOV and ULF KUTSCHER** have laid a time capsule containing a copy of the permit for the construction issued by the Nuclear Regulatory Agency. The new Storage Facility will provide for the long-term storage of spent nuclear fuel in compliance with all international standards.

THIRD CERTIFICATE FOR THE QUALITY SYSTEM OF THE INSPECTION BODY A TYPE—NON-DESTRUCTIVE TESTING CENTER



The main function of the center is to inspect build-up by welding surfaces, welded joints, base metal of equipment, facilities and pipelines. Basic methods of control –non-destructive and destructive are applied. In areas of non-destructive control of the base metal and welded joints, visual inspection is applied , inspection with penetrating fluid, magnetic-particle inspection, ultrasonic inspection, infrared thermovision, radiography inspection, jet current inspection and leak detection. All activities are carried out in compliance with the technological regulations of the units , the normative documents of the Inspection authorities of the Republic of Bulgaria, the regulations and guidelines on nuclear safety, engineering safety, technical surveillance and radiation protection in line with the requirements of the QMS.

The activities of the Inspection Body of A type – NDT Center are as follows:

- drawing-up procedures, instructions, and inspection methods by complying with the legal framework in this area;
- following the development of modern technologies and legal framework in the area of inspection and timely correction of internal documents;

- carry out technical diagnostic of equipment and facilities important for the safety of Kozloduy NPP ;
- technical maintenance of the plant equipment , used for the purposes of the inspection;
- maintenance and development of the systems for quality management , based on BSS EN ISO 9001 and in compliance with BSS EN ISO/IEC 17020.

The QMS includes all activities of the Inspection Body of A type – NDT Center .

GALYA DIMOVA Head of Diagnostics and Quality Group , NDT Center

A certificate is an integral part of good image

Certification is not compulsory. Only companies that really value quality and that do not separate it from their activities are striving for certification. Acquiring a certificate automatically raises the company to a higher level of those having a different image and better understanding of quality. The certificate is used to present the company at market interfaces, in front of customers, partners or at tender processes. This is a voluntary dedication to the idea of quality requiring a lot of effort and work.

The fact that this is the third certification made in the NDT Center of Kozloduy NPP is a sign not only of quality but of safety too. Since the standard requires compliance with the normative documents, a certificate means that the company meets the normative requirements, has the experience in quality and is investing efforts in quality improvement.

ANTOANETA ZAHOVA—Auditor

“THE CERTIFICATE IS A SIGN NOT ONLY OF QUALITY BUT OF SAFETY TOO.”



SPORT EVENTS



KOZLODUY NPP TEAMS AT THE INTERNATIONAL SPORTS FESTIVAL IN RIMINI, ITALY

Strong competitive spirit was demonstrated by all 50 Kozloduy NPP participants at the International Sports Festival in Rimini, Italy, June 29 – July 6. Track-and-field athletics, basketball, swimming, chess, volleyball were some of the sports Kozloduy NPP representatives proved to be a tough challenge for their rivals amongst more than 3 000 competitors from all over the world.

TENNIS

July 25-27 Kozloduy courts witnessed the 15th traditional Kozloduy NPP Open with the impressive participation of more than 55 tennis players from all over the country. The Kozloduy NPP women’s team dominated and occupied the top positions.



IVAN GENOV – KNPP Executive Director is on the move to start the tournament



INTERNATIONAL CHESS TOURNAMENT

The town of Kozloduy hosted the already traditional friendly match between the Women’s chess teams of Rumania and Bulgaria organized by the Bulgarian Chess Federation and supported by the Kozloduy NPP. The match ended in a draw and was a part of the preparations scheduled for the 38th Chess Olympiad in Dresden, Germany this coming November.



On August 23, more than 70 KNPP employees swam across the Danube River. The event was organized and conducted by the Sport and Tourism club at the Kozloduy NPP for the seventh in a row year and though it wasn’t competitive in character the youngest and eldest participants were awarded.



KOZLODUY NPP REVIEW

CONTACT US

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

Kozloduy NPP plc

Kozloduy 3320

Bulgaria

International Programmes Department:

Phone: +359 973 7 61 28; +359 973 7 35 71

E-mail: rdstoyanova@npp.bg

sdmedjedeliev@npp.bg

Edited by: International Programmes Department

CHILDREN IN ARTS



“The Amazons” ballet group enchanted jury and audience at the 9th International “Friend of Bulgaria” Festival at Albena resort June 30 – July , 7, 2008.

WE ARE ON THE WEB!

www.kznpp.org

CHILDREN'S DRAMA SCHOOL

Academy of Arts – Primorsko'08 – applauds for Kozloduy Children Drama school



NEW IN SEPTEMBER AND OCTOBER:

1. KNPP Unit 6 2008 outage completed
2. Four years at the liberalized electricity market
3. Graduates choose to be trained at Kozloduy NPP
4. KNPP sport teams in Albena
5. KNPP Open day