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UPDATED STRATEGY FOR THE MANAGEMENT OF SPENT NUCLEAR FUEL AND RADIOACTIVE WASTE

1. REASONS FOR UPDATING THE STRATEGY

Accession of the country as Member State of the European Union on 1 January 2007;

– Preparation and adoption during the last 2 years of a number of Decisions, Directives and Regulations from the Community institutions, related to the safe management of SNF and RAW;

– Final shutdown of Units 3 and 4 of Kozloduy NPP at the end of 2006;

– Decision No. 260 of the Council of Ministers from 8 April 2005 on the construction of nuclear power plant at Belene site;

– Decision No. 683 of the Council of Ministers from 25 July 2005 on the construction of National repository for radioactive waste;

– Decision No. 839 of the Council of Ministers from 20 December 2008 on promulgation of Units 1 and 2 of Kozloduy NPP as facilities for radioactive waste management and placing this property at the State Enterprise for Radioactive Waste (SERAW) disposal.

2. THE PLATFORM FOR THE SPENT NUCLEAR FUEL AND RADIOACTIVE WASTE MANAGEMENT IN THE REPUBLIC OF BULGARIA AIMS

– To conform to the requirements for nuclear safety and radiation protection, to the ecological norms and standards for prevention from a potential harm and hazards at all stages of the spent nuclear fuel and radioactive waste management, and for protection of the population health and of the environment.

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– To guarantee high level of safety, security, and reliability in the spent nuclear fuel and radioactive waste management through improvement of the national measures, including legislative, technical and technological in a economically effective way.

– To establish trust and interaction with interested parties towards insuring of transparency and bleakness in communications and in decision making process with our partners and the society as a whole, paying special attention to the local communities where the facilities for spent fuel and radioactive waste management are situated.

The national policy in the spent fuel and radioactive waste management is to guarantee that at all the stages of spent fuel and radioactive waste management effective protection from potential dangers will be established, in such a way that the individuals, the public and the environment will be protected from the harmful impact of the ionizing radiations now and in the future, so the needs and the aspirations of today's generation to be satisfied without endanger the possibilities of the future generations to satisfy their needs and aspirations.

3. PRINCIPLES IN SPENT FUEL AND RADIOACTIVE WASTE MANAGEMENT

1. To ensure acceptable level of protection from ionizing radiation of the human health through application of the concept of на концепцията на substantiation, optimization and dose limitation.

2. To ensure acceptable level of environmental protection, through limitation of the radionuclide releases into the environment at the different stages of their management to the minimum possible practical level.

3. To take into account the possible consequences for the human health and for the environment outside the national borders.

4. To not unburden future generations, i. e. without exceeding the levels of consequences those are acceptable nowadays.

5. Clear distribution of the responsibilities and establishment of independent regulatory functions. Division of the functions of state management, the regulation of nuclear safety and radiation protection and of the operator of the SF and RAW management facilities.

6. The radioactive waste generation to be maintained at the minimum achievable practical level by activity and by volume, in using the appropriate project decisions and application of the best operation and decommissioning practices.

7. Interdependence between the generation and the management of radioactive waste.

8. National responsibility, including application of the principle of the license holder main responsibility for the safety and security of the nuclear facilities and for the radiation protection, controlled by the national regulatory authority for nuclear safety and radiation protection.

9. Development of the international cooperation in the SF and RAW management.

10. Public acceptance of the SF and RAW management activities.

4. THE SPENT FUEL MANAGEMENT WILL BE DEVELOPED IN THE FOLLOWING DIRECTIONS:

– The SF generated in the territory of the country is a material containing useful components. This material has to be processed in the country of origin of the fuel or at international level in a mutually advantageous economical, technical and technological manner;

– The SF for which the processing is proven to be economically inexpedient is classified as radioactive waste following the SUNEA requirements and may be managed based on the concept for "deferred decision for further utilization" in the condition that is stored in a way permitting its retrieval;

– In long-term prospective, accepting the global and all European consensus on the deep geological disposal, it is presumed that this is the most convenient way for permanently guaranteed safety in isolating high level and long lived radioactive waste.

– Taking into account the geological and climate conditions of the country, legislation, public opinion, financial possibilities and the volume of radioactive waste including High level RAW, the participation of the country in regional and international initiatives is accepted as inexpedient. It has to be taken into account that the seeking of international solutions shall not endanger the current national program.

5. RADIOACTIVE WASTE MANAGEMENT WILL DEVELOP IN THE FOLLOWING DIRECTIONS:

– Minimization of the quantities of radioactive waste by preventing their generation, insofar as possible, implementation of techniques and technologies for reuse, recycling of the waste and release of radioactive substances and materials from regulatory control ;

– Management of disused radioactive source must develop along the lines of elaborating and implementing technologies for the immobilization of the spent sources in a metal matrix for the purpose of long-term storage within the country ;

– The conditioned LILW, including waste from the decommissioning of nuclear facilities and waste from the other sectors of the national economy will be disposed in one national near-surface repository. The repository will be constructed in stages. Stage 1 envisages for modules of the repository for disposal of RAW from the decommissioning of Units 1–4 of NPP Kozloduy to be constructed until 2015. *Constructing a repository to dispose of low- and medium active RAW has the highest priority in the next 5 years;*

– Decommissioning of Units 1and 2 of NPP Kozloduy based on the "continuous dismantling" concept;

– In the long term, the state of "brown field" is defined as the end condition of the industrial site where Units 1–4 of NPP Kozloduy are being decommissioned.

6. ACTION PLAN RELATED TO THE STRATEGY FOR MANAGING THE SPENT NUCLEAR FUEL AND RADIOACTIVE WASTE UNTIL 2030.

I. Improving the legislative and regulatory basis to develop the national system for SNF and RAW management;

II. Safe management of spent nuclear fuel

– Relieving the site of NPP Kozloduy from SNF after finalization of Unit operation

– Commissioning of DSFSF – 2012

– Construct a warehouse for long-term storage of HLW from the SNF reprocessing, HA SIR and ILW-LL at the site of NPP Kozloduy by 2021

III. Safe management of all types of radioactive waste, including effective decommissioning of Units 1–4 of Kozloduy

– Construct a National Repository for low and intermediate active waste – 1st stage by 2015

– Recultivate former sites for uranium mining – by 2015.

– Manage historically accumulated low- and medium active RAW from Units 5 and 6 of NPP Kozloduy- package of measures to be implemented by 2020.

– Actual start of the operations to decommission Units 1 and 2 of NPP Kozloduy based on the "continuous dismantling" concept– 2011г.

IV. Continue the scientific research programs for safe management of SNF & RAW

– Scientific research of the options for disposal of highly active RAW

– Research on the SNF as energy resource

– Research on the transmutation of highly active RAW and reduce the radiological risk from SNF

V. Assurance of adequate financial and human resources