6. PROGRAMS FOR ENVIRONMENTAL MONITORING

6.1. Activities Concerning Environment Protection

The objectives of the S. N. NUCLEARELECTRICA environment policy are (Ref. 6-9, 6-10):

- prevention of environment pollution;
- fulfillment of requirements from environment legislation;
- environmental objectives review;
- implementing and keeping of environment policy;
- public notifying concerning environment policy of the NPP.

For Cernavoda NPP Unit 1, an environmental management program has been performed (01364-RD-Q10). This contains the necessary components to identify and to manag the environment items.

In 2003 year was take-out by Cernavoda NPP Unit 1 the certificate ISO 14001 for Environmental Management System.

For the commissioning and operating periods of Cernavoda NPP Unit 3, respective Unit 4, a program similar to that for Unit 1 will be introduced, which will take into account the corresponding modifications.

At Cernavoda NPP U1, in the framework of environment protection activities, the following procedures and programs have been defined:

- environmental radioactivity monitoring program;
- liquid and gaseous radioactive effluents monitoring program;
- radioactive waste management program;
- safety systems dealing with transport, handling and inventory of radioactive sources;
- chemical materials management program;

- procedures for industrial safety;
- non active effluents monitoring program;
- emergency plan inside and outside the plant site.

The Radioactivity Environment Monitoring Program must satisfy the same general targets as like the Radioactive Effluent Monitoring Program.

The specific objectives (targets) of the radioactivity environment monitoring are (Ref. 6-1):

- verification of the radioactive emission monitoring program results and associated models in order to check the protections supplied by the employed models;
- supply of required data for the assessment of current or potential doses to the critical group members, resulted from the activity or authorized source;
- detection of any unexpected modification of the radioactivity concentrations and the evaluation of the long-term trends of the radioactivity levels in the environment as a result of the radionuclide releases to the environment;
- supply of information to the public.

The Radioactivity Environment Monitoring Program defined by document RD-01634-RP7 (Ref.6-2) contains all activities to assess the radiological emission concentrations into environment and their effects on population and environment. The document presents the procedures, responsibilities, monitoring locations and environment components, which will be monitored.

The Radioactive Effluent Monitoring Program must satisfy the following general targets (Ref. 6-3):

- to prove the compliance of radioactive release levels with the derived emission limits and with any other CNCAN requirements regarding the impact on population and environment due to the installation normal operation;

- to provide information and data required for the assesment of critical groups and population exposure or potential exposure due to the existence in the environment of radioactive materials or radioactive fields resulted from an installation normal operatioin , an emergency case or ceasing the nuclear activity;
- to allow the inspection/checking of the operation conditions and of the radioactive effluent control oportunity and also, to allow observation of the occurrence of the unussual or unexpected conditions in the radionuclide release to the environment and, if required, to initiate an additional radioactive effluent monitoring program.

The documents which define the requirements for the Radioactive Effluents Monitoring Program are RD-01364-RP4 (Ref. 6-4) and SI-01365-RP6 (Ref. 6-5). The first document presents the methodology and the models used to calculate the dose rates of radiological emissions; the second one, presents the requirements, responsibilities, control and monitoring activities necessary to ensure that the emission limits are maintained under derived emission limits (Ref. 6-10).

The objectives of the Non-Radioactive Environment Monitoring Program, defined by RD-01364-CH2 (Ref. 6-6), have the purpose to reduce the chemical substance emissions into environment, and to demonstrate the concordance with applicable regulations. The document presents the responsibilities, procedures and activities for normal operation, as well as for abnormal emission.

Radioactive Waste Management Program for Cernavoda NPP incorporates all administrative, operational and safety-related activities concerning the collection, handling, conditioning, storage, transportation of all radioactive waste categories.

The Emergency Plan is described by the document RP-01364-RP8 (Ref.6-7). This document defines the responsibilities, the emergency response actions and identifies the measures and means provided to limit the effects of accidents with radiological consequences beyond design basis accident.

The responsibilities presented in Unit 1 documents, are divided between 4 departments, each of them reporting to the plant manager:

- Radioprotection;
- Nuclear Safety;
- Chemical;
- Quality Assurance.

The Quality Assurance Department performs audits of environmental activities, for the fulfillment of the environment policy and applicable procedures. The results of the monitoring program are reported periodically to CNCAN and to environment control authorities.

All measurements are performed using approved procedures from the point of view of quality assurance; the equipment and calibrating sources are verified by the Romanian Metrology Authority (responsible for measurement equipment accuracy).

The procedures used for measurements are according to international standards. These procedures are periodically reviewed and approved by the plant manager and the competent authorities.

The Environmental Control Laboratory is responsible with the implementation of the Environment Radioactivity Monitoring Program.

The Environment Control Laboratory was certified by IAEA.

The Health Phisics Laboratory is responsible with the implementation of Liquid and Gaseous Radioactive Effluent Monitoring Program.

The Chemical Laboratory is responsible with the implementation of Environment Chemical Monitoring Program.

6.2. Surveillance of Environmental Factors Quality

The information presented in this section represent a summary of environment monitoring programs from Cernavoda NPP Unit 1 (Ref. 6-2, 6-6, 6-10).

By implementation of environmental monitoring activities for Unit 2, Unit 3 and Unit 4 into the corresponding program of Unit 1, the necessary data to assess the

environment and public impacts, will be obtained, during normal operation of all four nuclear units.

6.2.1. Environmental Radioactivity Monitoring Program

The environmental radiation monitoring program includes all the activities necessary to determine environmental radioactivity levels and the impact on public health and the environment due to Cernavoda NPP normal operation (Ref. 6-2).

The monitoring program components are the following:

- the routine environmental monitoring program;
- the supplementary programs.

6.2.1.1. Routine Monitoring Program

The purpose of routine environmental radiation monitoring program is to provide reliable and accurate data, which comprise statistically valid data sets per radionuclide / sampled media combinations on an annual database.

The monitoring program is designed to meet the following objectives under normal nuclear power plant operating conditions:

- to measure the radionuclide concentrations in environmental media and to assess the increased radiation levels in specified environmental pathways, which might be modified as a result of Cernavoda NPP operation;
- to provide an independent assessment of the effectiveness of the source control, effluent control and monitoring based on measurements in environment;
- to validate the models and parameters used in the calculation of the derived emission limits;
- the results of the routine monitoring program may demonstrate negligible environment impact of Cernavoda NPP operation and hence contribute to public reassurance;

- to provide data to aid in the development and evaluation of models and methodologies that adequately describe the movement of the radionuclides through the environment.

The main components of the monitoring program are the followings:

- monitoring locations;
- environmental media and specific nuclides to be monitored;
- monitoring frequency;
- analytical frequency;
- minimum detectable limit for specific radioactivity;
- assessment of adequacy of source control;
- individual dose assessment for population.

There are two types of monitoring locations:

- indicator locations;
- background locations.

Indicator locations are outside the plant perimeter, and are established depending on emission type, critical groups and pathways considered for Derived Emission Limits (DEL) calculation.

In addition to these locations, a network of TL detector locations will be established around the plant, beyond the exclusion zone.

Since one of the objectives of the routine monitoring program is to determine the radiological impact due to the plant operation, it is necessary to assess the environmental background levels of radioactivity. The ambient background is primarily due to naturally occurring radioactivity (from terrestrial and cosmic sources) and to a lower degree, from fallout from atmospheric nuclear testing or other nuclear facilities operation.

For this reason, the measurements of ambient background must be conducted beyond the influence of station emissions.

For emissions to air and direct exposure pathway (external irradiation and inhalation), one background location is provided. For water and sediment samples, background locations are different: at Cernavoda - Danube for water and Cernavoda - bridge for sediments.

For remaining pathways, the background contribution shall be determined by using data from governmental agencies.

The specific radionuclides, the frequency of monitoring, the frequency of analyses are established on the basis of the results of the release monitoring program, of the DELs, and of the half-life of radionuclides in an identified pathway.

The frequency of monitoring or sampling is related to the mean lifetime of the nuclides in a pathway.

The minimum detectable specific activity required for each radionuclide pathway for which DELs were established, is that specific activity or exposure rate which shall result on whole body in a dose of 50 μSv/year above the natural background.

These minimum required detectable specific activity values are used to select sampling equipment, analytical techniques and procedures to be used.

The analytical methods are selected so that the requirements of minimum detection sensibility established by the monitoring program are met.

One of the objectives of the routine monitoring program is to check the efficiency of the control of radioactive emissions to the environment resulted from Cernavoda NPP operation.

This is carried out by comparing the average measured values (concentrations) in the environmental media with the predicted concentrations. The predicted concentrations are calculated using reported emission data of the plant, and applying the transport methodology, as used to derive the DELs.

The assessment of the source control adequacy is necessary if:

- the concentration (exposure) is statistically different from natural background;

- the net concentration is assessed to result in a committed effective dose higher than 50 μ Sv/year (administrative limit).

Dose assessment for members of the general public is performed based on the results of liquid and gaseous effluent monitoring program using the specified model in Ref. 6-4 for members of the critical group.

The reporting frequency of the results to the Cernavoda NPP management and to CNCAN will be annually. The report includes a summary of the results of measurements performed and the radiological impact on the environment due to plant operation.

The following information concerning the components of the routine monitoring program are presented in Tables 6-1, 6-2 and 6-3 (Ref.6-8):

- type of sample (air, water, soil, vegetables and animal products);
- number of sampling points;
- type of analysis (gamma spectrometry, beta and tritium analyses);
- frequencies of monitoring for each selected set of radionuclide /pathway;
- minimum detectable value of specific radioactivity.

6.2.1.2. Supplementary Programs

In the event of significant effluent releases (greater than the DEL), the routine monitoring program will ensure an approximate assessment of the doses due to these releases. Meanwhile, supplementary monitoring programs will be implemented, in order to obtain additional data to ensure that dose assessment is adequate.

These programs are not required for any technical reason under normal plant operating conditions. These programs may be initiated to carry out activities for the following purposes:

- to provide reassurance of the public by responding to their perception of the risk;

- to provide adequate dose assessment in the event of a major emission (greater than 100 % DEL);
- to validate the models and parameters used in the calculation of the derived emission limits;
- to provide data to aid the development and evaluation of models and methodologies that describe the movement of radionuclides through the environment;
- to ensure radionuclide identification and quantitative measurements, when the emissions are greater than 5 % DEL, for a certain category of emission, for the following sample types:
- samples that are measured for global activity;
- samples from pathways that are not measured for specific radionuclides.

Depending on the purpose, these programs may include:

- sampling from different locations than these provided in the routine environmental radioactivity monitoring program;
- sampling and laboratory analysis performed more often than it is provided in the routine monitoring program;
- performing of specific analyses for positive identification of certain radionuclides.

In the case of major radioactivity releases from the plant, supplementary programs will be implemented using the resources and organization established according to the On-Site Radiological Emergency Plan (Ref.6-7).

Table 6-1. Type of samples and number of sampling points

No.	Type of samples	Number of sampling points
1.	Particulate filters	11
2.	Activated charcoal filters	11
3.	Atmospheric water collectors	11
4.	Surface water	4
5.	Infiltration water (bore holes from DICA, DIDR)	3
6.	Underground water (bore holes with about 700 m depth)	2
7.	Water from Condenser Cooling Water duct	1
8.	Soil	3
9.	Sediment	2
10.	Wet atmospheric deposition	2
11.	Food samples (vegetables/fruits, meat, fish)	3
12.	Milk	1
13.	Ambient gamma	62

Table 6-2. Summary of Sampling, Analysis Frequencies and Minimum Required Detectable Specific Activity for Air Samples

Sampling medium	Type of analysis	Minimum detectable required specific activity	Monitoring frequency	Analysis frequency
Particulate in air (filters)	Gamma Spectrometry	8.6×10^{-2} Bq/m^3 -Cs137 8.6×10^{-3} Bq/m^3 -Co60 4×10^{-3} Bq/m^3 -Ru106 8×10^{-2} Bq/m^3 -Zr95 3×10^{-2} Bq/m^3 -Nb95 6.2×10^{-2} Bq/m^3 -Cs134	Continuous	monthly
	Global ß	1.4×10^{-5} Bq/m^{3*}		
Iodine in air (filters)	Gamma Spectrometry	1.6×10^{-3} Bq/m^3	Continuous	quarterly
Tritium in air (molecular sieve)	Liquid scintillation counting (LSC)	15 Bq/m^3	Continuous	monthly
Noble gases	TLD	44 mR/a	Continuous	quarterly

* Based on Sr-90 calculation
LSC - Liquid scintillation counter
TLD - thermal luminescent detector

Table 6-3. Summary of sampling, analysis frequencies and minimum required detectable specific activity for other types of samples than air

Sampling medium	Type of analysis	Minimum detectable required specific activity	Sampling frequency	Analysis frequency
Milk	Tritium (LSC)	4.1×10^{2} Bq/l	weekly	weekly
	Carbon – 14 (LSC)	30 Bq/l		
	Gamma spectrometry	1.6 Bq/l Cs137 8×10^{-2} Bq/l I131 1.5 Bq/l Ru106 6.5×10^{-1} Bq/l Co60 1.3 Bq/l Cs134 1.9×10^{-1} Bq/l Zr95 4 Bq/l Nb95		
	β global	0.1 Bq/l*		
Surface water	Tritium (LSC)	350 Bq/l	Twice a week, monthly for Valea Cismelei samples	Monthly
	β global	0.2 Bq/l *		
	Gamma spectrometry	0.5 Bq/l Cs137 1.0 Bq/l Ru106 0.4 Bq/l Co60 0.35 Bq/l Cs134 8.0 Bq/l Zr95 0.5 Bq/l Nb95		

* Based on Sr-90 calculation
LSC - Liquid scintillation counter

Table 6-3. Summary of sampling, analysis frequencies and minimum required detectable specific activity for other types of samples than air (continued)

Sampling medium	Type of analysis	Minimum detectable required specific activity	Sampling frequency	Analysis frequency
Underground water	Tritium (LSC)	350 Bq/l	monthly	monthly
	β global	0.2 Bq/l *		
	Gamma spectrometry	0.5 Bq/l Cs137 1.0 Bq/l Ru106 0.4 Bq/l Co60 0.35 Bq/l Cs134 8.0 Bq/l Zr95 0.5 Bq/l Nb95		
Infiltration water	Tritium (LSC)	350 Bq/l	monthly	monthly
	β global	0.2 Bq/l *		
	Gamma spectrometry	0.5 Bq/l Cs137 1.0 Bq/l Ru106 0.4 Bq/l Co60 0.35 Bq/l Cs134 8.0 Bq/l Zr95 0.5 Bq/l Nb95		

Table 6-3. Summary of sampling, analysis frequencies and minimum required detectable specific activity for other types of samples than air (continued)

Sampling medium	Type of analysis	Minimum detectable required specific activity	Sampling frequency	Analysis frequency
Fish	Gamma spectrometry	36 Bq/kg Cs137 68.4 Bq/kg Ru106 28.8 Bq/kg Co60 25.2 Bq/kg Cs134 561.6 Bq/kg Zr95 331.2 Bq/kg Nb95	annual	annual
	ß global	14 Bq/kg*		
	Tritium (LSC)	2.5×10^4 Bq/kg		
	Carbon-14(LSC)	1.1×10^3 Bq/kg		
Vegetables-Fruits	Gamma spectrometry	1.3 Bq/kg Cs137 2.5 Bq/kg Ru106 1.0 Bq/kg Co60 0.9 Bq/kg Cs134 20 Bq/kg Zr95 12 Bq/kg Nb95	annual	annual
	ß global	0.5 Bq/kg*		
	Carbon-14(LSC)	46 Bq/kg		
	Tritium (LSC)	9×10^2 Bq/kg		

Table 6-3. Summary of sampling, analysis frequencies and minimum required detectable specific activity for other types of samples than air (continued)

Sampling medium	Type of analysis	Minimum detectable required specific activity	Sampling frequency	Analysis frequency
Sediment	Gamma spectrometry	1×10^3 Bq/m^2 Cs137 23×10^3 Bq/m^2 Ru106 2.7×10^2 Bq/m^2 Co60 4×10^2 Bq/m^2 Cs134 2.6×10^2 Bq/m^2 Zr95 8×10^2 Bq/m^2 Nb95	twice a year	twice a year
	ß global	89 Bq/m^2*		
Depositions	Gamma spectrometry	N/A	continuous	monthly
	ß global	N/A		
Soil	Gamma spectrometry	1×10^3 Bq/m^2 Cs137 23×10^3 Bq/m^2 Ru106 2.7×10^2 Bq/m^2 Co60 4×10^2 Bq/m^2 Cs134 2.6×10^2 Bq/m^2 Zr95 8×10^2 Bq/m^2 Nb95	twice a year	twice a year
	ß global	89 Bq/m^2*		

Table 6-3. Summary of sampling, analysis frequencies and minimum required detectable specific activity for other types of samples than air (continued)

Sampling medium	Type of analysis	Minimum detectable required specific activity	Sampling frequency	Analysis frequency
Meat	Gamma spectrometry	4.1 Bq/kg Cs137 7.9 Bq/kg Ru106 3.4 Bq/kg Co60 2.8 Bq/kg Cs134 65 Bq/kg Zr95 38 Bq/kg Nb95	annual	annual
	ß global	1.6 Bq/kg*		
	Tritium (LSC)	2870 Bq/kg		
	Carbon-14(LSC)	113 Bq/kg		

* Based on Sr-90 calculation
LSC - Liquid scintillation counter

6.2.2. Inactive Environmental Monitoring Program

The main non-radiological effects on the environment may occur as a result of the cooling water discharge from the plant, into the Old Danube Branch or to the Danube Black Sea Channel. The other consequences of Units 3 and 4 operation are locally and much smaller. The discharges shall be monitored like with Units 1 and 2 or jointly (Ref. 6-10).

The inactive environmental monitoring program includes the necessary activities to accomplish the requirements of in force environmental regulations (Ref. 6-6).

Monitoring program elements are the followings:

- routine monitoring program;
- supplementary program.

6.2.2.1. Routine Monitoring Program

The routine monitoring program has the main components:

a) Temperature Monitoring;

b) Chemicals;

c) Monitoring frequency;

d) Sampling points;

e) Liquid influent/effluent chemical control;

f) Non-radiological monitoring program assessment.

By the agreement between Cernavoda - PROD Unit 1 and ANAR DADL, that is an integrant part of the Water Management Authorization no. 37/20.02.2006 issued by the ANAR, the sampling points are the followings:

- for influent:
  - Cernavoda NPP bridge;
  - Danube (Hinog Drinking Water Station);

- for effluent:

    - Seimeni bridge, if the discharge are made to Danube through Seimeni Channel;
    - NPP bridge, if the discharge is made to the Danube Black Sea Channel Race 2.

The monitoring frequency and the monitoring chemicals will be established in Water Management License.

The analytical methods that will be used to analyze liquid influent/effluent samples should be chosen such as to ensure:

- procedure range must cover the approved chemical discharge limit;
- detection limit must be lower than approved chemical discharge limit for that chemical.

The discharge limits are established by the Water Management License, on basis of the present standards and impact studies.

The assessment consists, of analyzing, usually on monthly bases, of the following aspects:

- the accomplishment of the requirements of environmental regulations and Water Management License in effect;
- the implementation of the new adequate preventive and controlling measures, if are necessary, to reduce as much as possible the negative impact with environment;
- choosing of operation mode such to ensure a decreasing of amount of chemicals discharged in the environment.

Table 6-4 present the analized indicators, sections and sampling frequencies within Cernavoda NPP-U1.

6.2.2.2. Supplementary Programs

These programs are initiated to be implemented in case of:

- accidentally chemical spill (leakage);
- work plan involving chemical releases (for ex: maintenance, chemical conditioning, etc), in order to reduce as much as possible the negative impact on environment.

The main components of the supplementary monitoring program are the followings:

a) Chemicals

In case of accidentally chemical spill, the chemical identification and his quantitative analysis must be performed.

b) Monitoring frequency

For a effluent with a non-routine releasing, the frequency will be established by Chemical Department in a such way to ensure the release control until chemical parameters will be in specification (under approved discharge limit).

c) Sampling points

The sampling points must be chosen such to ensure representative samples for discharged water quality.

d) Liquid influent/effluent chemical control

The chemical control will be performed until chemical parameters will be in specification (under approved discharge limit).

e) Measures in case of chemical spill

In case of accidentally chemical spill is necessary to proceed:

- the identification and the adequate assessment of the quantity of chemicals discharged in environment;

- the adequate measures must be taken to reduce as much as possible the negative impact on environment.

f) Chemical monitoring program assessment

The evaluation consists of analyzing of the following aspects:

- the chemical spill root-causes;
- the magnitude of impact to environment;
- the taken measures to reduce as much as possible the negative impact on environment;
- the implementation of the new adequate preventive and controlling measures to reduce as much as possible the negative impact on environment.

Table 6-4. Analized indicators, sampling sections and frequencies

No.	Indicator	Sampling section	Frequency
1.	Water temperature	NPP bridge	daily
		Upstream (minimum 100 m) the confluence between Race 1 and derivation channel	
		Discharge canal, 50 m upstream the confluence with the Danube River or below the Bridge (DJ 223)	
		Recovery CHE (closely downstream)	
2.	pH	Danube (HINOG)	monthly
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge	weekly
3.	Ammonium (only when is used for the chemical conditioning with NH_2OH solution)	Danube (HINOG)	monthly
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge	weekly
4.	Hydrazine	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	weekly
5.	Morpholine	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	weekly
6.	Oils	Danube (HINOG)	monthly
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge	weekly
7.	Petroleum products	Danube (HINOG)	-
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge/ CP 26I	weekly
8.	Iron, total ionic	Danube (HINOG)	monthly
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge	weekly
9.	Cyclohexylamine	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	weekly
10.	Lithium	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	weekly
11.	Sodium	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly
12.	Chloride	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly

No.	Indicator	Sampling section	Frequency
13.	Calcium	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly
14.	Nitrites	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	weekly
15.	Ethylene Glycol	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	monthly
16.	Fluorescein (only when is used)	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	2/monthly
17.	Rhodamine (only when is used)	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	2/monthly
18.	Biomate 5716	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge / CPPON bridge	It is determinate only when is used (during the treatment process)
19.	Biocide MB- 25	Danube (HINOG)	-
		NPP bridge	-
		Seimeni bridge	It is determinate only when is used (during the treatment process)
20.	Sulfate	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly
21.	Magnesium	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly
22.	BOD_5	Danube (HINOG)	monthly
		NPP bridge	monthly
		Seimeni bridge / CPPON bridge	monthly
23.	Chemical substances mixture (every component it is analyzed in accordance with the point of view mentioned above)		
24.	Suspended solids	Danube (HINOG)	monthly
		NPP bridge	weekly
		Seimeni bridge / CPPON bridge	weekly

References

6-1. Ordin CNCAN nr. 275/2005, *Norme privind monitorizarea radioactivității mediului în vecinătatea unei instalații nucleare sau radiologice.*

6-2. CNE-PROD, RD-01364-RP7, Rev.3 *Programul de monitorizare a mediului pentru "CNE-PROD" Cernavodă,* 1999.

6-3. Ordin CNCAN nr. 276/2005, *Norme privind monitorizarea emisiilor radioactive la instalațiile nucleare şi radiologice.*

6-4. CNE-PROD,RD-01364-RP4, Rev. 2, *Limite derivate de evacuare pentru CNE Cernavodă,* 1995.

6-5. CNE-PROD, SI-01365-RP6, Rev.3, *Program de monitorizare a efluenților lichizi şi gazoşi,* 2001.

6-6. CNE-PROD, RD-10364-CH2, Rev.1, *Programul de monitorizare chimică inactivă a mediului,* 1998.

6-7. CNE-PROD, RD-01364-RP8, Rev.1, *Plan de urgență radiologică pe amplasament,* 1994.

6-8. SITON, CNE Cernavodă U2, *Raport Final de Securitate*, 2005.

6-9. SITON, *Memoriu de prezentare necesar la obținerea acordului de mediu pentru CNE Cernavodă Unitățile 3 şi 4,* iunie 2006.

SITON, *Documentație U3/U4 - 08233 - 6023 - STI,* august 2006.