

Questions and Answers to the National Report of the Czech Republic

Bulgaria

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Bg-Cz-1	13		Does SURAO apply a programme for public communication relating to the site-selection process for DGR?	Yes, the programme has been applied during the whole period of the DGR programme, i.e. since 1993.
Bg-Cz-2	22		Are the SURAO activities fully funded through the "nuclear account"?	Yes, SURAO's activities are fully funded from the nuclear account, certain projects are co-funded by the MPO (Ministry of Industry and Trade; old liabilities), and/or EC-PHARE funds.
Bg-Cz-3	24	29	Would you explain the reasons for the drastic reduction of the effluents of noble radioactive gases and radioactive aerosols from Temelin NPP in 2004 compared with the effluents from 2003?	The operator has made changes in the air sampling pipes to lead their outlet air-flow into air-cleaning system.
Bg-Cz-4	24	109	What are the reasons and the sources of generation of solid and liquid wastes in ISFSF Dukovany, after earlier the text it reads that wastes are not generated during normal operation and in the case of design accidents?	In general, radioactive waste (liquid, solid) is not generated during operation of ISFSF. The only potential source of activity in ISFSF Dukovany is surface contamination of CASTOR casks. Surface of CASTOR casks is cleaned periodically. Sometimes it is found increased activity of cleaning material (water, clearing textiles) resulting to the concentration of radionuclides from casks surface to cleaning material.
Bg-Cz-5	32		What measurements are applied in practice for categorizing radioactive wastes? Is categorization applied based on directly measurable parameters like gamma dose-rate, total activity or activity of specific (measurable) radionuclides?	All in question mentioned parameters are used for RAW characterization: - direct gamma dose-rate measurement – used for preliminarily characterization (collection, sorting) - total gamma activity – for purpose of detailed segregation before further treatment (release to the environment, disposal) - radiochemical analyses – for declaration of difficult measurable nuclides (DMN)(alpha, beta nuclides) limited by waste acceptance criteria Final declaration of activity content consists of direct measurement of gamma nuclides and calculation of DMNs activity. DMNs are calculated from measured activity of key nuclides (⁶⁰ Co, ¹³⁷ Cs) and approved ratio DMNs to key nuclides.
Bg-Cz-6	32		What measurements are applied in practice for clearance of material from regulatory control? Is clearance practiced based on directly measurable parameters like gamma	The clearance procedures are subjected to regulatory approval in the monitoring programme of a facility. The operational instructions include sorting of waste as the first step. The material monitoring instructions include gamma dose-rate measurement followed by radionuclide specific

			dose-rate, total activity or activity of specific (measurable) radionuclides? Are the clearance procedures a subject of regulatory approval?	measurements.
Bg-Cz-7	32		What methods are applied for radionuclide characterization of spent ion-exchange resins and sorbents? Do you apply characterization methods based on directly measurable parameters?	Characterization of spent ion-exchangers from the viewpoint of a content of radionuclides is conducted by standard radiochemical methods. Methods based on directly measurable parameters are used only for basic orientation.
Bg-Cz-8	32		What methods are applied for conditioning of ion-exchange resins? What are the specific requirements to the conditioning product?	The method based on immobilization of spent ion-exchangers by aluminosilicate matrix has been tested in pilot plan scale. Bitumenization is also taken into account.

France

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Fr-Cz-1	general		The chapters of the report should refer to the articles of the Convention in a more precise way (only the main chapters refer to the main parts of the Convention)	The approach to preparation of National report strictly respects recommendations which are described in "Guidelines regarding the Form and Structure of National Reports" (INFIRC/604).
Fr-Cz-2	25	F/63	The item d) mentions the clearance of waste. Could Czech Republic provide information and examples of implementation of the corresponding procedures?	The provisions concerning of clearance of radioactive materials are established in the Radiation Protection Decree No. 307/2002. The clearance procedures are subjected to regulatory approval in the monitoring programme of a facility. The operational instructions include sorting of waste as the first step. The material monitoring instructions include gamma dose-rate measurement followed by radionuclide specific measurements.
Fr-Cz-3	25	F/59	Could Czech Republic provide information on the observed doses for workers of the mentioned facilities?	From the question it is not clear for which mentioned facilities the doses for workers are requested. But e.g. in year 2004 the collective dose rate in ISFSF Dukovany was 61,163 mSv and the maximal individual dose rate 0,887 mSv. The individual dose of the operational staff of NRI Řež plc, involved by the SF and RAW management did not exceed 6,37 mSv in the same year. The maximal individual dose rate of staff operating the repositories does not exceed 1,5 mSv/y and this value is mainly due to radon inhalation (repository Bratrství only).
Fr-Cz-4	32	B/14	Could Czech Republic provide more detailed information on the activity limits for the waste categories (meaning of the bracket included in the second bullet) and the implementing procedures?	Short lived low and intermediate level RAW with $T_{1/2} \leq 30$ y (+ ^{137}Cs) are strictly defined by two parameters, maximum mass activity of long lived alpha nuclides in packaging and their mean mass activity per packaging. Long lived group of this type of waste with $T_{1/2} > 30$ y exceeds one or both of these parameters. This categorization is used mainly for the record of the amount disposed of RAW.
Fr-Cz-5	32	B/14	Are the mentioned categories applied to the waste generated in the non nuclear applications (medicine, research, etc)?	Waste categories which are described in part B/14 are the same for waste from nuclear installations even for institutional waste.
Fr-Cz-6	32	B/17	Could Czech Republic provide information on the statutory situation of the mentioned facilities (existence and content of Safety Reports, releases authorizations, date of reviews by the regulator, planned safety re-evaluation, etc)?	A brief summary of safety documentation for SF pools in NPP Dukovany and Temelín (a part of safety documentation for NPPs) are provided in the National Report under the Joint Convention submitted by the Czech Republic, Revision 1.1, of February 2003. The same reference contains the structure of pre-operational safety report for ISFSF Dukovany. Details on the statutory situation for this facility are provided in chapter 7.5.1.2. of second national report. The facility is currently

			<p>operated based on operational license that expires at the end of 2010. Prior to this deadline a safety re-evaluation followed by regulatory review has to be performed.</p> <p>Chapters 7.5.3.1 and 7.5.3.2 contain selected conclusions from safety reports of LVR-15 reactor (covering the SF storage facility) and of HLW storage facility. Both facilities are operated under valid SÚJB licence, e.g. HLW store under license issued on 4 March 2002 which will expire on 28 February 2008.</p> <p>The HLW store safety reports were updated as a part of HLW store reconstruction in 2003. Next update related to this activity has to be performed in 2005 or 2006. These reconstructions have to be licensed by the national regulatory body.</p>
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Republic of Korea

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Kr-Cz-1	12	8.2.3.3/ 122	The report states that RAW Repository Dukovany has been developed in the site of NPP Dukovany to dispose of conditioned RAW from the nuclear energy industry and that safety of the operating repository is checked by a monitoring system in agreement with a monitoring program. Does the environmental monitoring program for the repository establish separately from that for the NPP? If so, how are they different?	For historical reasons, the programme is not fully separated from the NPP monitoring program; some radionuclides are included only for repository monitoring. If they appear in monitoring data, SURAO intervenes.
Kr-Cz-2	15	8.5.3.3/ 137-138	The report states that two different sets of waste acceptance criteria (WAC) are formulated – one for solidified wastes and the other for non-solidified wastes. What is the reason for having different WAC according the types of wastes? Will the both type of waste drums be disposed in the separated vault and how?	There is one set of waste acceptance criteria (WAC) for each repository. However in this document different WAC are formulated for the different type of waste. Due to operational reasons there are two criteria for solidified and non-solidified RAW. The production of non solidified waste is substantially lower than that of solidified waste and both waste types are placed in the vaults together.

Hungary

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Hu-Cz-1	general	11.4.3/ 160	The first national report mentioned already the research activities concerning radionuclide near-field behaviour. What is the planned duration of this programme and what are the major results until now?	The near-field research programme is a long-term activity consisting of several stages to the opening of a DGR. Last year (2005), a new tender for a near field research programme was opened and its activities will continue to 2008. The major objectives of the research are near field safety functions, choice of barrier materials and near field performance issues with respect to safety.
Hu-Cz-2	5	7.2.3.1/9 4	Statement of the Report: 'The scope of supervision was determined by SÚJB in respect to the identified corrosion and leakage of fuel assemblies.' Question: How did the supervision made by the regulatory body happen?	The regulatory body within the scope of its inspection activities performs regular controls of operational limits and conditions for HLW storage facility. These among others contain limiting values of Cu, Al, Fe and Cl ions concentration to reduce the corrosion of wet stored spent fuel assemblies.
Hu-Cz-3	16	8.2.1/11 9	What are the volume reduction factors of the solid waste compactor and the bituminization process?	Volume reduction factor for low pressure compaction is approx. 3 (depends on the type of material). Volume reduction factor during high pressure compaction of pre-compacted 200 l drums was 2,5-3 (campaign in 1996). Typical volume reduction factor for bituminization process is 2,5 for salt content in concentrate 160g/l (currently are stored concentrates with salt content 135-211 g/l)
Hu-Cz-4	20	5.3.5/46	How is the relationship regulated between the State Office for Nuclear Safety (SUJB) and the health authority? At what level and where are the inspectors of SUJB qualified (trained) in radiation protection?	Former health authority of the Czech Republic is from 1995 a part of State Office for Nuclear Safety. Typical level of education of radiation protection inspectors is MSc. (BSc. is not excluded). They usually graduated on Faculty of Nuclear and Physical Engineering of Czech Technical University. There is also a possibility to study on other Universities with radiation protection discipline.
Hu-Cz-5	24	6.4.2.4/6 7	Has the Radiation Monitoring Network detected any short or long term changes in the vicinity of the nuclear and rw management installations?	The Radiation Monitoring Network "RMS" has not detected any changes in the vicinity of NPPs and RWM facilities.
Hu-Cz-6	26	6.6.1/84	How will the financial resources eventually exceeding the blocked account of the fund for decommissioning be assured (by the state, apart from the above process)?	For any application for decommissioning it must be issued a confirmation that financial reserves are prepared in required level. If it is not fulfilled there are more possibilities how to gain missing reserves. It depends on a concrete situation (for instance from state or from bankruptcy).
Hu-Cz-7	26	12.3/163	Statements of the Report: 'At the development time of this National Report (April 2005) there were no NIs and	We can not speak about lesson learnt in view on the fact that this reactor with zero output was practically not contaminated.

		<p>other facilities associated with SF management on the Czech Republic's territory in the stage of decommissioning. The school reactor ŠR-0 with a zero output, situated in Pilsen-Vochov, was decommissioned by decontamination and dismantling in 1995–1997. The workplace ceased to exist in 1997' Question: What were the lessons learned and how were they used in the preparation for the decommissioning of other nuclear installations?</p>	
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Germany

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
De-Cz-1	9	104, 139	Are there any special requirements for periodical safety re-assessments for spent fuel and radioactive waste management facilities which are not part of a NPP? What measures ensure the long-term safety and implementation of safety upgrades if necessary of spent fuel and radioactive waste storages in such facilities?	<p>The basic measure contributing to the long-term safety of any nuclear installation is the regulatory praxis in the Czech Republic, when the national regulatory body does not issue an operational license for the whole anticipated period of the operation, but only for limited time. Main reason for such limitation is requirement of the Atomic Act for licence holder to “assess in a systematic and comprehensive manner the fulfilment of conditions set in Article 4, from the aspect of the current level of science and technology, and ensure that the assessment results are put into practice”. Usually the operational license is not issued for a period exceeding 10 years.</p> <p>Special requirements for periodical safety re-assessment are facility specific. E. g. in dry cask periodic safety re-assessment it is necessary to proof, that the basic mechanical, shielding, confinement and other declared properties of the casks were not affected by its use for transport and storage and that the cask can be safely used in consecutive period.</p> <p>With respect of safety upgrades these are also subject of SÚJB license in case, that they are important from the point of view of nuclear safety, radiation protection, physical protection or emergency preparedness.</p>
De-Cz-2	9	109	In Section 7.6.1.2.1 monitoring and inspections at the Dukovany Interim Spent Fuel Storage Facility (ISFSF) are described. The inspections of pressure sensors and trunnions are explicitly mentioned. At the end of this section it says that there are “other inspections and maintenance” at Dukovany ISFSF. Could you give some examples of these “other inspections”?	Other inspections and maintenance cover inspections of gantry crane, cask traverse and other manipulation appliances and ISFSF monitoring system.
De-Cz-3	24	63-64	Do any particular dose limits exist for women of childbearing age and for pregnant woman and are there any regulations to protect women of childbearing age from relevant incorporation?	There are no particular dose limits for women. However, the Radiation Protection Decree No. 307/2002 established that the exposure of women notifying her pregnancy to her employer shall be immediately reduced by a modification of working conditions so that the sum of effective doses from external exposure and committed effective doses from internal exposure of the foetus shall not exceed 1 mSv at least over the remaining period of pregnancy.

				After notifying the employer that a woman breastfeeds the infant, the exposure of the infant by intake of radionuclides from contaminated breast milk shall be immediately reduced by a modification of working conditions of the breastfeeding woman or her suspension from work in the controlled area with unsealed radionuclide sources.
De-Cz-4	32	17-18	Section 4.1.1.1 of the report describes the spent fuel pools in the Dukovany NPP where the fuel elements are stored for a period of time to reduce the residual heat output. How long is the storage period until the residual heat of the spent fuel has decayed to a sufficient degree?	The spent fuel in SF pools has to be stored depending on its burn-up and initial enrichment 60 – 69 months. E. g. for initial enrichment 3,6 % wt. ²³⁵ U and burn-up 40 – 42 GWd/tU the minimum cooling time in SF pool is 69 months and for burn-up 38 – 40 GWd/tU 64 months (see also p. 91 of second national report).
De-Cz-5	32	23	According to Section 4.1.3.3 of the report, the High Level Waste Storage Facility (Building 211/8) of the Řež research center is equipped with a drainage system which is connected to a tank with a volume of 6 m ³ . How is the possibility of flooding of this tank excluded?	The water level in the tank is regularly checked and the water is monitored for content of radionuclides. The level of the water in the tank corresponds to the level of underground water. According to the character of the locality, the level of underground water is several meters below the building and also below the top of the tank.

Poland

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
PI-Cz-1	general	para 1/13	The other research reactors in ÚJV Řež a. s. (LR-0) and FJFI Prague (VR-1) do not produce any SF due to their small thermal output and limited time of operation. Q: How, when (approximately) and where this fuel from training reactors LR-0 and VR-1 will be transported for disposal?	Reactors LR-0 and VR-1 do not produce any spent fuel due to their low thermal output and limited operational time. The fuel is irradiated and can be further used e. g. in LVR-15 research reactor (from VR-1 reactor) or transported back to the country of origin. It is not expected, that fuel from LR-0 and VR-1 reactors will be directly disposed. But if needed the deep geological disposal should be available after 2065.
PI-Cz-2	10	7.7/114	The report says that "When performing ground investigations in connection with potential DGR development mayors and population of the concerned municipalities showed strong opposition against potential development of DGR. For this reason MPO and SURAO reached an agreement approved by the government and the ground investigations in the locations will not continue until 2009". Q: Are there any (governmental or non-governmental) programmes addressing the issue of public opinion? Including educational efforts, assuring budget subsidies for involved regions, etc.?	It is SURAO's responsibility to inform the public on activities concerning DGR development. No formal educational programme has been established to date. Nevertheless, SURAO organizes individual courses at Czech universities and other educational institutions and arranges debates involving experts with the public at the localities. Last year a special educational document called "Safe Depth" was prepared in cooperation with Czech Television; the document is available on DVD for the general public. SURAO also offers excursions to Czech and foreign nuclear installations for representatives of local municipalities. Other educational programmes focused on nuclear energy in general have been established by ČEZ.
PI-Cz-3	24	6.4.2.4/65	The report says that "At present, the monitoring in the vicinity of nuclear installation is performed directly by the operator through its environment radiation monitoring labs. SÚJB shall perform supervision of whether the monitoring program is followed, as well as its own independent measurements" Q: How often SUJB performs its own independent measurements?	Independent SUJB measurements are performed continuously according to established monitoring programme.
PI-Cz-4	32	2.2/15	The report says that "the costs of activities associated with disposal of RAW and SF are paid from the nuclear account, a financial source created by generators of RAW and	The nuclear account (NA) is a special account for the collection of payments from radioactive waste generators and for the financing of all activities related to the disposal of radioactive waste. The NA was established by the Ministry of Finance at the Czech National Bank; the administrator of the NA

			<p>SF".</p> <p>Q: Could you give some details on functioning of this account? What determines amounts of money, which have to be submitted by each RAW/SF generator?</p>	<p>is the Ministry of Finance.</p> <p>A basic principle for the calculation of payments is the duty of generators to cover all costs related to the safe disposal their radioactive waste. The methodology is based on the simulation of cash flows related to the operation of the radioactive waste disposal system and the amount and characteristics of radioactive waste or spent fuel. Rate of payments and payments are defined and approved by Governmental Decree.</p>
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Slovakia

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Sk-Cz-1	11		What is the impact of regeneration of boric acid (H_3BO_3) on minimization of radwaste? Is any further use for products of regeneration of boric acid (H_3BO_3)?	Liquids containing H_3BO_3 are cleaned at water cleaning units (SVO1, 2, 4, 6) and reused. There is not any additional technology for H_3BO_3 regeneration.
Sk-Cz-2	26		How the decommissioning fund is created and how its efficient use is controlled? (administrative measures).	Licence holders have a statutory duty to create financial reserves evenly and deposit financial means on blocked – dedicated bank accounts. SURAO controls the creation of financial reserves and their accumulation on blocked accounts annually.

Slovenia

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
SI-Cz-1	28	155-157	<p>It is reported that recommendations have been developed by SÚJB to handle disused sealed sources, which define the role of the Czech Police, Czech Customs Service and SÚRAO in the process and the duty of persons who find such a source to report the finding to SÚJB. Could you provide more information on "recommendation" mainly for customs and police officers? What is the procedure on the Czech side of the border if elevated radiation is detected on scrap metal at import?</p>	<p>A recommendation has been issued by the SUJB to manage orphan sources including spent sealed sources, contaminated scrap materials, nuclear materials etc. It is not a legal binding document. It includes procedure in case of:</p> <ul style="list-style-type: none"> - seizure of radioactive material at board crossing - seizure of radioactive material in management of scrap material and waste - all other cases of radioactive material seizure or finding.

UK

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Uk-Cz-1	4	114	The Summary to the National Report (see page 11) states that a Deep Geological Repository is planned to be in operation in 2065, but that due to “strong opposition,.....ground investigations in the [potential] locations will not continue until 2009”. The Interim Spent Fuel Storage Facility at Dukovany is already almost full, and another is due to start operating early in 2006. It is likely that before 2065, other Spent Fuel Storage Facilities will have to be built to accommodate spent fuel from both Czech reactor sites. How does the Czech Republic consider that delaying the ground investigations at potential sites for a Deep Geological Repository is consistent with the aim to avoid imposing undue burdens on future generations?	The delay of the ground investigations at potential sites for a Deep Geological Repository does not have an impact on the overall schedule of a DGR programme development. The schedule contains time reserves for various contingencies.
Uk-Cz-2	4	98-99	Sections 7.4.1 and 7.4.2 of the National Report indicate effective annual doses of up to 11 mSv to a worker or 100 µSv to a person at the site fence. Whilst well within internationally recognised limits, these figures seem high as design criteria for a new Spent Fuel Storage Facility. Can the Czech Republic provide more information on what work activities in the SFSF operation give rise to the principal component of these doses?	The values of effective annual doses were calculated (in preliminary safety case) under most conservative assumptions when the whole SFSF Dukovany is loaded with casks containing spent fuel with burnup of 42 GWd/tU and 50 GWd/tU. Under these conservative assumptions the calculated annual dose rate for staff performing cask maintenance (re-calibration of He pressure sensors) can reach up to 11 mSv. However the experiences with already operated ISFSF Dukovany show that the actual effective annual dose does not exceed 0,8 mSv for staff and 0,3µSv at the ISFSF fence. The contribution to the dose rate at the NPP fence is not measurable.
Uk-Cz-3	22	52	Whilst the report provides information on the amount remitted to the nuclear account per MWh generated to provide for the eventual decommissioning of the nuclear power stations, there is no statement on the planned closure date of each reactor that would allow a judgement on the adequacy of the final funds available for decommissioning. Could the Czech Republic provide information on the planned	The nuclear account is a fund for the financing of radioactive waste disposal. The financing of nuclear installations decommissioning is addressed separately. Rules and requirements on a calculation of financial reserves for decommissioning are given in Decree No. 185/2003 Coll and in Decree No. 360/2002 Coll. The balance of account is controlled yearly by SURAO which has a duty to inform the regulator - State Office for Nuclear Safety. Licence holders have a statutory duty to create financial reserves evenly for the future decommissioning of their nuclear installations or workplace and to deposit financial means on

			closure dates of each of the power reactors and hence the anticipated size of the fund? Could the Czech Republic also comment on the adequacy of the fund to cover decommissioning costs?	blocked accounts, which may be utilised only for preparation and implementation of decommissioning. It is planned to operate both of Czech NPPs for 40 years. The estimate of decommissioning costs for both Dukovany and Temelin NPPs is 990 Million € (2004). A so called deferred decommissioning option is foreseen.
Uk-Cz-4	32	163	Can the Czech Republic provide information on the masses of spent fuel held at UJV Rez a.s. in the Wet Tank in the Reactor Hall (see also page 20, Section 4.1.3.1) and in Building 211/7 Spent Fuel Storage Facility (see also page 21, Section 4.1.3.2)?	30 FAs of IRT-2M type with the initial enrichment 36% wt. ²³⁵ U (in wet tank in the LVR-15 reactor hall) represent about 6,9 kg of HM and 51 FAs of the same type and 12 FAs of IRT-2M type with the initial enrichment 80% wt. ²³⁵ U (in Building 211/7) represent about 13,5 kg HM.

USA

Q/C No.	JC Article No.	Sect./ page	Question/Comment	Answer
Us-Cz-1	11	173	<p>On page 173 of Section 11, "Planned Activities to Improve Safety," of the 1st Czech National Report, it was indicated that while conditioning of radioactive sludges and ion exchangers was being "addressed" at the Dukovany nuclear power plant, conditioning had not actually been "approved or introduced" because the EDU was not satisfied with its then-current technical standard. In Section 4.2.1.2.1 of the 2nd National Report, it is stated that, "At the moment, no treatment of radioactive sludge and ion exchangers is performed" [at the Dukovany repository], although bituminization technology is used to process radioactive concentrates into a form acceptable for the disposal there. Please provide further explanation of the current status of the approach for conditioning of sludges and ion exchange materials at the Dukovany facility. Given that radioactive sludges and ion exchange media are not being treated by bituminization or any other conditioning process at the Dukovany repository, what kinds of "radioactive concentrates" are being treated and disposed there?</p>	<p>The process of immobilization of sludges and ion-exchangers by means of aluminosilicate has been tested in pilot scale plant but bituminization is not excluded yet. Process of conditioning of sludges and ion-exchangers is being prepared by operator for licensed proceeding. Radioactive concentrate means a liquid radioactive waste after evaporation.</p>
Us-Cz-2	20	45	<p>Please elaborate on how the Czech Republic evaluates and maintains adequate staffing levels and competence of their regulatory staff.</p>	<p>The structure of the SÚJB staff and their qualifications is determined by the requirement for effective and modern administration in the area of nuclear safety, radiation protection and related fields. To attain this objective it is necessary to secure a sufficient quantity of qualified inspectors carrying out the supervisory and regulatory functions of the SÚJB and also enough staff carrying out the standard administrative and support activities. Furthermore many experts in economics, human resources management and internal security participate in the realization of tasks within the competence of the SÚJB. The SÚJB currently employs 194 persons. 146 of them have university education and 48 of them have secondary education. The SÚJB staff has to have the necessary</p>

				<p>education level and competencies according to the grading and specialization of individual workers. According to the requirements for qualification of inspectors stated in paragraph 39.2 of the Act No. 18/1997 Coll., on Peaceful Use of Nuclear Energy and Ionizing Radiation (the Atomic Act), inspectors are obliged to have university level education in the appropriate technical specialization and at least 3 years' experience. Qualification of employees, including inspectors, is maintained and increased by further training.</p> <p>The basic forms of further training for inspectors and other SÚJB staff are identical. An unified system of maintaining and increasing the competencies of SÚJB staff is regulated by internal rules of the SÚJB ("System of employees training", Internal Procedure No. 039) in accordance with uniform governmental policy ("System of employee training in public administration", Government Decision No. 814 of 23. 8. 2000). Preparation and training of employees is based on an Individual plan for increasing personal capabilities (IIPC). Various training modules are created with regard to the requirements of general and specialized education of individual employees. The objective of permanent preparation and training of employees is to attain the qualification and specialization necessary for the performance of their responsibilities. Permanent increasing qualifications and participation in training are among the basic duties of SÚJB staff.</p> <p>Preparation of inspectors is carried out by means of lectures, seminars, training courses (also international), special training (i.e. on a full-scale nuclear power plant simulator), consultations, exercises and self study. The training is based on IIPC that is individually developed for each employee in cooperation with the department of preparation and training (Chancellery, SÚJB Office). The IIPC differentiates the preparation of inspectors according to their level of education, practice and specialization. The IIPC is created for a 3 -year span and its fulfillment is evaluated by the employee and his seniors after the expiration of this period.</p> <p>For the purpose of training the SÚJB staff are divided into 4 groups corresponding to 3 grades of preparation and training:</p> <ul style="list-style-type: none"> - group A - novices (the 1st grade of training, providing basic information about the SÚJB and particular departments), - group B - employees with permanent employment in SÚJB (including
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				<p>inspectors),</p> <ul style="list-style-type: none"> - group B1 – assistant inspectors (employees with permanent employment in SÚJB who are preparing for the inspector's examination), <p>Groups B and B1 pass through the 2nd grade of training - lifelong training.</p> <ul style="list-style-type: none"> - group C - middle and high management <p>The 2nd grade of training also aims at deepening the knowledge in fields that are not included in acquired qualification. The training is based on the level and type of the employee's education (secondary, masters, postgraduate). Lifelong training of inspectors is divided into several modules:</p> <ul style="list-style-type: none"> - inspectors' preparation for the performance of administrative activities, - module for knowledge development in domestic atomic law and international nuclear safety law, physical protection, radiation protection and emergency planning (according to the inspector's qualification and job title), - module of technical disciplines, according to the inspector's specialization and qualification. The design of this module (in IPIPC) is based on the analysis of the SÚJB's current requirements' and the inspector's knowledge. The forms of training in this module are: seminars, lectures, workshops, activities in working and advisory groups and technical committees, etc, - module of study stay and visits to nuclear facilities and in information centers of nuclear power plants, SURO (National Radiation Protection Institute), SUJCHBO (National Authority for Nuclear, Biological and Chemical Protection). This module is important for gaining experience with contemporary operational trends of nuclear facilities (The module is necessary for assistant inspectors during their preparation for the inspector's examination.), - special training on a full scope nuclear power plant simulator (for inspectors working in an SÚJB office located in a nuclear power plant), - language training. <p>For inspectors in senior positions there is also applied the 3rd grade of training for middle and higher management, which is designed to maintain and develop managerial and communication abilities.</p>
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				<p>The qualification of inspectors is determined primarily by their education, technical practice and training in the course of their SÚJB employment. The level of education determines the initial qualification of inspectors. Higher levels of qualification are supposed to be reached through further training, fulfilment of working tasks and self-study provided by educational institutions (including governmental educational institutions). These higher levels of inspectors' qualification are not formally recognized although they can serve as an indicator for the placement of an inspector into the SÚJB organizational structure.</p> <p>Two grades of qualification can be distinguished in inspectors' training: assistant inspector (group B1) and inspector (group B). These grades are separated by the passing of an inspector's examination. An assistant inspector is systematically prepared for the inspector's examination in the forms of lifelong training with regard to the special requirements of the examination. The training plan of assistant inspectors emphasizes study stay in and visits to nuclear facilities, participation in inspections and negotiations with other offices and organizations. The practical part of the training culminates in a prescribed inspection. An assistant inspector proves the attainment of the required level of qualification for an inspector's work by successfully passing the inspector's examination.</p> <p>Retirement and other changes influencing the total level of the SÚJB human resources qualification entail the necessity of replacement of qualified staff. The replacement takes place according to actual needs of the SÚJB and within the limits of SÚJB budgetary incomes. Appropriate candidates for SÚJB employment are chosen on the basis of results of a complexly structured selection procedure from graduates or experienced professionals. New personnel are recruited mainly from institutes, universities and industry.</p>
Us-Cz-3	24	65	<p>Optimizing radiation protection includes looking at the cost of protection measures versus the benefits of such measures. Decree No. 307/2002 Coll. establishes the "money value" of dose reduction. Please describe these "money values" and how they were determined.</p>	<p>Financial equivalents for collective effective dose are set down in the Decree No. 307/2002 as follows:</p> <ul style="list-style-type: none"> a) 0.5 million CZK per man-Sv for the radiation practices with average individual effective dose lower than 0.1 of limits, b) 1 million CZK per man-Sv for the radiation practices with average individual effective dose higher than 0.1 of limits but lower one 3/10 of limits, c) 2.5 million CZK per man-Sv for the radiation practices with average individual effective dose higher than 3/10 of limits,

			<p>d) 1 million CZK per man-Sv for the medical exposure, e) 0.5 million CZK per man-Sv for the exposure to natural radionuclides which are not intentionally utilised f) 2.5 million CZK per man-Sv for the due to radiation accidents. (1 million CZK is approximately 40 000 USD).</p> <p>These financial equivalents are based on similar model as proposed by CEPN, France, and NRPB, United Kingdom. Two objectives are addressed: reduction of collective dose and reduction of individual exposures with priority of the reduction of highest individual exposures. The values are comparable with model proposed by J. Lochard, C. Lefaure et. al., Proc. of Int. Congress on Radiation Protection, IRPA9, Vienna, 1996 with the alpha base = 0,5 mil. CZK. Reflecting the Czech gross national product per caput, the values are in good relation to similar values used in other countries.</p> <p>The decision in respect to social factors is made then more on a qualitative than quantitative basis. No specific guidance is set for this procedure.</p> <p>The Decree No. 307/2002 states: "The reasonably attainable level of radiation protection is taken as granted and the measures need not be adopted if the costs of the provisions would be higher than their benefit and if the implementation of the measures does not require any special social conditions."</p> <p>This is interpreted in such a way, that the possible social impact of the measures could be a limiting factor for their adoption.</p> <p>The decision in respect to social factors is made then more on a qualitative than quantitative basis. No specific guidance is set for this procedure.</p> <p>If also the emotional impact of the exposure conditions as viewed by a member of the public is considered as a social factor, then the differentiation of the values of monetary equivalent in the Decree No. 307/2002 apparently reflects this aspect. At the upper level of the range is the value applicable in emergencies, the graduated values for current practices reflect the expected occupational doses for radiation workers.</p>
Us-Cz-4	26	83	<p>The report describes in detail the documentation provisions for siting, construction and operation of a facility, but this appears to be focused on the licensing review. Please clarify whether other information, such as spills, accidents, and</p> <p>According to Atomic Act "License shall keep and archive records of ionising radiation sources, facilities, materials, activities, quantities and parameters and other facts impacting on nuclear safety, radiation protection, physical protection and emergency preparedness, and submit the recorded information to the Office in manner set in implementing</p>

			other operational events, which may be important to the decommissioning stage, is collected, maintained and accessible for the necessary period until the facility is ultimately released or dismantled.	regulation.”
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