Bianka Enikő KOCSIS*

The International Atomic Energy Agency and problems of nuclear security**

Introduction

Nowadays topic of application of nuclear energy is one of the most current problems of the energy sector in the international level Population growth, urbanisation (according to evaluations approximately 75% of humans in the Earth will live in cities in 2050[1]), and technological development make higher and higher energy needs, which must be fulfilled continuously. However, these processes have serious impacts on the environment. For example, these could be the increasing temperature of the Earth, the raising level of seas, the acidification of our waters, the increase in atmospheric carbon dioxide concentrations, the Ozone layer depletion – and these are just some things among the recent environmental problems, which become ever highly publicised. For this reason the most serious challenge of our era, is to ensure the quantity of energy we need, without causing no more environmental problems.[2] Application of fossil fuels is really problematic, on the one hand because our Earth has only finite resources, on the other hand because energy production with these kind of fuels raises further the temperature of the Earth. Dilemma between application of renewable energy sources and nuclear energy `divides the world´ – both of them have supporters and oppositionals alike. Benefits of using renewable energy sources (as their name is already shows it) are, that the Earth has a permanent assortment of them, and energy could be produced from these resources beside protection of the environment.

* dr., PhD student, University of Miskolc, Faculty of Law, Department of Agricultural and Labour Law, e-mail: kocsis.bianka@uni-miskolc.hu

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[1] Áder János: *A környezeti fenntarthatóság kihívásai és azok társadalmi, gazdasági összefüggései,* titled presentation, University of Miskolc, 07.12.2016.

[2] On behalf of the realization of this, the most important step in the recent time was the Climate Summit in Paris, on which a climate agreement was also created, which agreement entered into force on 4th November 2016. In this agreement several objectives were settled – among these one of the most important ones is that the accessed Member States try to maintain the warm of the Earth under 2 degrees Celsius, and they make further steps towards the reduction of the warm into 1,5 degrees Celsius. See more details in connection with this: Mától él a Párizsi Klímamegállapodás – a tét a Föld jövője, Greenfo, in: http://greenfo.hu/hirek/2016/11/04/matol-el-a-parizsi-klimamegallapodas-a-tet-a-fold-jovoje (02.12.2016)

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But they have a great big disadvantage (e.g. in case of solar or wind energy), that they are in our service only periodically, and we cannot storage the energy produced from these resources in the long run opponent to this energy produced in nuclear power plants is a constant energy resource.[3] Hazardous feature of it[4] is the most common counter argument against nuclear energy[5]. However chances of power plant accidents, and terror attacks can be minimalized with observance of adequate security rules.[6] Of course, nuclear security can be guaranteed more properly, beside the more harmonized security rules. One of the most important role in the creation of these rules is filled by the International Atomic Energy Agency.[7]

For this reason, in this article I would like to show the relevant work of the Agency after the short review of its organisation. I will deal with the safety convention in details, which is probably the most important legal document of this area, which was created with the intervention of this international organization. After that I will examine, with which topical challenges had to face the Agency in the year of 2016.

[3] Production of atomic energy has strategic role in Hungary in fulfilling the electrical energy needs of the country. In connection with this topic see more details in: Olajos István – Gonda Éva: A villamosenergia és földgázszolgáltatás Magyarországon, különös tekintettel a Magyar Telekom szolgáltatásaira, *Miskolci Egyetem Közleményei: Anyagmérnöki Tudományok*, 2013/1, 83-93. In connection with the Hungarian regulation of this area see more details in: Szilágyi János Ede: Az atomenergia szabályozása, in: Szilágyi János Ede (edit.): *Környezetjog II.: Tanulmányok a környezetjogi gondolkodás köréből*, Miskolc, Novotni Alapitvány, 2010.

[4] For example, the Chernobyl disaster in 1986 or the Fukushima nuclear power plant accident in 2011, which caused really serious damages, give exact fundaments of fears of the society.

[5] For example, Germany terminated the functioning of eight reactors form its 17 operating power plants by the consequences of the Fukushima accident, and it decided the continuous termination all of them until 2022. See more details in connection with the German regulation in: Fodor László: *Klímavédelem az energiajogban – szabályozási modellek Németországban*, Budapest, Complex Kiadó, 2014. See more details in connection with other consequences of the accident: Aszódi Attila: Fukushima 5 – következmények a nukleáris biztonságra, Láncreakció – Aszódi Attila információs blogja a Paksra tervezett új blokkokkal kapcsolatban, in: http://aszodiattila.blog.hu/2016/03/11/fukushima_5_kovetkezmenyek_a_nuklearis_biztonsagra (15.11.2016)

[6] This statement is verified by that several countries build power plants presently (Finnland, French, Slovakia, USA, South Korea), and in several countries is planned to be bulit nuclear power plants (Poland, Czech Republic, Slovakia, Slovenia, French, England). From the aspect of security, it is important to note, that the currently functioning reactors are the so-called III. Generation reactors, while the reactors under construction will be parts of the so-called III. + Generation reactors. Latters are pressurized water reactors, which are planned for 60-80 year functioning, and which are designed to fulfil high level security requirements (experiences of the Fukushima accident were used during the creation of the requirements), Aszódi Attila: *A paksi kapacitás-fenntartási projekt aktualitásai* titled presentation, Miskolci Akadémiai Területi Bizottság Klub, 25.05.2016

[7] Hereinafter called as IAEA.

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1. Organisation and ruling regime of the IAEA

1.1. Organisational structure

The Agency was established in 1957, it is one of the specialized bodies of the United Nations. At present it has 168 Member States.[8]

The main decision making body of it is the General Conference. It consisting of representatives of the IAEA Member States, and it meets in a regular annual session (usually in September). However, representatives of invited non-Member States of the IAEA and organizations may register for the meetings of the General Conference. The main task of this body is to approve the IAEA's budget, and to decide on other issues raised by the Board of Governors, the Director General and Member States.[9]

The operational governing body of the Agency is the Board of Governors. Beside the General Conference, this is the other policy-making body of the IAEA. The main task of it is the examination of the Agency's financial statements, programme and budget. In connection with these objects it also makes recommendations to the General Conference. It also falls within the scope of this body, that it considers applications for membership, approves safeguards agreements and the publication of the IAEA's safety standards. The Board generally meets five times per year: in March and June, twice in September (before and after the General Conference) and in November.[10]

The staff of the Agency shall be headed by a Director General, who is the chief administrative officer of the Agency. The Director General is appointed by the Board of Governors with the approval of the General Conference for a term of four years.[11]

1.2. The regulation system

Establishment and guarantees of nuclear safety has three ways in general: (a) transferring and publication technical information and expertise; (b) through international safety standards, and rules (these are soft law regulations); (c) with help of the binding international agreements.[12]

Safety regulation set by the IAEA were published in the so-called Safety Series in the early times. These covered several areas: nuclear safety, transporting, radioactive wastes – and these rules were established in several forms. For this reason, approximately in the 1990's it became clear, that these rules need to be harmonized.

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[8] List of Member States, homepage of IAEA, in: https://www.iaea.org/about/governance/list-of-member-states (01.12.2016)

[9] General Conference, homepage of the IAEA, in: https://www.iaea.org/about/governance/general-conference (02.12.2016)

[10] Board of Governors, homepage of the IAEA, in: https://www.iaea.org/about/governance/board-of-governors (02.12.2016)

[11] Statute of the IAEA Article VII., session A).

[12] Kecskés Gábor – Silye Judit: A nukleáris biztonságról szóló egyezmény, in: Lamm Vanda (edit.): *Nukleáris jog a 21. század első évtizedeiben*, Budapest, Complex Kiadó, 2013, 65.

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On behalf of this harmonization, the legal documents established until that time were classified in hierarchy. Fundamental Safety Principles were put on the top of the hierarchy, Safety Requirements were placed to the second level, and finally the Safety Guides get the third level. The lower ranked publication consists of the technical questions and practical experiences, and they also serve as grounds of the regulation. Publishing the Fundamental Safety Principles and the Safety Requirements possesses to the tasks of the Board of Governors, while the Safety Guides must be published by the Director General.[13]

In 1995 a general review was held by the decision of the Board of Governors. The achievement of this meeting was that all of the regulation documents were set in a unified system. For the purposes of this examination the organisational framework was created in the Secretary of the IAEA, and so-called Standards Committees were also established by the experts of the Member States. Finally, the structure of the documentation system was created as a result of this work in 2003. Hence in the highest level of the hierarchy we can find the Fundamental Safety Principles. In the next level the Safety Requirements were divided into two groups: (a) requirements covering the topics were placed in the one group (it means ten topics); (b) requirements related to facilities were placed in the other group. A variable number of Safety Guides were published beside each requirements (1-17 volume).[14]

The next milestone in the history of the regulation was in 2006, when all of the Fundamental Safety Principles of the whole area were published in only one volume (Fundamental Safety Principles, SF-1). Commission of Safety Standards of the IAEA made a recommendation at the end of this year on holding a new review related to the system. After that, the current form of the system was created by this recommendation in 2015. The essence of the recommendation was the following: the general safety requirements must be summarized in only one volume (with seven parts), and after that as a supplement further six volumes must be created in order to summarize safety requirements relating to the features of the activities and the facilities. And it is also needed, that further safety guides be attached to the requirements.[15]

The IAEA regulation system established in this manner is handled as reference by all of the Member States of the Organisation. And these are proclaimed even formally by some of the Member States, and they apply them directly. Nevertheless, the documents are only recommendation featured, the Agency shall not set binding obligations on the Member States (although the Agency requires, that the legal system of the Member States claiming technical help from the IAEA, must to be in harmony with its regulation system).[16]

[13] Silye Judit: A radioaktív hulladékok biztonságos kezelésének nemzetközi jogi szabályozása, in: Lamm Vanda (edit.): *Nukleáris jog a 21. század első évtizedeiben*, Budapest, Complex Kiadó, 2013, 49.
[14] Silye 2013, 49.
[15] Silye 2013, 50.
[16] Silye 2013, 50.

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Beside the regulation mentioned above, it is important to mention, that several international agreements also were settled with the conspiration of the Agency, which are also make parts of the regulation system on nuclear safety. Among these agreements, probably the most important one is the Convention on Nuclear Safety in 1994. In the next chapter I will examine this document in details.

2. Activity of the IAEA in the field of nuclear security

Activity of the IAEA can be divided into three parts in general, which are connected to each other: (a) help and promotion of peaceful usage of nuclear energy and other nuclear technologies, (b) strengthen of nuclear security, (c) monitoring of peaceful feature of nuclear activity within the framework of the so-called safeguard system.[17] The commitment of the Agency towards nuclear security is already reflected in its scope of activity, but its motto also strengthen this: `Atoms for Peace!´. Moreover, objectives set out in the Statute of the Agency also intend to maintain and strengthen of the nuclear security: *„The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose."*[18]

2.1. Convention on Nuclear Safety

As I mentioned earlier, the Convention on nuclear safety[19] is one of the most important legal document in the field of nuclear security, created by the conspiration of the IAEA. This document was signed by 84 states and 4 international organization on 17th June 1994[20] in a conference made by the IAEA, and it entered into force on 20th October 1996.[21] According to data from 2016. December, the Convention is already signed by eighty states, but it is ratified only by sixty-five Member States.[22]

Process of settlement of this Convention, basically can be divided into three parts. Need of settlement of that was recognized by the international society due to the Chernobyl disaster. Hence prevention get into the middle of the regulation. The first important step of the process was the Vienne Conference in 1991, which also was organized be the IAEA.

[17] Nemzetközi Atomenergia Ügynökség – International Atomic Energy Agency, homepage of the Permanent Representation of Hungary in Vienna, in: http://vienna.io.gov.hu/nau-bemutato (30.11.2016)
[18] IAEA Statute, Article II.
[19] Hereinafter called as Safety Convention.
[20] Hungary also accessed to the agreement, and it was promulgated in the Act I of 1997.
[21] Kecskés – Silye 2013, 66.
[22] Latest Status of Convention on Nuclear Safety, homepage of the IAEA, in: https://www.iaea.org/Publications/Documents/Conventions/nuclearsafety_status.pdf (10.12.2016)

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One of the Major Findings of the Conference was that, the most assured guarantee of nuclear safety is the integrated, unified approach of the topic. However, participants of the conference concluded at the end, that nuclear safety must be realized primarily in national level, through the application of the existing fundamental safety principles, standards, guides, and good practices of each nuclear power plants. IAEA Decision GC (XXXV) RES/553 set by the General Conference of the IAEA in 1991, is the starting point of the second period of the settlement of the Convention. Since this decision established the ground of the nuclear safety regime, it gave the chance of the settlement of a framework agreement. In favour of this objective the General Conference of the IAEA asked the Director General to working out the elements, basic pillars of such an agreement. This document (worked by the Director General) gave the ground of the third period, in which thus the codification activity was done. During the codification the editorial body emphasized the general principles and proceedings, and not the technical details – however lawyers and technical experts also were involved into the codification. Finally the process ended in 1994 with the signature of an independent, unified treaty.[23]

The Safety Convention has three main objectives – main reasons of its settlement are as follows: *„(a) to achieve and maintain a high level of nuclear safety worldwide through the enhancement of national measures and international co-operation including, where appropriate, safety-related technical co-operation; (b) to establish and maintain effective defences in nuclear installations against potential radiological hazards in order to protect individuals, society and the environment from harmful effects of ionizing radiation from such installations; (c) to prevent accidents with radiological consequences and to mitigate such consequences should they occur."*[24]

In the beginning of the chapter relating to the obligations of the parties we can find some general provisions. Here located the obligation which says that each contracting party shall take, within the framework of its national law, the legislative, regulatory and administrative measures and other steps necessary for implementing its obligations under this Convention.[25] (This implementation measure refers to the `non self-executing´ feature of the Safety Convention, because the document is not appropriate for causing legal effects directly per se, it always requires the legislation of the Member States too.)[26]

Here I would like to emphasize, that according to my opinion the highest problem of this field is the conflict, that although guaranteeing the nuclear safety requires unified regulation (in international level as well), but the `great powers´ (e.g. EU, IAEA, etc.) intend to let the regulation in national power, with regard to the sensitive feature of energy policy. On the one hand it is understandable, because maintenance of the flexibility of the states in this field is important by the viewpoint of guaranteeing of state sovereignty.

[23] Kecskés – Silye 2013, 66-69.
[24] Safety Convention Article 1.
[25] Safety Convention Article 4.
[26] Kecskés – Silye 2013, 70.

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However, it also raises problems, because for example a nuclear disaster (probably a terror attack) although occurs in the territory of only one state, but it has serious impacts on other states as well, which are located hundreds or thousands of miles away from the disaster, because these kind of effects do not pay attention on boarders of the states, or on their legal regimes. Thus I think, that it could be acceptable in favour of exact guaranteeing of nuclear safety, if certain provisions, minimum rules of the Convention, could set obligations on the Member States directly, per se (for example as it appeared in the original plans of the IAEA,[27] through working out in a framework agreement form, i. e. the parties should have to sign a general agreement, with supplementary annexes, and protocols). Since it sometimes occurs, that economical interests overtake security falling under the public interest. Convention on Supplementary Compensation for Nuclear Damage[28] in 1997 is a good example of it with the current uncertainty of its entering into force.[29]

An other rule must be enhanced among the general obligations set by the Safety Convention, this rule says that the Member States shall review its existing nuclear installations too, and if it is necessary, they have to take security strengthening measures as well.[30] From the view of preventing future nuclear accidents, this is a really important provision.

Further obligations set by the document were arranged in three groups according to their topics, which make the basic pillars of the Convention. Accordingly nuclear safety can be guaranteed in three ways:[31] (a) through legislation and regulation, (b) with the general safety questions, moreover (c) from the side of installation safety. Of course, prevention must be in the middle through the whole process.

In the framework of the first pillar, the main task of the Member States is the establishment of the appropriate normative background. On the one hand, it means exact legislation activity (e.g. creation of national safety standards, formation of permission system of nuclear installations, guaranteeing of monitoring and evaluation, etc.). On the other hand, this part of the Convention obliges the parties to formation and regulation of official regime.

[27] Kecskés – Silye 2013, 69.

[28] See more details about responsibility of nuclear damages in: Csák Csilla: *A környezetjogi felelősség magánjogi dogmatikája*, Miskolc, Miskolci Egyetemi Kiadó, 2012, 37-40.; Csák Csilla – Hornyák Zsófia: *A környezetjogi kárfelelősség elmélete és gyakorlati megoldásai* titled presentation, Új kihívások a XXI. század magánjogi felelősségében conference, University of Miskolc, 11.11.2016.

[29] See more details in connection with this topic: Lamm Vanda: A nukleáris kárfelelősségi rendszerek harmonizálása – Kísérletek egységes nukleáris kárfelelősségi szabályok létrehozására, in: Lamm Vanda (edit.): *Nukleáris jog a 21. század első évtizedeiben*, Budapest, Complex Kiadó, 2013.; Kocsis Bianka Enikő – Szilágyi János Ede: *Az atomenergia jogi szabályozása a felelősségi kérdések tükrében* titled presentation, Új kihívások a XXI. század magánjogi felelősségében conference, University of Miskolc, 11.11.2016.

[30] Safety Convention Article 6.

[31] Kecskés – Silye 2013, 70.

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Finally, this pillar sets the rule, that each contracting party shall ensure that prime responsibility for the safety of a nuclear installation rests with the holder of the relevant licence and shall take the appropriate steps to ensure that each such licence holder meets its responsibility.[32]

Among the safety questions constituting the second pillar, we can find six safety principles and safety realizing methods. Among them Priority to safety must be emphasized (which is set by the Article 10. of the Convention), because this is the starting point and regulation ground of the main regulating philosophy of the Convention, all provisions of the document must be interpreted and applied in accordance with this article.[33]

The third pillar appear as legi speciali for the second pillar, thus it contains detailed regulation of the general nuclear safety provisions, differentiated according to the periods of existence of the nuclear installation.[34] In this part the Convention contains special safety provisions on the following activities relating to the nuclear installations: (a) siting, (b) design and construction, (c) operation.[35]

Curiosity of the Safety Convention is its so-called incentive feature. It means, that the document does not contain per se sanctions, or any other special dispute settlement methods in case of infringements of its provisions. Instead of them, the parties of the Convention chose a special method in order to monitoring the observation of the Convention. They held review meetings in every third year, to which all of the Member States make national reports. And these national reports are negotiated in the framework of a peer review by experts of other Member States.[36]

These review meetings are very significant, because in order to maintenance of nuclear safety, the continuous review and monitoring of the regulation and practices is needed, in favour of we could establish a flexible regulation considering the changing circumstances, and we could study from the former faults. The Fukushima accident occurred five years earlier is a good example of it. This is the most serious accident since the Chernobyl disaster, which (like the Chernobyl disaster) got a 7th level ranking on the seven degreed International Nuclear Event Scale.[37] By the effects of the catastrophe the EU Committee ordained to hold comprehensive safety review in all of the nuclear power plants of the European Union, with the evaluation of the risk of functioning, and publishing broadly the whole process. The common name of this comprehensive safety review is the `stress test´. Of course, by the effects of the accident, the IAEA also made measures, it reviewed its own nuclear safety requirements. It meant the examination of several former rules and agreements – inter alia in 2012 an extreme review meeting[38] was held in case of the Safety Convention too.

[32] Safety Convention Articles 7-9.
[33] Kecskés – Silye 2013, 71.
[34] Kecskés – Silye 2013, 73.
[35] Safety Convention Articles 17-19.
[36] Kecskés – Silye 2013, 75-77.
[37] Aszódi blog 2016.
[38] Kecskés – Silye 2013, 77-78.

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The objectives of the review meeting was to integration of experiences from the Fukushima accident, and achievements of the European stress tests to the regulation, and if it is needed, to negotiate about the probable amendment of the Safety Convention. In order to these objectives the extreme review meeting focused on the following topics: (a) external incidences, (b) planning questions, (c) managing of serious accidents occurred in the site of nuclear facilities, (d) national organisations, (e) averting accidents outside the site of nuclear facilities, (f) international cooperation.

2.2. Activity of the IAEA in 2016, in the field of nuclear security

Activity of the Agency is exceptionally diversified. It deals with nuclear safety and security alike. In 2016 the following topics were objects of its activity: (a) computer and information security, (b) Integrated Nuclear Security Support Plan,[39] (c) amendment of Convention on the Physical Protection of Nuclear Material,[40] (d) Nuclear Security Information Portal,[41] (e) nuclear forensics, (f) Design Basis Threat Helps to Strengthen Physical Protection System, (g) safety of disused sealed radioactive sources, (h) International Physical Protection Advisory Service, (i) Incident and Trafficking Database, (j) radiation in everyday life, (k) managing radioactive waste. In the further part of the article I will underline some of these topics, in order to show how answers the Agency to the current challenges of the continuously changing world.

Thus, as I mentioned previously, computer and information security is one of the topics, which were in the middle of the work of the IAEA in 2016. The topicality of this problem is given by the fact, that nowadays cyber-attacks[42] are daily occurrence in the virtual world, and unfortunately the nuclear industry has also not been immune, it falls within the sphere of the potential subjects. Computers play an essential role in management and safe and secure operation of nuclear facilities. For example competent authorities use computer-based information systems in the regulation and oversight of nuclear facilities. Attacks against such systems could be exactly multidimensional. According to that, the IAEA tends to ensure security of computes-based systems on the one hand with the protection of digital data, and on the other hand with defending of systems and networks against malicious acts. In order to that, the IAEA gives guidance to the Member States, furthermore it ensure trainings as well to assist Member States in developing a comprehensive computer and information security programme.[43] According to the activity of the Agency in 2016, it also must be enhanced, that on 6th May 2016 the amendment of Convention on the Physical Protection of Nuclear Material entered into force.

[39] Integrated Nuclear Security Support Plan – hereinafter called as INSSP.
[40] Convention on the Physical Protection of Nuclear Material – hereinafter called as CPPNM.
[41] Nuclear Security Information Portal – hereinafter called as NUSEC.
[42] See more details in connection with this topic: Dornfeld László: A kibertér főbb nemzetközi és nemzeti szabályozásai, *A virtuális tér geopolitikája, Geopolitikai Tanács Műhelytanulmányok*, 2016/1.
[43] IAEA factsheet: Computer and Information Security, hompage of the IAEA, in: https://www.iaea.org/sites/default/files/16/12/computer-information-security.pdf (05.12.2016)

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The CPPNM from 1987 is the only legally binding international undertaking in the area of physical protection of nuclear material. It focuses on the physical protection of nuclear material used for peaceful purposes during international transport. The relevance of the amendment is that it broadened the scope of the original Convention to the protection of nuclear facilities or nuclear material in domestic use, storage and transport. In addition broadened further the sphere of criminal offences relating to nuclear materials of the Convention too, and it requires States to prevent or minimalize the occurrence this kind of incidences. Moreover the Convention rules the exchange of information between the Member States, on locating and recovering stolen or smuggled nuclear material. It requires States, in the case of such illegal incidents to exchange information, as appropriate, with each other, the Agency and other relevant international organizations with a view to recovering and protecting such material.[44]

The amendment set more further tasks to the IAEA. Although implementation is the task of the Member States, but the Agency upon request, will provide technical assistance to them (e.g. on drafting national implementing legislation and in establishing, and maintaining a national physical protection regime). The Agency plays an essential role in promoting information exchange as well – the IAEA will continue to promote peer review missions to advise States on meeting their nuclear security obligations and commitments. Furthermore it is also the task of the IAEA to help those countries which are not parties to either the Convention or the Amendment.[45]

Summary

Accordingly, it can be concluded, that the International Atomic Energy Agency does an axtremly significant work relating to guaranteeing, promoting and maintaining of nuclear security and safety, this is one of the most important international organisations in this field. One of the key points of guaranteeing nuclear security and safety is the harmonized regulation – in creation of this the Agency plays an essential role (settlement of mutual international agreements and their amendments, organising peer reviews, ensuring exchange of information, etc.)

Combat against terrorism, and protection of computer systems are recent challenges of our developing world. In order to face with this challenges, the Agency tried to promote protection of computer and information security, and the training of the specialists of the field in several ways in 2016. Furthermore, latest amendment of the CPPNM was also a significant step in rolling back the nuclear terrorism, and in promoting the most effective protection of nuclear materials and nuclear installations.

[44] Vincent Fournier: New Nuclear Security Agreement will Reduce Risk of Nuclear Terrorism, hompage of the IAEA, in: https://www.iaea.org/newscenter/news/new-nuclear-security-agreement-will-reduce-risk-of-nuclear-terrorism (08.12.2016)

[45] UPDATE: Eight Questions and Answers on the Amendment to the Convention on the Physical Protection of Nuclear Material, hompage of the IAEA, in: https://www.iaea.org/newscenter/news/update-eight-questions-and-answers-on-the-amendment-to-the-convention-on-the-physical-protection-of-nuclear-material (08.12.2016)

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Although scope of activity of the IAEA is really wide, but since the world and the technology are changing continuously, the organization has to face with new challenges, and it has to answer with flexibility to the recent problems in order to guaranteeing and maintaining nuclear safety and security.

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