

Christian Raetzke (ed.)

Nuclear Law in the EU and Beyond

Atomrecht in Deutschland, der EU und weltweit

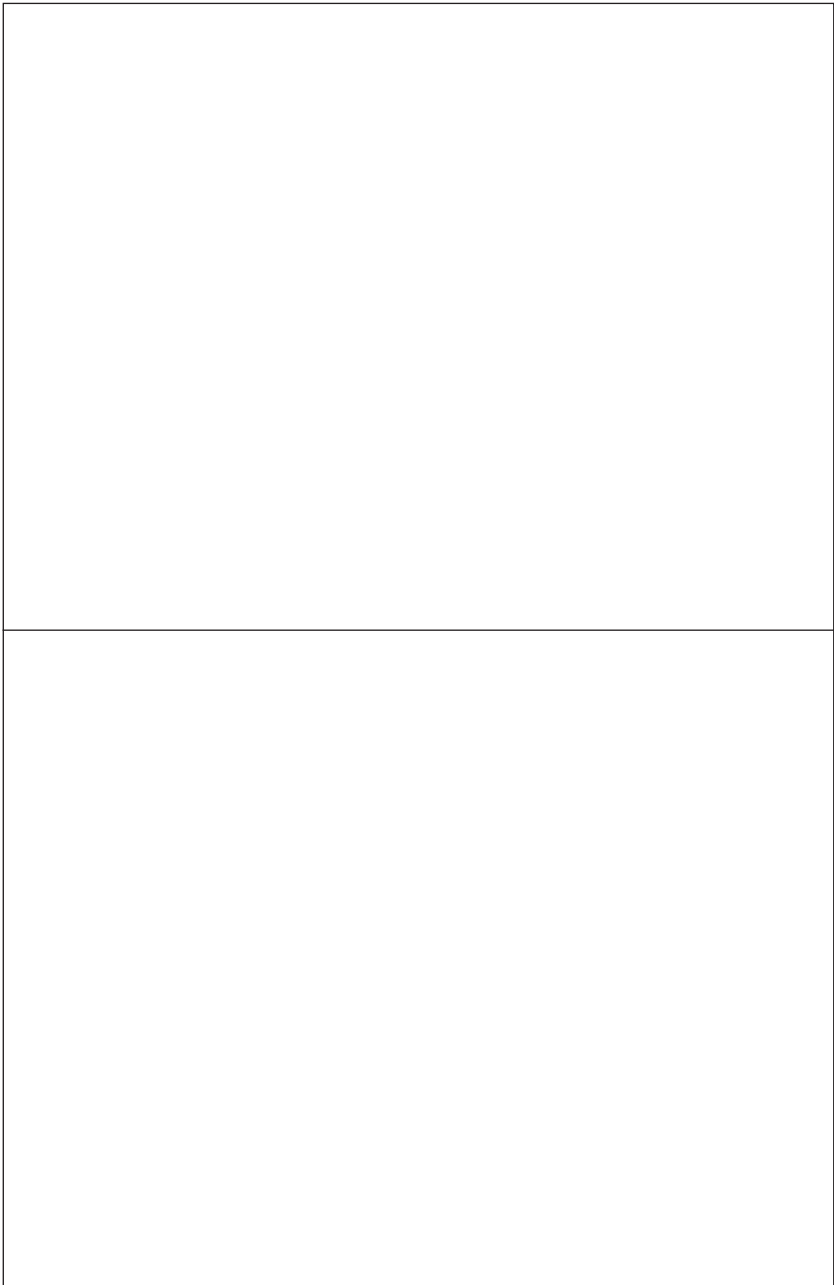
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Turkey as a Newcomer in Nuclear New Build – Turkey’s Development in the Field of Nuclear Energy and a Systematic View on Progress Particularly in Nu- clear Legislation –

Erinç Ercan, Lawyer, Hamburg, and Horst Schneider, Bonn

*»Bir mum diğer bir mumu tutuşturmakla ışığından birşey kaybetmez.«
Mevlana Celaleddin Rumi**

Abstract

Turkey is an economically rapidly developing country. The growing need of energy may not be guaranteed by more energy imports. In order to diminish the dependence of foreign energy sources and imports the Government of the Republic of Turkey stresses the opportunities of nuclear energy. Government’s conviction of the need of nuclear energy within an energy mix comprising a growing part of renewable energy results in the ambitious political goal of 20% of electricity production from nuclear power plants (NPPs) by 2023. This can only be reached on the basis of comprehensive technical knowledge and experienced staff and lastly after establishment of a substantial and detailed nuclear legal framework. Parallel to constant progress in concrete projects for NPPs in Turkey nuclear laws, decrees, regulations, directives and guides are getting more and more numerous. Nevertheless compared with standards of the International Atomic Energy Agency (IAEA), the Nuclear Energy Agency of the Organization of Economic Cooperation and Development (OECD-NEA) and the norms of the European Atomic Community (EURATOM) a general and fundamental nuclear law is missing as well as a clearer structure in the existing legal norms particularly for the upcoming licensing processes of siting, construction and commissioning for several NPPs should be estab-

* It means in English: »A candle doesn’t lose its light by enlightening another candle.« See *ingilizce delisi* at <http://ingilizcedelisi.com/mevlananin-sozleri-turkce-ingilizce/> (accessed 24/04/2013).

lished. Moreover, particularly Environmental Impact Assessment should be executed in a legally more credible manner. Finally a generally high degree of transparency of political decisions together with national administrative acts and international cooperation could be improved. Some international conventions should be ratified soon.

Introduction

The economic growth of Turkey in 2012 with its still increasing population of round about 76 million people was accordingly to the annual gross domestic product of 9.2% at current prices and of 2.2% at constant prices.¹ Deputy Prime Minister Ali Babacan recently announced the expected economic growth for 2013 at 4 % and for 2014 at 5 %.² Corresponding to the economic growth the net consumption of electricity increased from 172 050,6 GWh in 2010 to 186 099,6 GWh in 2011.³ The Turkish Minister for Energy and Natural Resources, Taner Yıldız, estimates the development until 2023 at about 90 % higher consumption of primary energy.⁴ At the same time he strikes the necessity of diminishing the dependence of energy imports.⁵ Therefore the Government of the Republic of Turkey is con-

1 See for the annual gross domestic product TURKISH STATISTICAL INSTITUTE, available at <http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=13471> (accessed 23/04/2013), and for the population statistics TURKISH STATISTICAL INSTITUTE of 28 January 2013, The population of Turkey became 75 627 384 on December 31, 2012, available at <http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=13425> (accessed 03/05/2013).

2 See (only Turkish) at <http://www.trthaber.com/haber/ekonomi/buyume-hedefini-acikladi-82017.html>. The European Commission announced on 3 May 2013 for Turkey an annual economic growth in 2013 and 2014 of 3.2 respectively of 4 per cent – see TRT HABER of 3 May 2013, available (only Turkish) at <http://www.trthaber.com/haber/gundem/abden-turkiyeye-iyi-haber-84711.html> (accessed 03/05/2013).

3 See TURKISH STATISTICAL INSTITUTE, Annual Electricity, Gas and Water Statistics, Power installed of power plants, gross generation and net consumption of electricity, available at http://www.turkstat.gov.tr/VeriBilgi.do?alt_id=11 (accessed 23/04/2013).

4 See Republic of Turkey Ministry for Energy and Natural Resources, Budget Presentation for the Year 2013 by Minister Taner Yıldız at the Turkish Grand National Assembly (TGNA) on 15 December 2012, p. 6, available (only Turkish) at http://www.enerji.gov.tr/yayinlar_raporlar/2013_Genel_Kurul_Konusmasi.pdf (accessed 23/04/2013).

5 See Taner Yıldız (footnote 4), p. 8; for his appeals of 14 December 2012 and of 29 April 2013 on saving energy in private households which could save until

vinced of positive energy economics and environmental effects by including the peaceful use of nuclear energy to the national energy mix.⁶

The primarily competent authority for nuclear energy is the Turkish Atomic Energy Authority (TAEK) which has to execute the necessary enforcement and the control for ensuring nuclear safety and radiation protec-

2023 up to 20 % of electricity consumption see (only Turkish) TRT HABER at <http://www.trthaber.com/haber/ekonomi/taner-yildizdan-enerjide-tasarruf-vurgusu-67096.html> (accessed 26/04/2013) and <http://www.trthaber.com/haber/ekonomi/ev-hanimlari-yilda-4-milyar-tl-tasarruf-saglayabilir-84220.html> (accessed 29/04/2013). In the same manner Economy Minister Zafer Çağlayan underlined on 4 April 2013 the goal of diminishing the dependence of Turkey with regard to energy imports – see (only Turkish) <http://www.trthaber.com/haber/ekonomi/turkiyeye-dev-yatirim-81059.html> (accessed 04/04/2013). Moreover Taner Yıldız expressed on 24 April 2013 in the same direction the preference for local energy production; see (only Turkish) HABERLER.COM at <http://www.haberler.com/icci-2013-19-uluslararasi-enerji-ve-cevre-fuari-ve-4558342-haberi/> (accessed 24/04/2013). With regard to financial speculations see for the aspect of diminishing the dependence of foreign energy supply SETA of 17 June 2013, *»Faiz Lobisi ve Marifetleri«* (*»Bu nedenle makroekonomik göstergelerdeki iyileşmelerle daha daha geniş manevra alanı elde eden politika yapıcılar bu yapısal sorunun çözümü için nükleer enerji santralleri kurulması kararını almışlardır.«*) and *»Faiz Lobisi Nedir?«* (*»Ekonomide en önemli yapısal sorun olan cari açığı düşürecek ve Türkiye'nin enerjide dışa bağımlılığını azaltacak olan nükleer enerji santrallerinin kurulması kararı bu lobiyi endişelendirmiştir.«*), available (only Turkish) at <http://setav.org/tr/faiz-lobisi-ve-marifetleri/yorum/6820> and at <http://setav.org/tr/faiz-lobisi-nedir/yorum/6819> (accessed 25/06/2013).

- 6 See Circular 2012/8 of Prime Minister Recep Tayyip Erdoğan, first paragraph, published (only Turkish) in the Official Gazette No. 28240 of 21 March 2012, and Taner Yıldız (footnote 4), pp. 8 and 27, further the 10th Development Plan for Turkey (2014-2018), submitted by the Prime Minister on 13 June 2013 to the Turkish Grand National Assembly, p. 117 no. 781 and 784, available at http://pbk.tbmm.gov.tr/dokumanlar/10-kalkinma_plani.pdf (accessed 26/06/2013). The biggest Turkish opposition party, Cumhuriyet Halk Partisi, is not in favour of the concrete nuclear projects of the Turkish government (in the light of the facts the NPP projects to be constructed in Akkuyu and Sinop serve neither for peoples' advantages nor for the public), but would prefer energy economics with nuclear energy on the basis of fourth generation reactors and advanced waste management technology (CHP Enerji Komisyonu, (2012), AKP'nin Nükleer Macerasına Hayır!, Kasım 2012, p. 4 paragraph 2 and p. 35 last paragraph, available (only Turkish) at http://www.chp.org.tr/wp-content/uploads/2012/11/nukleer_enerji_raporu_kasim_2012_myk.pdf – accessed 03/06/2013); that attitude seems to follow a »wait and see« strategy.

tion.⁷ For licensing and control of the envisaged projects, particularly at the site of Mersin-Akkuyu, the administrative acts and activities are based on national and international legislation which is quite developed.⁸

Nuclear law is not a new matter in Turkey. First regulations date from 1956, particularly Law No. 6821 establishing the Atomic Energy Commission was accepted in the Turkish Grand National Assembly on 27 August 1956, but the Atomic Energy Commission was restructured in 1982 by Law No. 2690 establishing the Turkish Atomic Energy Authority.⁹ The Decree on Licensing of Nuclear Installations which is still in force without having been amended dates from 1983.¹⁰ After several unsuccessful steps to plan and construct NPPs in Turkey first 2007 concrete important and decisive progress was reached also with regard to nuclear law: One law and many regulations, a directive and many guides were published in the years 2007 – 2013; the licensing of siting and construction accordingly to the decree of 1983, actually relevant for the NPP projects in Mersin-Akkuyu (construction) and Sinop-İnceburun (siting), was detailed by several regulations, directives and guides.¹¹ Nevertheless the structure of the

7 See Taner Yıldız (footnote 4), p. 52. With regard to the abbreviation for the Turkish Atomic Energy Authority it is preferred to use the Turkish TAEK (for Türk Atom Enerjisi Kurumu) instead of the not widespread English TAEA.

8 See Taner Yıldız (footnote 4), p. 53.

9 Law No. 6821 was published in the Official Gazette No. 9398 of 4 September 1956. See Turkish Atomic Energy Authority, History: »In 1956, General Secretariat of Atomic Energy Commission was established in Ankara by the law numbered 6821, as an organization affiliated to the Prime Ministry. In 1982, the Commission was restructured as Turkish Atomic Energy Authority affiliated to the Prime Ministry by the law numbered 2690.«, available at <http://www.taek.gov.tr/en/institutional/history.html> (accessed 23/04/2013). Law No. 2690 on Turkish Atomic Energy Authority of 9 July 1982 was published in the Official Gazette No. 17753 of 13 July 1982; an English version is available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/law/> (accessed 17/04/2013). See for Law No. 2690 and today's function of the Atomic Energy Commission chapter 3.3.2 below. Instead of Turkish Grand National Assembly sometimes Grand National Assembly of Turkey is used in publications of the Turkish government.

10 Decree on Licensing of Nuclear Installations, published in the Official Gazette No. 18256 of 19 December 1983; unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/nuclear-safety/> (accessed 23/04/2013).

11 See chapters 2.1 and 3 below and already Ercan, E., Schneider, H. (2012), »Turkey's way to nuclear energy – An example for a newcomer's new build«, *International Journal for Nuclear Power*, atw 57. Jg. (2012) Heft 10 / Oktober, chapters 2 and 3, pp. 585–588, available as pdf document at <http://www.kernener>

legislation has to be proved in depth in order to evaluate the existing nuclear legislation in Turkey which was criticized particularly as regards the lack of a framework nuclear law by the European Commission in autumn 2012¹² by verifying the conformity with IAEA, NEA and EURATOM standards. A systematic description and on this basis a scientific appraisal and assessment has to focus on the organizational structure settling the permission principle, control principle, transparency principle as well as on the norms which contain the requirements for safety, security, safeguards, compensation (nuclear liability) and radiation protection of nuclear power plants including procedural measures (for example licensing procedures) and the possibility of judicial review by administrative courts.¹³ Moreover legal regulations parallel to nuclear law must be taken into account as well, particularly Environmental Impact Assessment (EIA) and some aspects of energy economics.

The following analysis lays stress on the legal basis for the realization of commercial NPPs in Turkey. Having done this a brief evaluation may be drawn on, whether Turkish nuclear legislation is consistent particularly with the Convention on Nuclear Safety of 17 June 1994 (CNS) entered in-

gie.de/kernenergie-en/service/fachzeitschrift-atw/hefte-themen/2012/oct/index.php (accessed 24/04/2013).

- 12 European Commission (10.10.2012), »2012 TURKEY PROGRESS REPORT«, Document SWD(2012) 336 final, Chapter 15: Energy, p. 62 (»No development can be reported on the adoption of a framework nuclear law, which would ensure a level of nuclear safety in full compliance with EU standards; existing applicable national legislation mainly covers protection against ionizing radiation and the licensing of nuclear installations.«). The document is available at http://ec.europa.eu/enlargement/pdf/key_documents/2012/package/tr_rapport_2012_en.pdf (accessed 24/04/2013).
- 13 See Pelzer, N., (2009) »Legal Issues Associated with Preparing for a Nuclear Energy Programme«, in *International Ministerial Conference on Nuclear Energy in the 21st Century, Beijing, 20-22 April 2009*, pp. 2–4, http://www-pub.iaea.org/MTCD/Meetings/PDFplus/2009/cn169/Beijing_TS/TS3/3%20Pelzer%20newtext.pdf (accessed 24/04/2013), and Pelzer, N., (2009) »Nuclear New Build – New Nuclear Law?«, *Nuclear Law Bulletin*, No. 84 (Volume 2009/2), pp. 5 et seq. (footnotes 11–13). See further Vasmant, A., (2009) »International Legal Instruments Promoting Synergies in Nuclear Safety, Security and Safeguards: A Myth or Reality?«, *Nuclear Law Bulletin*, No. 84 (Volume 2009/2), pp. 81–102, Kuş, S., (2011) »International nuclear law in the 25 years between Chernobyl and Fukushima and beyond...«, *Nuclear Law Bulletin*, No. 87 (Volume 2011/1), pp. 7 et seq. The articles in the Nuclear Law Bulletin are available at <http://www.oecd-nea.org/law/nlb/> (accessed 28/05/2013).

to force in Turkey on 24 October 1996¹⁴ and the Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations¹⁵ which Turkey has to transpose as *acquis communautaire* in the course of the EU accession process. Thus the method of this article is not »top-down« in the sense of reviewing the pyramid »International Law/National legislation« but presents for better comprehension the historical development of national legislation taking into consideration international aspects and finally the status reached at present. This approach is elaborated on the background of Turkish Prime Minister's Circular of 2012 focusing as a general instruction on the Akkuyu NPP project and demanding all public administrative bodies to fulfill rather quickly all tasks with regard to the Turkish-Russian Agreement of 12 May 2010.¹⁶

14 Ratification by Turkey on 14 January 1995 and deposit on 8 March 1995, see IAEA INFCIRC 449 of 5 July 1994 and http://www.iaea.org/Publications/Documents/Conventions/nuclearsafety_status.pdf (accessed 24/04/2013). Up to now Turkey did not publish the National Reports to the Review Meetings or to the Extraordinary Meetings; see IAEA, Nuclear Safety & Security, Convention on Nuclear Safety, available at <http://www-ns.iaea.org/conventions/nuclear-safety.asp?s=6&l=41#1> (accessed 31/05/2013).

15 Official Journal of the European Union L 172/18 of 2 July 2009. See Kuş, S., Emmerechts, S., (2009) »A legislative framework for the safety of nuclear installations in the European Union«, *NEA updates, NEA News 2009* – No. 27.2, pp. 20 et seq.; Kilb, W., (2010) »The European Atomic Energy Community and its Primary and Secondary Law«, in OECD, *International Nuclear Law: History, Evolution and Outlook, 10th Anniversary of the International School of Nuclear Law*, OECD, pp. 43 et seq., particularly pp. 61-63; Garribba, M., Chirteş, A., Nauduzaitė, M., (2009) »The Directive Establishing a Community Framework for the Nuclear Safety of Nuclear Installations: The EU Approach to Nuclear Safety«, *Nuclear Law Bulletin*, No. 84 (Volume 2009/2), pp. 23 et seq. See for the aspect of nuclear new build in a newcomer state World Nuclear Association, WNA Report (2011), *Emerging Nuclear Energy Countries*, WNA, London, p. 46 (»Several barriers to entry must be overcome for a nuclear energy program to succeed. Before nuclear plants can be built, governments need to take a number of measures, including setting up professional and independent regulatory regimes, implementing policies on nuclear waste management and decommissioning, as well as establishing international non-proliferation measures and insurance arrangements for third party damage.«) and pp. 20-21 (on Turkey's way to nuclear energy).

16 See footnote 6.

1 *A brief view over history of nuclear energy in Turkey*

The history of nuclear energy¹⁷ started in the middle of the nineteen-fifties. Formally, »In 1956, General Secretariat of Atomic Energy Commission was established in Ankara by the law numbered 6821, as an organization affiliated to the Prime Ministry.«¹⁸ In 1957 Turkey joined the International Nuclear Energy Agency (IAEA) as one of the first 27 members.¹⁹ Already in 1962 and 1967 research and training centers were created (Çekmece Nuclear Research and Training Centre, CNAEM, Ankara Research and Training Center, ANAEM) and a research reactor started operation in 1962 (TR-1 Research Reactor),²⁰ for the first time commercial electricity production by a NPP in Turkey was subject of studies in

17 On the history of nuclear energy in Turkey see Turkish Atomic Energy Authority (TAEK), Institutional History, available at <http://www.taek.gov.tr/en/institutional/history.html> (accessed 26/04/2013); IAEA, Country Nuclear Power Profiles, 2012 Edition, TURKEY (Updated 2012), available at http://www-pub.iaea.org/MTCD/Publications/PDF/CNPP2012_CD/countryprofiles/Turkey/Turkey.htm (accessed 26/04/2013); NEA, Nuclear legislation in OECD countries: Turkey, available at <http://www.oecd-nea.org/law/legislation/turkey.pdf> (accessed 26/04/2013), and Country profile: Turkey, available at <http://www.oecd-nea.org/general/profiles/turkey.html> (accessed 26/04/2013); World Nuclear Association (WNA), Nuclear Power in Turkey (Updated 9 April 2013), available at <http://www.world-nuclear.org/info/Country-Profiles/Countries-T-Z/Turkey/#.UXrzf0qQg1c> (accessed 26/04/2013); Gürbüz, M., (2012) »AN EVALUATION OF TURKEY'S NUCLEAR ENERGY JOURNEY IN LIGHT OF THE DISCUSSIONS REGARDING NUCLEAR REACTORS' SAFETY IN THE WORLD«, *Enerji Hukuku Dergisi*, Volume 2012/2, pp. 109-129, 121-124. In Turkish only see the detailed description in the Nuclear Energy Report of THE UNION OF CHAMBERS OF TURKISH ENGINEERS AND ARCHITECTS: TMMOB FİZİK MÜHENDİSLERİ ODASI, (2011) NÜKLEER ENERJİ RAPORU 2011, Aralık 2011 Ankara, pp. 123-138, available at FMO_Nuk_Enr_Rap_2011_aralik_son as DOC (accessed 27/04/2013).

18 See TAEK (footnotes 9 and 17).

19 IAEA, Member States of the IAEA, available at <http://www.iaea.org/About/Policy/MemberStates/> (accessed 26/04/2013).

20 See TAEK (footnotes 9 and 17) and TAEK, Çekmece Nuclear Research and Training Center, available at <http://www.taek.gov.tr/en/institutional/affiliates/cekmece-nuclear-research-and-training-center.html> (accessed 26/04/2013), and Ankara Nuclear Research and Training Center, available at <http://www.taek.gov.tr/en/institutional/affiliates/ankara-nuclear-research-and-training-center.html> (accessed 26/04/2013). Only in 2005 Saraköy Nuclear Research and Training Center (SANAEM) was created – see TAEK (footnotes 9 and 17) and TAEK, Saraköy Nuclear Research and Training Center, available at <http://www.taek.gov.tr/en/institutional/affiliates/saraykoy-nuclear-research-and-training-center.html> (accessed 26/04/2013).

1967 – 1970.²¹ First specific and detailed nuclear legislation on licensing and radiation protection was established in the nineteen-eighties.²² Nevertheless several tenders for the creation of NPPs in Turkey failed and only after the reorganization in 2002 (TAEK was transferred to the Ministry of Energy and Natural Resources by approval of the Presidency of the Republic of Turkey) Law No. 5710 of 2007 with concrete steps for the realization of NPPs in Turkey was the starting point for today's status.²³ Notwithstanding Law No. 5710 lays down the procedure for tender on selection of and contracts with the future constructor and operator of NPPs in Turkey, the choice of the project company for the Mersin-Akkuyu site was terminated by a Turkish-Russian agreement and was decided for the site of Sinop-İnceburun also by a bilateral international agreement with the engaged state, namely between Turkey and Japan.²⁴ Even a third site situated

21 Gürbüz, M. (footnote 17), p. 121. Even at that period for NPPs in Turkey sites were envisaged at Mersin-Akkuyu, Sinop-İnceburun and Kırklareli-İğneada, see ntvmsnbc, »Nükleer enerjinin Türkiye'deki tarihçesi«, available (only Turkish) at <http://www.ntvmsnbc.com/id/25022241/> (accessed 28/04/2013); for details see chapters 2.2–2.4 below.

22 TAEK (footnotes 9 and 17).

23 Gürbüz, M. (footnote 17), pp. 122-124, Ercan, E., Schneider, H. (footnote 11), pp. 585, 588. Details on Law No. 2690 and Law No. 5710 can be found in chapter 3.3 below.

24 See for Akkuyu the AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF TURKEY AND THE GOVERNMENT OF THE RUSSIAN FEDERATION ON COOPERATION IN RELATION TO THE CONSTRUCTION AND OPERATION OF A NUCLEAR POWER PLANT AT THE AKKUYU SITE IN THE REPUBLIC OF TURKEY, published (also with an English version) in the Official Gazette No. 27721 of 6 October 2010 (decision of the Council of Ministers of 27 August 2010 referring to Law No. 6007 of 15 July 2010 by which accordingly to Article 90 paragraph 1 of the Constitution of the Republic of Turkey the Turkish Grand National Assembly had approved the ratification, published in the Official Gazette No. 27648 of 21 July 2010); on 6 August 2009 Turkey and Russia had concluded the »Agreement between the Government of the Republic of Turkey and the Government of the Russian Federation for Cooperation in the Use of Nuclear Energy for Peaceful Purposes« (Official Gazette No. 27844 of 12 February 2011), available at <http://www.taek.gov.tr/en/international/agreements.html> (accessed 26/04/2013). As regards Law No. 5710 and the Turkish-Russian Agreement see Özdemir, H. E. (2012), *Nükleer Güç Santrallerinin Kurulmasına İlişkin Hukuki Esaslar*, (not yet published as book), pp. 78-79. For Sinop see Taner Yıldız on 24 April 2013 at the 19. ICCI 2013, HABERLER.COM, available (only Turkish) at <http://www.haberler.com/icci-2013-19-uluslararası-enerji-ve-cevre-fuari-ve-58342-haberi/> (accessed 24/04/2013) and the declarations of 3 May 2013 (footnote 40).

in the north-western part of Turkey (Thrace) is actually concretely envisaged.²⁵

2. *Actual Status of the Projects in Mersin-Akkuyu and Sinop-İnceburun as well as Perspectives for a Third Site in Thrace*

2.1 Strategic remarks on nuclear new build in Turkey

Turkey's importance in energy matters is repeatedly mentioned by the Turkish government with regard to the transport of gas from Russia and Central Asia states to Europe.²⁶ The eminent strategic and economic role of Russia for Turkey is obvious.²⁷ Therefore it was not surprising that by decision of the Turkish government Russia was chosen for the first NPP. Recently Russia underlined the role of cooperation in the energy sector with Turkey and mentioned especially the Akkuyu NPP project.²⁸ For the second site in Sinop-İnceburun the decision on the construction and opera-

25 Taner Yıldız at GAZETE TRAKYA, available (only Turkish) at http://www.gazetetrakya.com/Haber-Bakan_Yildiz_acikladi_3_nukleer_santra_lin_yeri_icin_igneada_adaylardan_biri-986952.gazetetrakya (accessed 26/04/2013), while the 10th Development Plan for Turkey (footnote 6), p. 119 no. 790, where 5.000 MWe are announced for this NPP, remains vague.

26 See Taner Yıldız (footnote 4), p. 8 (using the advantages of our geopolitical situation), and Efe, H., (2011) »TURKEY'S ROLE AS AN ENERGY CORRIDOR AND ITS IMPACT ON STABILITY IN SOUTH CAUCASUS«, *OAKA*, Volume 6, No. 12, pp. 118–147, available at <http://www.usak.org.tr/dosyalar/dergi/rHs1uy5VFvZZz5RQBgHvskJVofU8cR.pdf> (accessed 30/04/2013).

27 See the reports published by the Akkuyu NGS A.Ş. project company on the meetings of Turkish Minister of Energy and Natural Resources with Russian authorities and with Russian Minister of Energy on 2 December 2012 (available at <http://www.akkunpp.com/in-istanbul-a-meeting-between-the-general-director-of-the-russian-state-corporation-rosatom-sergei-kirienko-and-the-turkish-minister-of-energy-and-natural-resources-taner-yildiz-was-held/update> and at <http://www.akkunpp.com/in-istanbul-a-meeting-between-the-russian-minister-of-energy-aleksandr-novak-and-the-turkish-minister-of-energy-and-natural-resources-taner-yildiz-was-held-recently/update> – accessed 29/04/2013) and of Prime Minister Erdoğan with Russian President Putin on 4 December 2012 (available at <http://www.akkunpp.com/in-istanbul-negotiations-between-russian-president-vladimir-putin-and-prime-minister-of-the-republic-of-turkey-recep-erdogan-were-held/update> – accessed 27/04/2013) and the declarations of Russian Foreign Minister Lavrov on 16 April 2013, available (only Turkish) at <http://www.trhaber.com/haber/dunya/rusyadan-turkiye-iliskileri-ile-ilgili-onemli-aciklama-82644.html> (accessed 27/04/2013).

28 See Russian Foreign Minister Lavrov (footnote 27).

tion company was expected to be taken probably also for strategic reasons.²⁹ Anyhow, for each project all kinds of safety measures have priority and thus any concern of the public with regard to the accidents of Chernobyl and Fukushima shall be avoided, Turkish Minister for Energy and Natural Resources (ETK Minister) Taner Yıldız underlined on 26 April 2013.³⁰

2.2 The Mersin-Akkuyu site

As place for a NPP the Mersin-Akkuyu site in the south of Turkey at the coast of the Mediterranean Sea was envisaged already in the late sixties and examined in depth by the Turkish Energy Commission's Nuclear Plants' Office starting in 1974 taking into account particularly aspects of earthquake, meteorology and oceanography; a site license was granted on the basis of a report submitted to the Atomic Energy Commission in 1976; whether this license was already or has still to be transferred to Akkuyu NGS as the construction and operation company is not known nor the procedure to be realized for such a transfer;³¹ however, Article 13 paragraph 1

29 See Taner Yıldız for example on 4 April 2013, available (only Turkish) at <http://www.trthaber.com/haber/ekonomi/sinop-nukleer-santralini-japon-fransiz-ortakligi-yapacak-81022.html> (accessed 04/04/2013), and on 24 April 2013 (at this occasion Minister Yıldız considered possible a public-private-partnership for the Sinop NPP), available (only Turkish) at HABERLER.COM: <http://www.haberler.com/icci-2013-19-uluslararası-enerji-ve-cevre-fuari-ve-4558342-haberi/> (accessed 24/04/2013). For the final political decision see chapter 2.3 below.

30 See (only Turkish) TRT TÜRK at <http://www.trtturk.com.tr/haber/yildiz-akkuyu-ve-sinopta-yapilacak-nukleer-santraller-icin-her-turlu-tedbiri-alacagiz.html> (accessed 26/04/2013) and oda TV at <http://www.odatv.com/n.php?n=bakan-yildizakkuyu-turkiyenin-en-guvenli-ve-saglam-yapisi-olacak-2604131200> (accessed 26/04/2013). The Ministry of Energy and Natural Resources is abbreviated in Turkish ETKB (Enerji ve Tabii Kaynaklar Bakanlığı).

31 For the site license of 11 June 1976 see for example (only Turkish), SİNOP NÜKLEER TEKNOLOJİ MERKEZİ, 12 Şubat 2008, slide 11 (and for the site works slides 17-39), available at <http://www.taek.gov.tr/belgeler-formlar/mevzuat/yonerge-kilavuzlar/genelge-yonerge/taek-olcutleri/Sinop-N%C3%BCkleer-Teknoloji-Merkezi/> (accessed 26/06/2013), ntvmsbc, »Nükleer enerjinin Türkiye'deki tarihçesi« (footnote 21), TÜRKİYE'DE NÜKLEER ENERJİNİN TARİHÇESİ, available at <http://www.nukleer.web.tr/cgi-bin/showhtml.cgi?turkiye/tarihce> (accessed 27/04/2013), Adaloğlu, U., (2002) »TÜRKİYE'DE NÜKLEER ENERJİNİN TARİHÇESİ VE GELİŞİMİ«, available (only Turkish) at <http://www.nukte.org/node/122> (accessed 27/04/2013), Aslan, S., (2011) »Ak-

of the Decree on Licensing of Nuclear Installations of 1983 requires that the applicant for the construction license has obtained a site license.

After several failures of tenders, finally based on Law No. 5710 in 2009 the Mersin-Akkuyu site was definitely determined by the Turkish-Russian Agreement of 12 May 2010.³² This agreement implies especially construc-

kuyu'da Nükleer Maceranın Tarihçesi», available (only Turkish) at http://www.kaldiracdergi.com/index.php?option=com_content&view=article&id=195:akkuyuda-nuekleer-macerann-tarihcesi-sabahat-aslan&catid=22:ariv-mart-2011-119say&Itemid=10 (accessed 27/04/2013), and TMMOB (footnote 17), p. 125. The sources cited are not clear with regard to the institution which granted the license; on the one hand the Turkish Energy Authority (abbreviation in Turkish TEK) is mentioned as competent institution for the site license, on the other hand the Atomic Energy Commission (abbreviation in Turkish AEK) is referred to, especially in SİNOP NÜKLEER TEKNOLOJİ MERKEZİ, slide 11. For Law No. 1312 of 15 July 1970 establishing TEK see Official Gazette No. 13559 of 25 July 1970. The AEK based on Law No. 6821 (footnote 9) was competent for all scientific and technical subjects related to nuclear energy (Article 2 lit. a of Law No. 6821), competent also for site investigations and moreover in principle for the coordination of administrative activities (Article 1 of Law No. 6821). TEK based on Law No. 1312 had to construct and operate electricity production facilities and plants or to arrange the construction or operation of such facilities and plants (Article 3 lit. b and c of Law No. 1312). For the site see (only Turkish) TAEK, Akkuyu Nükleer Santral Sahası, available at <http://www.taek.gov.tr/nukleer-guvenlik/nukleer-enerji-ve-reaktorler/165-akkuyu-nukleer-guc-santrali/431-akkuyu-nukleer-santrali-sahasi.html> (accessed 29/04/2013). As regards the subject of transfer of the site license (of which it is not known to whom it was accorded) to Akkuyu NGS in practice the site license's scientific and factual data possibly could be actualized in the framework of the construction licensing process within the Preliminary Safety Analysis Report accordingly to Article 14 no. 1 of the Decree on Licensing of Nuclear Installations of 1983 (see footnote 9) which reads as follows: »*The Preliminary Safety Analysis Report must include the following information: 1. New information related to site and its environment acquired after the issuance of site report.*»

- 32 See footnote 24 and 10th Development Plan for Turkey (footnote 6), p. 117 no. 781. Turkish Constitutional Court's ruling of 1 June 2012 upholds conformity of Law No. 6007 of 15 July 2010 (Agreement of 12 May 2010) with the Constitution (as of 18 June 2013 the ruling is not yet published in the Official Gazette and a date for the publication cannot be given; by the way, the Commission of the Turkish Grand National Assembly for a new Constitution consented on 17 June 2013 that rulings of the Turkish Constitutional Court should be published only after the reasons for the judgement are finalized – »*yüksek mahkemenin kararları kesin olacak ve bu kararlar, gerekçesi yazılmadan hiçbir surette açıklanamayacak*« –, see TRT HABER at <http://www.trthaber.com/haber/gundem/anayasa-mahkemesiyle-ilgili-uzlasma-89822.html> – accessed 25/06/2013). For further steps following the agreement see AKKUYU NGS AŞ, Project History, available

tion and operation of a Russian type of reactor – third-generation standardised VVER-1200 (V-392M and V-491) reactor of 1200 MWe gross and 3200 MWt like in the AES-2006 plant at Novovoronezh –, the BOO (build operate own) model accomplished by a company under Turkish legislation for construction, operation and decommissioning including that spent fuel is taken back by Russia, future ownership of the Akkuyu NGS project company, price calculation for produced electricity and references to obligations on non-proliferation, physical protection and nuclear liability.³³ Article 8 paragraph 1 clearly states that »*The NPP shall be licensed and inspected in accordance with the laws and regulations of the Republic of Turkey in terms of nuclear safety and radiation protection.*« Therefore the next steps required to be undertaken by the Akkuyu Project Company are the application for the construction license and, if necessary, the submission of a report for Environmental Impact Assessment (EIA), further-

at <http://www.akkunpp.com/project-history-2> (accessed 29/04/2013). For the last tender see Gürbüz, M. (footnote 17), p. 18.

- 33 Articles 3, 5, 10, 12, 15 and 16 of the Agreement. See on this agreement and the BOO model particularly Kuzeyli, K. (2012), *The Akkuyu Nuclear Power Plant Project – Risks and Obligations Under Nuclear Law*, unpublished thesis (Master of Laws in International and Comparative Nuclear Energy Law and Policy) at the University of Dundee of August 2012, pp. 16 – 21, Gürbüz, M. (footnote 17), pp. 126-127, TMMOB (footnote 17), p. 131, TAEK – Akkuyu Nuclear Power Plant (available at <http://www.taek.gov.tr/en/institutional/akkuyu-nuclear-power-plant.html> – accessed 20/04/2013), Centre for Economics and Foreign Policy Studies (2011), *The Turkish Model for Transition to Nuclear Power*, Istanbul, pp. 91 et seq. and pp. 126 et seq., available at <http://www.edam.org.tr/EDAMNukleer/edamreport.pdf> (accessed 20/05/2013), Ercan, E., Schneider, H. (footnote 11), p. 588 right column with footnote 65. Details on the project company are presented by AKKUYU NGS AŞ, Akkuyu NPP JSC, available at <http://www.akkunpp.com/akkuyu-npp-jsc> (accessed 29/04/2013). For the Russian VVER-1200 reactor type see World Nuclear Association, *Advanced Nuclear Power Reactors*, available at <http://www.world-nuclear.org/info/Nuclear-Fuel-Cycle/Power-Reactors/Advanced-Nuclear-Power-Reactors/#.UY1LlqQg1c> (accessed 10/05/2013), and AKKUYU NGS AŞ, NPP, GENERAL INFORMATION ABOUT AKKUYU NPP, available at <http://www.akkunpp.com/npp-2> (accessed 31/05/2013). By the way, in the United States a comparable BOO model would perhaps not be accepted, because license could not be granted if the operating company belongs exclusively to a foreign owner (on 30 August 2012 the judges of the Atomic Safety and Licensing Board of the US Nuclear Regulatory Commission [NRC] ruled this decision in an arbitration against which could be appealed to the five NRC Commissioners; see *Nuklearforum Schweiz* of 17 September 2012).

more to continue working on physical protection measures.³⁴ TAEK for its part has to provide technical support capacities for the construction licensing process, although international experts appraised technical works at the site.³⁵ As announced by the Akkuyu Project Company the construction

34 For construction license see Articles 13–21 of the Decree on Licensing of Nuclear Installations of 1983 (footnote 10; for details see chapter 3.3.4 below) and TAEK, Akkuyu Nuclear Power Plant: »APC started site investigations in Akkuyu for updating the site characteristics and parameters according to the national procedures laid out in the Decree on Licensing of Nuclear Installations«, available at <http://www.taek.gov.tr/en/institutional/akkuyu-nuclear-power-plant.html> (accessed 29/04/2013), and TAEK, Akkuyu Nükleer Güç Santrali – Gelişmeler, on the updated site report and the evaluation by TAEK in May and June 2012, available (only Turkish) at <http://www.taek.gov.tr/nukleer-guvenlik/nukleer-enerji-ve-reaktorler/165-akkuyu-nukleer-guc-santrali/432-akkuyu-ngs-gelismeler.html> (accessed 26/06 /2013), finally AKKUYU NGS AŞ (2012), *Project History*, »06.2012 Transfer of the Updated Akkuyu NPP Site Report to TAEK«, available at <http://www.akkunpp.com/project-history-2> (accessed 29/04/2013); with regard to EIA see TAEK, (2013) »2012 Yılı Faaliyet Raporu«, Ankara, p. 45, available since 30/04/2013 (only Turkish) at http://www.taek.gov.tr/belgeler-formlar/sgm/faaliyet_raporlari/TAEK-2012-Y%C4%B1%C4%B1-Faaliyet-Raporu/ (accessed 30/04/2013), AKKUYU NGS Elektrik Üretim Anonim Şirketi (2011), *AKKUYU NÜKLEER GÜÇ SANTRALI PROJESİ, ÇEVRESEL ETKİ DEĞERLENDİRMESİ BAŞVURU DOSYASI*, Ankara, available (only Turkish) at <http://www.csb.gov.tr/dosyalar/images/file/akkuyungscbd.pdf> (accessed 28/04/2013), p. 3, and Dünya Enerji Konseyi (World Energy Council) Türk Milli Komitesi, Enerji Raporu 2012, Aralık 2012, Ankara, p. 195, available (only Turkish) at <http://www.dektmk.org.tr/upresimler/enerjirapor2012.pdf> (accessed 29/04/2013): EIA report was submitted on 2 December 2011 to the competent Ministry of Environment and City Planning and was presented from 23 February 2012 on to the public with which was held a meeting on 29 March 2012; for details on EIA legislation relevant for NPPs see chapter 4.1 below. Lastly the ruling of the Council of State of 13 February 2012 bringing to a stop the execution of the environmental arrangement plan for the Mersin-Karaman planning area in which is situated the Mersin-Akkuyu NPPs' site has to be mentioned (T.C. Danıştay Altıncı Daire Esas No: 2011/6066) as well as the Council of State's ruling of 1 April 2013 and the afterwards recently published new regulation on exemptions from EIA (see chapter 4.1 below). For activities on physical protection see TAEK, (2013) »2012 Yılı Faaliyet Raporu«, Ankara, p. 47.

35 TAEK's tenders for technical support were not yet successful; the third »Tender for Procurement of Technical Support Services During Review and Assessment of Construction License Application for Akkuyu Nuclear Power Plant« No: 2012/190420 was cancelled on 22 March 2013; the announcement of TAEK is available at <http://www.taek.gov.tr/en/latest-news/1042-announcement-of-cancellation-of-tender-no-2012-190420.html> (accessed 28/04/2013). TAEK started a new tentative by announcing on 12 June 2013 the invitation to an »Informative Meeting on Procurement for Akkuyu NPP Technical Support« on 25 June 2013, the outcome of this meeting was published on 28 June 2013 (Bidders Meeting

license shall be granted in 2014, construction will start in 2015 and operation of the first reactor is envisaged to start in 2020.³⁶ The total capacity of the NPP at the site will be 4800 MWe.

2.3 The Sinop-İnceburun site

At this site situated in the north of Turkey at the coast of the Black Sea in 2008 a center for nuclear power engineering was established.³⁷ The nega-

Presentation), available at <http://www.taek.gov.tr/en/news-flash/1077-informative-meeting-on-procurement-for-akkuyu-npp-technical-support-2.html> (accessed 23/06/2013) respectively at <http://www.taek.gov.tr/en/latest-news/1080-bidders-meeting-presentation.html> (accessed 01/07/2013). By the way, the President of the Republic could request the State Supervisory Council to conduct an inquiry, inspection or investigation of TAEK's tender procedures (Article 108 paragraph 1 of the Constitution – see footnote 47). – See for international appraisal of technical works at the site Akkuyu NPP news, available at <http://www.akkunpp.com/akkuyu-npp-news-2> (accessed 08/05/2013), 27.08.2012 »*IAEA experts highly appraised engineering surveys on Akkuyu NPP site*«. In the framework of assistance to the Turkish Atomic Energy Agency (TAEK) the IAEA's representatives visited the Akkuyu NPP site last August (General Designer – Atomenergoprojekt OJSC, Moscow) to make a peer review of the nuclear power plant siting and become familiar with the conducted engineering surveys; see further Akkuyu NGS haberleri, available (only Turkish) at <http://www.akkunpp.com/akkuyu-ngs-haberleri> (accessed 08/05/2013), 05.09. 2012 »*Akkuyu santralına uzmanlardan tam not*«. Uluslararası Atom Enerjisi Kurumu (UAEK) uzmanları, Mersin'in Gülnar İlçesi'ne bağlı Büyükeceli Beldesi'nde yapılacak Akkuyu Nükleer Santrali sahasındaki çalışmalarını inceledi.

- 36 See for the establishment of the project company Akkuyu Electricity Generation JSC on 13 December 2010 and for TAEK recognizing on 7 February 2011 the project company as the owner according to Article 6 of the Decree on Licensing of Nuclear Installations TAEK, Akkuyu Nuclear Power Plant, available at <http://www.taek.gov.tr/en/institutional/akkuyu-nuclear-power-plant.html> (accessed 31/05/2013) and AKKUYU NGS AŞ, Project History, available at <http://www.akkunpp.com/project-history-2> (accessed 31/05/2013); for licensing, construction and operation dates see AKKUYU NGS AŞ, Project implementation, available at <http://www.akkunpp.com/project-implementation> (accessed 29/04/2013), and Akkuyu NGS haberleri, available (only Turkish) at <http://www.akkunpp.com/akkuyu-ngs-haberleri> (accessed 08/05/2013): 03.04. 2013 Akkuyu'da İnşaat 2015 Sonunda Başlayacak, TMMOB (footnote 17), p. 104 (construction will start in 2013), Dünya Enerji Konseyi (World Energy Council) Türk Milli Komitesi, Enerji Raporu 2012 (footnote 34), p. 195, and 10th Development Plan for Turkey (footnote 6), p. 118 no. 790.

tive experiences on tenders in order to select and appoint a company for construction and operation of a NPP at the site of Mersin-Akkuyu seem to have determined the Turkish government as regards the Sinop-İnceburun site not to proceed on the basis of Law No. 5710 of 2009 by a tender but to negotiate directly with interested partner companies respectively the origin states of the interested companies.³⁸ On 24 April 2013 ETK Minister Taner Yıldız informed that Japan and China are the last two applicants for the NPP at the Sinop-İnceburun site, while on 2 May 2013 he proved true a report of a Japanese newspaper that a Japanese-French consortium had won the battle for the Sinop-İnceburun site and that in an agreement a two years period for site investigations will be fixed in order to confirm the site's appropriateness.³⁹ On 3 May 2013 already the Prime Ministers of Turkey and Japan signed two agreements, one on construction and operation of four reactors of type ATMEA1 by a French-Japanese joint venture at the Sinop-İnceburun site, time of beginning operation is ten years later in 2023, if possible earlier, and one on cooperation in the use of nuclear energy for peaceful purposes.⁴⁰ The final total capacity of the NPP at Sinop-İnceburun will be about 4480 MWe.

37 See Sinop Nükleer Teknoloji Merkezi (12 Şubat 2008), available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/func-directinfo/97/>; the site characteristics are shown on slides 5-7.

38 Dünya Enerji Konseyi (World Energy Council) Türk Milli Komitesi, Enerji Raporu 2012 (footnote 34), p. 196.

39 At the 19. ICCI 2013 (footnote 24) and at TRT HABER of 2 May 2013, available (only Turkish) at <http://www.trthaber.com/haber/ekonomi/sinop-nukleer-santrali-japon-fransiz-ortakliginin-84567.html> (accessed 02/05/2013). See further Prime Minister Erdoğan of 2 May 2013: »Sinop'taki nükleer santrali Japonya yapacak«, ZAMAN at http://www.zaman.com.tr/_erdogan-sinoptaki-nukleer-santrali-japonya-yapacak_2085049.html (accessed 03/05/2013).

40 See TRT HABER, »2. nükleer santral için rakam netleşti«, 3 Mayıs 2013, available (only Turkish) at <http://www.trthaber.com/haber/gundem/2-nukleer-santral-icin-rakam-netlesti-84720.html> (accessed 03/05/2013), ZAMAN, »Erdoğan: Sinop'taki nükleer santrali Japonya yapacak«, available (only Turkish) at http://www.zaman.com.tr/_erdogan-sinoptaki-nukleer-santrali-japonya-yapacak_2085049.html (accessed 03/05/2013), and 10th Development Plan for Turkey (footnote 6), p. 117 no. 781 and pp. 118-119 no. 790. See also Le Monde.fr, M Économie du 2 mai 2013, Le duo Mitsubishi-Areva va construire quatre réacteurs nucléaires en Turquie, available at http://www.lemonde.fr/economie/article/2013/05/02/le-duo-mitsubishi-areva-va-construire-quatre-reacteurs-nucleaires-en-turquie_3169790_3234.html (accessed 03/05/2013), and wnn world nuclear news, »WNN First Selection of Atmea1 nuclear reactor« of 3 May 2013, available at http://www.world-nuclear-news.org/NN_First_selection_of_Atmea1_nuclear_reactor_0305132.html (accessed 15/05/2013). For ATMEA1 see World Nu-

Meanwhile TAEK is preparing administrative capacities for the licensing phase, the start of operation is intended for 2023, whereas the partition of parts of the operation company and the role of Turkish Energy Electricity Generation Corporation (EÜAŞ) is not yet decided.⁴¹ Nevertheless it has to be stated that the selection procedure of the company for construction and operation of the NPP was postponed several times.⁴² Moreover,

clear Association, Advanced Nuclear Power Reactors, available at <http://www.world-nuclear.org/info/Nuclear-Fuel-Cycle/Power-Reactors/Advanced-Nuclear-Power-Reactors/#.UY1LkqQg1c> (accessed 10/05/2013), and ATMEA available at <http://www.atmea-sas.com/scripts/ATMEA/publigen/content/templates/Show.asp?P=57&L=EN> (accessed 15/05/2013). An anticipated start for operation required the Turkish Prime Minister on 3 May 2013, see TÜRKİYE CUMHURİYETİ BAŞBAKANLIK, »Nükleer santral, Türk mühendislik tecrübesinin, deneyiminin ve ekonomik girişiminin de adımı olacak«, available (only Turkish) at <http://www.basbakanlik.gov.tr/Forms/pActualDetail.aspx> (accessed 03/05/2013). Turkey signed bilateral agreements on nuclear cooperation with France on 21 September 1999 (Agreement Between the Government French Republic and The Government of the Republic of Turkey for Co-operation in the Peaceful Uses of Nuclear Energy, ratified on 18 May 2011), and with Japan on 3 May 2013 (Agreement between the Government of the Republic of Turkey and the Government of Japan for Cooperation in the Use of Nuclear Energy for Peaceful Purposes, ratification is outstanding), see TAEK, Anlaşmalar Tablosu, available (Turkish and English) at <http://www.taek.gov.tr/kurumsal/uluslararasi/anlasmalar-tablosu.html> (accessed 11/06/2013).

41 TAEK, (2013) »2012 Yılı Faaliyet Raporu«, Ankara, p. 46, available since 30/04/2013 (only Turkish) at http://www.taek.gov.tr/belgeler-formlar/sgm/faaliyet_raporlari/TAEK-2012-Y%C4%B1%C4%B1-Faaliyet-Raporu/ (accessed 30/04/2013), T.C. ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI, NÜKLEER SANTRALLER VE ÜLKEMİZDE KURULACAK NÜKLEER SANTRALE İLİŞKİN BİLGİLER, p. 29, available (only Turkish) at http://www.enerji.gov.tr/yayinlar_raporlar/Nukleer_Santraller_ve_Ulkemizde_Kurulacak_Nukleer_Santrale_Iliskin_Bilgiler.pdf (accessed 29/04/2013). For the possible participation of state owned Turkish EÜAŞ in the operation company see T.C. Enerji ve Tabii Kaynaklar Bakanlığı, Bakanlık Haberleri, Bakan Yıldız Basın Mensuplarıyla Bir Araya Geldi. [06/05/2013], available (only Turkish) at <http://www.enerji.gov.tr/index.php> (accessed 07/05/2013).

42 On 20 October 2012 ETK Minister Taner Yıldız told the selection process with four competing countries is still ongoing, see TRT HABER at <http://www.trthaber.com/haber/ekonomi/4-ulkeden-birini-sececegiz-60284.html> (accessed 29/04/2013). On 22 January 2013 he announced that the tender process has reached the end, see TRT HABER at <http://www.trthaber.com/haber/ekonomi/nukleer-santral-ihalesinde-sona-gelindi-71881.html> (accessed 30/04/2013). At the 19th ICCI he declared on 24 April 2013 that only China and Japan are still competing after Canada and South Korea having dropped out of the process (see footnote 24).

the declaration with regard to nuclear safety of NPPs of ETK Minister Taner Yıldız that a NPP was desired which spent more money for safety⁴³ seems to be ambiguous. But it could be evaluated positively in the light of his declarations on nuclear safety of NPPs at the Mersin-Akkuyu and the Sinop-İnceburun sites he made on 26 April 2013 when he strongly assured that all kind of measures will be taken and thus no concerns should remain in the public.⁴⁴

2.4 Third site for NPPs in Turkey in the north-western part (Thrace) at Kırklareli-İğneada, also situated at the coast of the Black Sea

After having been selected already in the nineteen seventies the site of Kırklareli-İğneada as third site for a NPP in Turkey is after concrete developments at the sites of Mersin-Akkuyu and Sinop-İnceburun more and more confirmed; specific plans and detailed preparative works for choosing the project company and starting administrative steps (site investigations, EIA, siting license) are not yet known while Turkish Prime Minister announced on 3 May 2013 a cooperation with Japan could be realised, Turkish ETK Minister adding that the works should be finished within two years and that finally the reactors at this site will be Turkish-designed, the latter confirmed by Prime Minister Erdoğan on 9 May 2013.⁴⁵ It could

43 »Taner Yıldız, nükleer santrallerin güvenliği için »güvenliğe daha çok para harcanan bir santral istiyoruz.« diye konuştu.«, see (only Turkish) TRT HABER at <http://www.trthaber.com/haber/ekonomi/4-ulkeden-birini-sececegiz-60284.html> (accessed 29/04/2013).

44 See footnote 30.

45 Dünya Enerji Konseyi (World Energy Council) Türk Milli Komitesi, Enerji Raporu 2012 (footnote 34), p. 196. For the cooperation with Japan on site investigations see (only Turkish) ZAMAN, »Erdoğan: Sinop'taki nükleer santrali Japonya yapacak«, available (only Turkish) at http://www.zaman.com.tr/_erdogan-sinoptaki-nukleer-santrali-japonya-yapacak_2085049.html (accessed 03/05/2013). For duration of site works and for the goal of Turkish-designed reactors at the third site in Turkey see for example TRT HABER, »Hedef yerli nükleer - Yıldız: Yerli nükleer santraller hedefimizi büyük ihtimalle hayata geçireceğiz«, available (only Turkish) at <http://www.trthaber.com/haber/gundem/hedef-yerli-nukleer-84960.html> (accessed 06/05/2013), and Prime Minister Erdoğan: »Biz üçüncü nükleer santrali yaparız«, TRT HABER, available (only Turkish) at <http://www.trthaber.com/haber/ekonomi/biz-ucuncu-nukleer-santrali-yapariz-85458.html> (accessed 09/05/2013), and 10th Development Plan for Turkey (footnote 6), p. 119 no. 790, where 5.000 MWe are announced for this NPP.

be deemed probable that future activities depend on progress at the Mersin-Akkuyu and Sinop-İnceburun sites and projects.

3. *Nuclear legislation in Turkey*

3.1 General Remarks on the subjects and on the legal hierarchy of Turkish nuclear legislation

The main fields which nuclear legislation covers are nuclear safety and security, safeguards, radiological protection (radiation safety), nuclear third party liability for NPPs, other facilities or nuclear activities as for example enrichment plants, transport, import and export of nuclear material, storage and final disposal. Legal instruments result from international law, i.e. multilateral conventions or bilateral treaties as well as international recommendations and guidelines, and in principle from national legislation. On the national level the legal hierarchy constitutes of the constitution, laws including the transposed international conventions and agreements, decrees and regulations as binding legislation.⁴⁶ These binding norms are complemented by directives and guides, issued by administrative bodies as instruments of further detailing regulations to which they may not create contradictions; thus they constitute more than a self-commitment of the administration and consequently are binding somehow also external bodies; all these norms as administrative activities as well as the administrative acts on the basis of those norms can be reported to the competent courts for judicial review.⁴⁷

46 Articles 115 and 124 together with Articles 2, 8 and 123 of the Constitution of the Republic of Turkey (see footnote 47). Turkish legislation comprises two kinds of binding norms subordinated to laws: In the field of nuclear legislation TAEK translates »*tüzük*« by decree, »*yönetmelik*« by regulation (details see chapter 3.3 below). For the terminology see also footnotes 49 and 50.

47 Article 125 (as amended on 7 May 2010) of the Constitution of the Republic of Turkey (voted as Law No. 2709 on 7 November 1982 and published in the Official Gazette No. 17874 of 20 November 1982), available in English at <http://www.byegm.gov.tr/content.aspx?s=tcotrot> (accessed 21/05/2013) or at http://www.constitution.org/cons/turkey/turk_cons.htm (accessed 07/06/2013). See for the character of directives and guides and their judicial review Kuluçlu, E., (2008) »TÜRK HUKUK SİSTEMİNDE NORMLAR HİYERARŞİSİ VE SAYIŞTAY DENETİMİNE ETKİLERİ«, *SAYIŞTAY DERGİSİ*, Sayı (Volume) 71, pp. 7 and 17. For details of the judicial review as regards licenses for NPPs see Özdemir, H. E. (footnote 24), pp. 179-182.

3.2. The Constitution of the Republic of Turkey and its importance for the existing Turkish nuclear legislation

The Constitution⁴⁸ is relevant for the use of nuclear energy in Turkey in many aspects. Firstly stands the obligation of guaranteeing health of people, also in a healthy and balanced environment (Article 56 paragraph 1 and 2); in matters of working conditions Article 50 together with Article 49 paragraph 2 (state obligation of protecting workers by improving general conditions of labour) has to be observed. The coasts of Turkey are mentioned in Article 43 with regard to special use for the community. Organizational rules exist in Articles 90 and 104 concerning international conventions, Articles 88 and 91 aiming at laws and decrees having the force of law, Article 115 with regard to issue regulations⁴⁹ and Article 124 with regard to issue by-laws⁵⁰, finally Article 123 paragraphs 1 and 3 stating the necessity to regulate the administrative organization by law and Article 125 enabling the recourse to judicial review. Since Article 124 states that by-laws shall *»ensure the application of ... regulations«* the prior-ranking of regulations (TAEK: decrees) compared with by-laws (TAEK: regulations) is obvious. Recently the individual recourse to the Constitutional Court was introduced.⁵¹ Consequently the aspect of judicial

48 See footnote 47.

49 See footnote 46, but the terminology used in the English version of the Constitution (see footnote 47) does not accord to the translations of nuclear legislation published by the Turkish Nuclear Energy Authority, Documents (English) Law Regulations (available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/> – accessed 01/05/2013). Article 115 paragraph 1 of the Constitution reads as follows: *»The Council of Ministers may issue regulations governing the mode of implementation of laws or designating matters ordered by law, provided that they do not conflict with existing laws and are examined by the Council of State.«*

50 See footnote 49. Article 124 paragraph 1 of the Constitution reads as follows: *»The Prime Ministry, the ministries, and public corporate bodies may issue by-laws in order to ensure the application of laws and regulations relating to their particular fields of operation, provided that they are not contrary to these laws and regulations.«* This makes clear that the *»tüzük«* (regulation respectively [so TAEK] decree) mentioned in Article 115 of the Constitution is superior to the *»yönetmelik«* (by-law respectively [so TAEK] regulation) as referred to in Article 124 of the Constitution.

51 See (only Turkish) T.C. ANAYASA MAHKEMESİ, Ekinci, H., Sağlam, M., (2012) 66 Soruda Anayasa Mahkemesine Bireysel Başvuru, Ankara, p. 7: *»Anayasa Mahkemesine bireysel başvuru, 7.5.2010 günlü, 5982 sayılı Türkiye Cumhuriyeti Anayasasının Bazı Maddelerinde Değişiklik Yapılması Hakkında Kanun'un 12 Eylül 2010 tarihinde yapılan referandumla kabul edilmesiyle hukuk sistemimize girmiş yeni bir hak arama yoludur.«*, available (only Turkish) at

review is rather important and significant for the consistency and the substance of legislation on the one hand as well as for executing administrative acts on the other hand.

3.3 Turkish nuclear legislation – concrete approach, development up to now, particular legal instruments in the main fields, perspectives

3.3.1 The approach of detailed and comprehensive Turkish nuclear legislation

After initial steps since 1956 in 1982 the Turkish Atomic Energy Authority (TAEK) was established and provided with competences in the field of nuclear science and technique as well as for the scope of nuclear legislation.⁵² An important practical step was realised in 1983 by putting into force the Decree on Licensing of Nuclear Installations⁵³ which was never changed and is still in force and thus builds the basis for the outstanding licensing procedures for the planned NPPs at the sites of Mersin-Akkuyu and Sinop-İnceburun. In 1985 the Radiation Safety Decree⁵⁴ and in 1991 respectively in 2000 the Regulation on Radiation Safety, changed in 2004 and 2010, were put into force.⁵⁵

<http://www.ankarabarsu.org.tr/Siteler/2012yayin/2011sonrasikitap/66-Soruda-Anayasa-Mahkemesine-Bireysel-Basvuru.pdf> (accessed 22/06/2013).

52 Details in chapter 3.3.2 below. For the »Mission of TAEK« see <http://www.taek.gov.tr/en/institutional/mission-of-taek.html> (accessed 17/04/2013).

53 Published in the Official Gazette No. 18256 of 19 December 1983; unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/nuclear-safety/> (accessed 04/05/2013).

54 Official Gazette No. 18861 of 7 September 1985; an English version is available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/radiation-safety/Radiation-Safety-Decree/> (accessed 17/04/2013). The basis of this decree are Articles 4 and 10 of Law No. 2690 of 1982 (Article 26 of the Decree): »*Environmental Protection Article 10- The secretariat measures to be taken for public health and radiation protection, during the implementation of the duties stated in Article 4 of this Law shall be determined by a decree to be prepared by the Turkish Atomic Energy Authority.*«

55 See Official Gazette No. 20983 of 6 September 1991, abolished nine years later by a new regulation in 2000 (Article 77 of this regulation), Official Gazette No. 23999 of 24 March 2000, changed for the last time by regulation of 2010, Official Gazette No. 27600 of 3 June 2010. An English version is available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/radiation-safety/> (accessed 01/05/2013). The Regulation is based on Article 4 lit. d of Law No.

As a major step in Turkish nuclear legislation is evaluated the Law No. 5710 on »Construction and Operation of Nuclear Power Plants and Energy Sale« of 9 November 2007.⁵⁶ The previous version of this law, voted in the Turkish Grand National Assembly (TGNA) as Law No. 5654 of 8 May 2007, was sent back to the TGNA for revision by the President of the Republic of Turkey with notice of 24 May 2007 because of inconsistency with Articles 89 and 104 of the Constitution.⁵⁷ Law No. 5710 deals particularly with nuclear technology and energy economics: »The aim of this law is to provide, in accordance with the energy plan and policy, the procedures and principles for the construction and operation of nuclear power plants and the sale of energy from those plants« (Article 1). It seems not to be clear whether this law is only applied in the case of a tender for the construction and the operation of a NPP or has to be observed for all NPPs' activities, even if no tender had been accomplished, particularly in the context of licensing.⁵⁸ Law No. 5710 was nevertheless the signal for elaboration and putting into force of several regulations on nuclear safety issues in 2007 - 2009.⁵⁹ Following the failure of tenders for the Akkuyu

2690 of 1982 and »The provisions of this Regulation shall be executed by the Prime Minister.« (Article 79), what may be deemed to underline the importance contributed to radiation safety by the Prime Ministry, see Article 124 paragraph 1 of the Constitution of the Republic of Turkey (see footnote 50).

56 Official Gazette No. 26707 of 21 November 2007; unofficial translations in English and French are available at Nuclear Law Bulletin No. 80 2/2007, pp. 105 et seq.; remarks on the draft by Ercan, E., (2007) »Die Energiepolitik der Türkei mit besonderem Augenmerk auf die Kernenergie«, *International Journal for Nuclear Power*, January 2007 – atw 52. Jg. (2007) Heft 1 – Januar, pp. 18, 19. For the evaluation of this law see for example Kuzeyli, K. (footnote 33), pp. 2 et seq., Gürbüz, M. (footnote 17), pp. 17 – 21, Centre for Economics and Foreign Policy Studies (footnote 33), p. 126, and Özdemir, H. E. (footnote 24), pp. 12-62 and 78-79.

57 See (only Turkish) *TBMM Dönem: 23 Yasama Yılı: 2 (S. Sayısı: 45)* including the report of the Turkish Grand National Assembly's Commission on Industry, Commerce, Energy, Natural Resources, Knowledge and Technology of 24 October 2007 finalizing the version of Law No. 5710.

58 This aspect is discussed in chapter 5.1 below.

59 See Regulation on the Basic Quality Management Requirements for Safety in Nuclear Facilities, published in the Official Gazette No. 26642 of 13 September 2007 (unofficial translation available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,2/> – accessed 01/05/2013), changed by regulation of 2009 (Official Gazette No. 27144 of 17 February 2009), Regulation on Specific Principles for Safety of Nuclear Power Plants, published in the Official Gazette No. 27027 of 17 October 2008 (unofficial translation available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,2/> – accessed 01/05/2013),

NPP⁶⁰ and in consequence of negative rulings of the Constitutional Court of 6 March 2008⁶¹ and the Council of State as a supreme administrative court of 16 September 2009 and of 4 March 2011⁶² the Turkish government started early in 2010 bilateral negotiations with Russia because the only interested company in the tender process came from Russia; on 12 May 2010 the Turkish-Russian agreement was signed.⁶³ Afterwards further regulations, directives and guides especially aiming at ensuring nuclear safety were published.⁶⁴

Regulation on Design Principles for Safety of Nuclear Power Plants, published in the Official Gazette No. 27027 of 17 October 2008 (unofficial translation available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,1/> – accessed 01/05/2013), Regulation on Nuclear Power Plant Sites, published in the Official Gazette No. 27176 of 21 March 2009 (unofficial translation available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,1/> – accessed 01/05/2013). For details see chapter 3.3.5 below.

- 60 See Kuzeyli, K. (footnote 33), pp. 5–8.
- 61 Published (only Turkish) in the Official Gazette No. 27173 of 18 March 2009.
- 62 See (only Turkish) T.C. DANIŞTAY İDARİ DAVA DAİRELERİ KURULU YD. İtiraz No. 2009/722 and T.C. DANIŞTAY ONÜÇÜNCÜ DAİRE Esas No: 2009/333 Karar No: 2011/876, further Kuzeyli, K. (footnote 33), p. 5.
- 63 See Kuzeyli, K. (footnote 33), pp. 5–8. For the Turkish-Russian agreement see footnote 24.
- 64 Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants, available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,1/> (accessed 01/05/2013); the directive repealed the »*Directive on Principles of Licensing of Nuclear power Plants, approved by the Atomic Energy Commission at its meeting No. 113/4, dated 24/05/2010*«, Article 8- (1); Guide on Specific Design Principles, available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,1/> (accessed 01/05/2013). See for details of the directive Özdemir, H. E. (footnote 24), pp. 154-162, further together with details of the directive and the guide chapter 3.3.7 below. Further should be mentioned the Regulation of Nuclear Safety Inspections and Enforcement (published in the Official Gazette No. 26642 of 13 September 2007, unofficial translation available at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,2/> – accessed 01/05/2013, changed by regulation of 2008, published in the Official Gazette No. 27034 of 24 October 2008), the Directive on the Granting of Functions to Inspectors for Nuclear Safety (NÜKLEER GÜVENLİK DENETÇİSİ YETKİLENDİRİLMESİNE İLİŞKİN YÖNERGE, was formerly available – only Turkish – since 2 March 2012 at <http://www.taek.gov.tr/belgeler-formlar/func-directinfo/739/>) and the Regulation on Physical Protection of Nuclear Materials and Nuclear Facilities (Nükleer Tesislerin ve Nükleer Maddelerin Fiziksel Korunması Yönetmeliği), published in the Official

The activities in 2007 and the following two and a half years until the signing of the agreement with Russia on 12 May 2010 aimed at legally fixing basic requirements for safety in order to direct the tender process to safe NPP offers and to promote the safety legislation in Turkey step by step. The strategy for regulating nuclear safety following the agreement of 2010 seems having been changed: According to Article 6 paragraph 2 of the Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants⁶⁵ the legal safety approach aims at a step-by-step norm hierarchy for site selection, construction and operation of NPPs with »a) regulations of the Republic of Turkey, b) IAEA Nuclear Safety Series documents under the categories of »safety fundamentals« and »safety requirements«, c) if necessary »nuclear regulations in the Vendor Country« and d) if necessary »a third country regulation conforming to relevant IAEA safety guides or to the design of the plant, for which the license application has been made«. The execution of such a legal hierarchy in legislation seems to be not yet experienced and therefore comprises and implies high risks of failure in the case of judicial review.⁶⁶

3.3.2 The development of systematic Turkish nuclear legislation and regulatory infrastructure

In today's view Law No. 2690 of 1982⁶⁷ establishing TAEK as regulatory body has to be deemed crucial for the understanding of Turkish nuclear law in force, particularly with regard to NPPs' site, construction and operation licenses. In accordance with Article 123 paragraphs 1 and 3 of the Constitution⁶⁸ TAEK is established as state authority and provided with clearly defined competences by a law voted by the Turkish Grand National Assembly. Following the objective of Article 1 of Law No. 2690 »to

Gazette No. 28300 of 22 May 2012, available (only Turkish) at <http://www.taek.gov.tr/component/remository/mevzuat/yonetmelikler/nukleer-guvenlik/orderby,2/page,2/> – accessed 01/05/2013 (being translated at <http://www.taek.gov.tr/en/component/remository/documents/Regulations/nuclear-safety/orderby,2/page,2/> – accessed 01/05/2013). For details see chapters 3.3.5 – 3.3.7 below.

65 See footnote 64.

66 See chapter 3.2 (at the end) above.

67 See footnote 9. In Article 4 lit. e the word »instruction« correctly reads »construction«.

68 See for the Constitution of the Republic of Turkey footnote 47.

render the peaceful use of atomic energy in Turkey for the benefits of state« and therefore »to determine and recommend the basic principles and policies, to implement, organize, support, coordinate and control the scientific, technical and administrative studies and affairs« Article 4 specifies these duties by implementing the duty of taking into account also »the State's ... economic development« (lit. a), further by the tasks

»to determine the general principles to be complied with all kinds of ... special fissionable material ... used in nuclear fields and to make recommendations ... hereon« (lit. b),

»to establish ... research and training centers, units, laboratories, test centers and pilot plants ... to direct the national industry towards the nuclear technology« (lit. c),

»to determine the guiding principles and provisions for the protection against the damages of the ionizing radiation in the activities done using ... special fissionable materials ... and to determine the limits of legal liability« (lit. d),

particularly »to give approval, permission and license related to the site selection, instruction [construction], operation and environmental protection of nuclear power and research reactors and nuclear fuel cycle facilities; to do necessary studies and controls, to limit (restrict) the operating authority in case of noncompliance with the permission or license; to cancel permanently or temporarily the permission or license given and to make recommendations to the Prime Minister for the shutdown of those installations; to prepare the necessary technical guides, decrees and regulations for those purposes« (lit. e),

»to take the necessary measures or have them taken for the safe process, transport, permanent or temporary storage of the radioactive wastes of the nuclear facilities ...« (lit. f),

»to train the personal who will work in the nuclear field or to assist their training when necessary ...« (lit. h), »to collect, disseminate and introduce the necessary information ... related to the application of atomic energy; to announce the necessary information to public; to enlighten the public in nuclear matters« (lit. i),

»to carry out studies related to national and international law in the nuclear field and to propose the necessary regulatory arrangements« (lit. j) and

»to prepare and implement the decrees and regulations determining the basis related to the protection of nuclear materials and facilities and to control the subjects related to those and to give comments about the regulations to be prepared by other institutions related to this subject« (lit. k).

Article 18 paragraph 2 provides that »The regulations prepared by the Turkish Atomic Energy Authority shall enter into force after the approval of the Prime Minister.«

In the light of the tasks, duties and competences of TAEK its function and role for the development of the nuclear legislation in Turkey and the

execution of the detailed prescriptions and norms at the level below laws are evident. In particular the number of regulations published in the recent years is a strong proof hereon.⁶⁹ Moreover Law No. 2690 regulates the establishment of the Atomic Energy Commission (Article 6)⁷⁰ and the Advisory Council (Article 7).⁷¹ These institutions as well as the Advisory Committee on Nuclear Safety⁷² are assigned and attached to the President of TAEK⁷³ and their working systems are arranged by regulations (Article 6 lit. c paragraph 2 and Article 7 paragraph 4).⁷⁴

- The Atomic Energy Commission (AEC) »meets at least four times a year« (Article 6 lit. c paragraph 1), is chaired by TAEK President, particularly »consists of the Vice Presidents, one member from each of the Ministries of National Defense, Foreign Affairs, Energy and Natural Resources ...« and »The Prime Minister, presides the Atomic Energy Commission's meetings whenever he deems necessary« (Article 6 lit. a paragraph 1 sentence one and paragraph 2) which underlines the importance of the AEC. The main duties of the AEC are »1) To fix the working principles and programs of the Turkish Atomic Energy Authority ... 2) To prepare and submit the draft bills and decrees related to nuclear field to the Prime Minister and to accept the regulations related to the Turkish Atomic Energy Authority« (Article 6 lit. b). An important role of AEC consists in deciding in substance on the site license, the limited work permit, the construction license, the full power operating permit and the operation license (Article 3, Article 12 paragraph 1, Article 17 paragraph 1, Articles 20 and 31 of the Decree on Licensing of Nuclear Installations of 1983).

⁶⁹ See footnotes 59 and 64, for details chapter 3.3.5 below.

⁷⁰ Details available at <http://www.taek.gov.tr/en/institutional/atomic-energy-commission.html> (accessed 17/04/2013).

⁷¹ Details available at <http://www.taek.gov.tr/en/institutional/advisory-council.html> (accessed 17/04/2013).

⁷² Details available at <http://www.taek.gov.tr/en/institutional/advisory-committee-on-nuclear-safety.html> (accessed 02/05/2013).

⁷³ See »TAEK Organization Chart« at <http://www.taek.gov.tr/en/institutional/taek-organization-chart.html> (accessed 17/04/2013).

⁷⁴ See Regulation on Working Procedures of Atomic Energy Commission, published in the Official Gazette No. 17927 of 13 January 1983, Regulation on Organization and Working Procedures of Advisory Council, published in the Official Gazette No. 19312 of 15 December 1986 and Regulation on the Establishment and Working Procedures of Advisory Committee on Nuclear Safety, published in the Official Gazette No. 23106 of 10 September 1997.

- The Advisory Council (AC) »studying the subject given by the Atomic Energy Commission submits its results and proposals to the Atomic Energy Commission. Turkish or foreign experts can be invited to the Advisory Council, can be consulted.« (Article 7 paragraphs 2 and 3).
- Advisory Committee on Nuclear Safety: The »Advisory Committee on Nuclear Safety performs the duties specified in the Decree on Licensing of Nuclear Installations. The Committee also comments on the work submitted by the Presidency.«⁷⁵ The Advisory Committee on Nuclear Safety assumes important functions within the licensing procedures, particularly by giving advice on reports submitted with the license application or by recommendations (Articles 5, 10, 15, 23, 29, 35, 54 and 55 of the Decree on Licensing of Nuclear Installations of 1983).
- Although the TAEK's Ethics Commission does not specifically refer to nuclear topics it should be mentioned for its tasks particularly related to the correct exercise of the tasks and to the fight against corruption.⁷⁶

Law No. 2690 abolished Law No. 6821 of 1956⁷⁷ and thus transformed the Atomic Energy Commission into TAEK's system: »In 1956, General Secretariat of Atomic Energy Commission was established in Ankara by the law numbered 6821, as an organization affiliated to the Prime Ministry. In 1982, the Commission was restructured as Turkish Atomic Energy Authority affiliated to the Prime Ministry by the law numbered 2690.«⁷⁸ Finally it has to be noted that Law No. 5710 of 2007⁷⁹ states in Temporary Article 1: »TAEK shall carry out its duty ... until a new institution which will execute the duty of regulating and inspection of nuclear activities is founded.« Notwithstanding this Temporary Article 1 it is not clear whether Law No. 5710 has to be observed hereafter in all activities for the construction and operation of NPPs.⁸⁰ Moreover, Temporary Article 1 creates

⁷⁵ See at <http://www.taek.gov.tr/en/institutional/advisory-committee-on-nuclear-safety.html> (accessed 17/04/2013). For the duties within the licensing process see chapter 3.3.4.1 below.

⁷⁶ Details (only Turkish) available at <http://www.taek.gov.tr/kurumsal/taek-etik-komisyonu.html> (accessed 20/04/2013).

⁷⁷ See footnote 9.

⁷⁸ See Article 19, particularly lit. a of Law No. 2690, and <http://www.TAEA.gov.tr/en/institutional/history.html> (accessed 17/04/2013).

⁷⁹ See footnote 56.

⁸⁰ For detailed deliberations see chapter 5.1 below.

uncertainties with regard to the organizational structure of the competent authority in the future and thus a possible inconvenience during the licensing process.⁸¹ Nevertheless, TAEK is up to now very active in the field of nuclear legislation⁸² in conformity to Article 4 lit. j) of Law No. 2690.

3.3.3 Laws as legislation instruments – international conventions and agreements, national laws

International multilateral conventions and bilateral agreements are in Turkey legally at the level of national laws, but in case of contradiction they are prior-ranking.⁸³ Turkey is member of several conventions on nuclear and radiation safety as well as security, safeguards and third party liability, particularly the Paris Convention on Third Party Liability in the Field of Nuclear Energy, the Treaty on the Non-proliferation of Nuclear Weapons (NPT), the Convention on the Physical Protection of Nuclear Material (but not the Amendment to the Convention of 8 July 2005), the Convention on Early Notification of a Nuclear Accident, the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, the Joint Pro-

81 See Ercan, E., Schneider, H. (footnote 11), p. 589 (chapter 5. with footnote [81]), furthermore chapter 5.1.4 (with footnote 184) below.

82 See TAEK, »New Regulation of TAEK«, recently referring for example to the publications accomplished on 18 and 19 March 2013 of the Regulation on Radioactive Waste Management respectively the Regulation on Clearance in Nuclear Facilities and Removal of Site from Regulatory Control (both regulations published in the Official Gazette No. 25852 of 9 March 2013) at TAEK's homepage, available at <http://www.taek.gov.tr/en/home.html> (accessed 03/05/2013).

83 See Article 90 paragraph 5 of the Constitution (see footnote 47): (sentence 1) »*International agreements duly put into effect bear the force of law.*«, changed on 7 May 2004 by annexing a new sentence to paragraph 5: (sentence 3) »*In the case of a conflict between international agreements in the area of fundamental rights and freedoms duly put into effect and the domestic laws due to differences in provisions on the same matter, the provisions of international agreements shall prevail.*« See on the constitutional change Belgin, D., (2008) »Anayasa'nın 90. Maddesinde (7 Mayıs 2004) Yapılan Değişikliğin Getirdiği Sorunlar ve Çözüm Önerileri«, *Ankara Barosu Dergisi*, Yıl (Volume): 66, Sayı (Issue): 4, Güz 2008, pp. 110–113 (available – only Turkish – at <http://www.ankarabarasu.org.tr/siteler/ankarabarasu/tekmakale/2008-4/10.pdf> – accessed 10/05/2013) and uludağ sözlük, anayasa madde 90, available (only Turkish) at <http://www.uludagsozluk.com/k/anayasa-madde-90/> (»*anayasamızda yer alan en önemli maddelerden birisidir. özünde : eğer uluslar arası antlaşma ile ülke içinde ki yazılı kanunlar arasında bir çelişki varsa, uluslar arası antlaşma geçerlidir.*«) – accessed 10/05/2013.

toocol Relating to the Application of the Vienna Convention and the Paris Convention, the Convention on Nuclear Safety and the International Convention for the Suppression of Acts of Nuclear Terrorism,⁸⁴ and concluded many agreements with other states especially on cooperation in the field of nuclear science and research as well as nuclear energy, the newest ones with Finland, China and Japan, dating of 20 September 2011, 9 April 2012 and 3 May 2013.⁸⁵

After the Law No. 2690 of 1982 establishing TAEK⁸⁶ the Law No. 3154 of 19 February 1985 constituting the competences of the Turkish Ministry of Energy and National Resources (ETKB)⁸⁷ has to be mentioned. ETKB being in administrative hierarchy the responsible ministry for TAEK – consequently TAEK being subordinated to ETKB – has the task with regard to energy supply to investigate the country's short- and long-term energy needs, to support an appropriate energy supply policy and to take the necessary measures, especially in the areas of research, implementation, development, evaluation, control and protection, and to found and establish the appropriate institutions (Article 2 lit. a-c, f, g). In the recent years the most important task of ETKB's appropriate institu-

84 See TAEK (Türkiye Atom Enerjisi Kurumu), Anlaşmalar Tablosu 1-, available (bilingual Turkish and English) at <http://www.taek.gov.tr/kurumsal/uluslararasi/anlasmalar-tablosu.html> or (in English only – Arrangements) at <http://www.taek.gov.tr/en/international/agreements.html> (accessed 03/05/2013). For the text of the conventions see IAEA, International Conventions and Agreements, available at <http://www.iaea.org/Publications/Documents/Conventions/index.html> (accessed 27/05/2013), and for the International Convention for the Suppression of Acts of Nuclear Terrorism see UN, available at <http://www.un.org/en/sc/ctc/docs/conventions/Conv13.pdf> (accessed 10/06/2013).

85 See TAEK (Türkiye Atom Enerjisi Kurumu), Anlaşmalar Tablosu 2- and 3-, available (bilingual Turkish and English) at <http://www.taek.gov.tr/kurumsal/uluslararasi/anlasmalar-tablosu.html> or (in English only – Arrangements) at <http://www.taek.gov.tr/en/international/agreements.html> (accessed 03/05/2013); Arrangement for Cooperation between the Radiation and Nuclear Safety Authority of Finland and the Turkish Atomic Energy Authority of 20 September 2011 and Agreement between The Government of the People's Republic of China and The Government of the Republic of Turkey for Cooperation in the Peaceful Uses of Nuclear Energy of 9 April 2012 (not yet approved); for the Agreement between the Government of the Republic of Turkey and the Government of Japan for Cooperation in the Use of Nuclear Energy for Peaceful Purposes of 3 May 2013 see footnote 40.

86 See chapter 3.3.2 above.

87 Law No. 3154 on the Establishment and Organization and the Tasks of the Ministry of Economics and Natural Resources of 19 February 1985, published (only Turkish) in the Official Gazette No. 18681 of 1 March 1985.

tions was the privatization of the energy market in Turkey.⁸⁸ Nuclear energy's development is underlined by the importance for Turkey to diminish the dependence of energy imports.⁸⁹

Finally Law No. 5710 of 9 November 2007⁹⁰ seemed to constitute a crucial basis for the progress of Turkey's way to nuclear energy, but actually has no importance, since in the same way as on 12 May 2010 for the Mersin-Akkuyu site the instrument of international bilateral agreement was used on 3 May 2013 for the Sinop-İnceburun site and thus between Turkey and Japan an agreement was signed without having organized nor followed through a tender before.⁹¹

3.3.4 Decrees as legislation instruments

Decrees are voted and issued by the Council of Ministers; decrees govern »the mode of implementation of laws or designating matters ordered by law, provided that they do not conflict with existing laws and are examined by the Council of State« (Article 115 of the Constitution).

88 See Taner Yıldız (footnote 4), p. 8 bullet point 4 (»Serbest piyasa koşullarına tam işlerlik kazandırmak ve yatırım ortamının iyileşmesini sağlamak«) and pp. 28-30.

89 See Taner Yıldız (footnotes 4 and 5).

90 See footnote 56 and furthermore as instruments completing Law No. 5710 the »Criteria to be Met by Investors Who Will Construct and Operate Nuclear Power Plants« of 19 December 2007 (available at <http://www.taek.gov.tr/belgeler-formlar/func-directinfo/94/> – accessed 05/05/2013) and the Regulation on Procedures and Principles with regard to Law No. 5710 (only Turkish) »NÜKLEER GÜÇ SANTRALLARININ KURULMASI VE İŞLETİLMESİ İLE ENERJİ SATIŞINA İLİŞKİN KANUN KAPSAMINDA YAPILACAK YARIŞMA VE SÖZLEŞMEYE İLİŞKİN USUL VE ESASLAR İLE TEŞVİKLER HAKKINDA YÖNETMELİK«, voted by the Council of Ministers on 10 March 2008 and published in the Official Gazette No. 26821 of 19 March 2008 (this regulation does not deal with nuclear safety topics); the Criteria and the Regulation are mentioned in Article 3 paragraph 3 of Law No. 5710.

91 See chapter 2.3 above.

3.3.4.1 Licensing of nuclear installations

For NPPs producing commercially electricity the Decree on Licensing of Nuclear Installations of 1983⁹² remains unchanged until today, is still in force and therefore the fundamental legal basis for enabling by licensing the phases of siting, construction and operation of NPPs in Turkey (Articles 1 and 2 sentence 2 no. 7 and Article 8). Article 6 sentence 1 states that *»in order to construct and operate a nuclear installation, it is compulsory that a license is to be obtained from the Authority«* (TAEK); the wording could be understood as a general prescription meaning that all activities for achieving electricity production in a NPP are subject to previous licensing according to Articles 8-43, but in practice TAEK seems to be determined to accord a separate and precedent license to each company which intends to build and operate a NPP in Turkey, performed already for the Akkuyu NGS AŞ in 2011.⁹³

92 Published in the Official Gazette No. 18256 of 19 December 1983; unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/nuclear-safety/> (accessed 04/05/2013). See for details Özdemir, H. E. (footnote 24), pp. 142-173.

93 Özdemir, H. E. (footnote 24), pp. 159 and 161 evaluates the license required under Article 6 as the determination of the applicant (owner) and refers to Article 6 paragraph 6 of the Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants: *»The Owner shall be notified ..., upon recognition as the Owner in accordance with Article 6 of the Decree.«* (footnote 64). The wording taken in a general sense as the necessity of prior licensing Turkey fulfills by Article 6 of the Decree the requirement of Article 7 No. 2. lit. ii. of the Convention on Nuclear Safety of 17 June 1994 (IAEA INFCIRC 449 of 5 July 1994. Ratification by Turkey on 14 January 1995 and deposit on 8 March 1995, see http://www.iaea.org/Publications/Documents/Conventions/nuclearsafety_status.pdf - accessed 04/05/2013) and the requirement of Article 4 no.1 sentence 2 lit. (b) of the Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations, published in the Official Journal of the European Union L 172/18 of 2.7.2009. Accordingly Article 174 paragraph 1 of the Criminal Code of the Republic of Turkey (*»Türk Ceza Kanunu«*, Law No. 5237 of 26 September 2004, published in the Official Gazette No. 25611 of 12 October 2004), deals with handling of dangerous nuclear materials without permit or license, available in Turkish at <http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=1.5.5237&sourceXmlSearch=&MevzuatIliski=0> (accessed 23/05/2013) and in English at <http://legislationline.org/documents/action/popup/id/6872/preview> (accessed 23/05/2013). For the practice of TAEK to license the project company see footnote 36; comparable to Article 6 of the Decree on Licensing of Nuclear Installations Article 5 paragraph 1 of Law No. 5710 (see footnote 56) reads: *»The enterprise is obliged to obtain all kinds of permis-*

Since Article 6 sentence 2 features requirements for the applicant of the license who *»has to submit an application ... with enclosing documents describing the nature of the installation to be constructed and describing his technical and financial abilities«*, a license as practiced by TAEK seems legally to be conceivable, particularly as regards the objective conditions of technical and financial abilities. However, the requirements for the site license, the construction license and the operation license preceding permits comprise the aspect of technical abilities (Article 9 no. 2 for the site license, Article 14 no. 9 for the construction license and Article 23 paragraph 1 no. 5 for the commissioning permit and Article 26 paragraph 1 no. 3 for the fuel loading and pre-operational tests permit), moreover with Article 34 paragraph 1 *»it is compulsory that the applicant should provide a regular and periodical training for his licensed operating staff«* what may be evaluated as a requirement for technical abilities, thus only the *»financial abilities«* of the applicant are solely evaluated under Article 6. On the other hand Article 6 being taken as a general norm on the necessity of licensing may require to evaluate the *»financial abilities«* of the applicant at each step of the licensing phases; that would be more appropriate, because the circumstances of this requirement may develop during the licensing phases and consequently are still or even more important when according the definitive operating license. Finally it seems not to be clear, whether Article 35 on *»Revoking the license«* is applicable for the license approved accordingly to Article 6, because the wording *»technical and financial abilities«* of Article 6 is not reflected in Article 35. Furthermore the wording of Article 8 within part one section three of the decree underlines the view of not taking Article 6 as a requirement for the applicant to obtain a separate license. Thus the *»financial«* requirements of the CNS and the EURATOM directive of 2009 could be deemed to be widely accomplished. A provisional overall evaluation therefore results in the statement, that in either case the obligations under the Convention on Nuclear Safety (Article 11 in connection with Article 8 lit. iv) and the pre-

sions, approvals and licences required by this law and the other legislation.«, while Article 3 paragraph 5 of this law dealing with a license to be granted by the Energy Market Regulatory Authority (EPDK) to the enterprise selected in the framework of the tender process seems to substitute this license to that one required in Article 6 of the Decree on Licensing of Nuclear Installations. Finally it may be stated that Articles 5 (PROJECT COMPANY), 6 (IMPLEMENTATION OF THE PROJECT) and 8 (LICENSING; APPROVALS AND REGULATIONS) of the Turkish-Russian Agreement on Akkuyu of 12 May 2010 (see footnote 24) do not shed light on the matter.

scriptions of Article 6 no. 5 together with Article 5 no. 3 of the Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations are not completely met. By the way, no requirement for licenses or permits refers to the reliability of the applicant as a subjective aspect, such as Article 24 of the Swiss Atomic Energy Act or Section 7 paragraph 2 no. 1 of the German Atomic Energy Act.

The licensing process starts with the site license (Article 8 no. 1, Articles 9–12). The following construction license (Article 8 no. 2, Articles 13–21) is separated in the limited work permit and the construction license (Article 13). The final operating license (Article 8 no. 3, Articles 22–35) is in a first step the commissioning permit, afterwards the fuel loading and pre-operational test permit and at least the full power operating permit and the operating license (Article 22). Moreover Article 33 allows for a permit to operate at reduced power. Each licensing procedure is dependant from an application in which the applicant has to demonstrate by means of *»documents describing the nature of the installation to be constructed and describing his technical and financial abilities«* (Article 6 sentence 2) that particularly nuclear safety will be ensured in conformity with the requirements of the decree (primarily in Articles 12, 17/18, 20/21, 24, 27, 28 and 31/32) as well as other pertinent nuclear legislation⁹⁴ and to submit therefore the relevant documents and reports to the licensing authority TAEK (Articles 6, 9, 14, 23, 26, 29). As regards nuclear third party liability the applicant shall provide insurance or other financial guarantees according to the provisions of the Paris Convention (Article 7). The contents of the Site Report, the Preliminary Safety Analysis Report and the documents for the Commissioning Permit are listed in detail in Articles 9, 14 and 23.

The licensing process for NPPs is conducted by the Vice President for Nuclear Power and Safety of TAEK (afterwards cited as Vice President), the Advisory Committee on Nuclear Safety and TAEK's Department of Nuclear Safety (Article 4 sentence 1). The documents and reports submitted by the applicant to TAEK are forwarded to the Advisory Committee on Nuclear Safety for its advice (Article 10 sentence 1, Article 15 paragraph 1 sentences 1 and 2, Article 23 paragraph 2 sentence 2, Article 26 paragraph 2 sentence 2, Article 29 paragraph 2 sentence 2). In the case of deficiencies in the documents and in the reports the applicant is notified

⁹⁴ See details in chapter 3.3.5 and 3.3.7 below. Whether other pertinent legislation not directly related to nuclear subjects (see chapter 4.2 below) has to be observed within the nuclear licensing process is not evident, but should be recommended.

about this, and he *»has to complete and correct these deficiencies and to submit them to the Authority as soon as possible«* (Article 10 sentences 2 and 3; see also Article 15 paragraph 1 sentence 3 and paragraph 2). After the accomplishment of necessary studies, inspections, assessments and tests required by the relevant articles of the decree the Nuclear Safety Department of TAEK prepares an evaluation report in which the views of the Advisory Committee on Nuclear Safety are included; subsequently the Vice President *»submits a report to The President of the Authority indicating the results of the [evaluation] report and work realized«* (Article 11). The President of TAEK takes the evaluation report as well as the report prepared by the Vice President to the Atomic Energy Commission (AEC) which has to determine whether the evaluation report is adequate or not; in the latter case the report is sent back for reevaluation or the AEC consults experts and then issues the decision released to the applicant by TAEK (Articles 11/12 paragraph 1 sentence 1-3, see also Articles 16/17, 19/20, 30/31 and with more simple procedures Articles 24, 27 and 28).

Conditions of the site license are given as an appendix to the license (Article 12 paragraph 2). Conditions for a permit or a license are regulated in detail in Article 18 for the Limited Work Permit, in Article 21 for the Construction License and in Article 32 for the Full Power Permit and the Operating License. If changes are required due to safety as regards the Limited Work Permit or the Construction License, the permit respectively the Construction License may be modified accordingly and the applicant is obligated to perform these changes (Article 18 no. 3 and Article 21 no. 2 and 3). In the same sense Article 32 (Conditions for a Full Power Permit and Operating License) no. 3 states: *»No modifications can be made in nuclear reactor facility, in the operating limits and conditions, and operating instructions and procedures without having obtained the permission of the Authority.«* However, notwithstanding the regulations in Article 18 no. 4 and Article 21 no. 2-4 on new findings respectively experiences gained after a license was accorded and on the necessity of an approval by the Authority the procedure for the permit mentioned in Article 32 is not outlined in detail in the decree.

The requirements for revoking of the license either temporarily or permanently are regulated in Article 35; the administrative procedure involves TAEK Department of Nuclear Safety, the Advisory Committee on Nuclear Safety, TAEK Vice President of Nuclear Safety, TAEK President and the Atomic Energy Commission as the decision maker, but *»If it is found necessary to prohibit the facility from operation then the Commis*

sion with its decision on this line forwards the matter to the Prime Minister« (Commission means the AEC). Inspections are regulated in Articles 51 - 53, the Permission to Re-Start Operation when the operation license was temporarily revoked is dealt with in Article 54 and the permission by TAEK for Modifications at the Installation appears in Article 55.

This decree on licensing does not arrange for the involvement of the public which is up to now formally regulated only in the framework of the environmental impact assessment process. Apart from Article 21 no. 2 referring to modifications of the conditions of the construction license *»in a later date«* and Article 32 no. 3 as regards modifications of the conditions of the operation license the decree comprises no basic and general regulation on the necessity of licensing modifications of the site, construction and operation licenses after being issued but before being carried out by the licensee; the extent of and the procedure for a permission of the Authority mentioned in Article 32 no. 3 are not obvious. This may create difficulties within the whole licensing process also since the decree does not provide for the involvement of the public when changing a license or a permit. Finally, periodical safety review is not an operation license condition nor is regulated in other Turkish nuclear legislation at this stage.

The decree on licensing, entered into force with its promulgation in the Official Gazette on 19 December 1983 (Article 58), does not regulate the validity of licenses issued before the enforcement date of this decree.⁹⁵ Therefore it seems not undoubted that the site license of 1976 for the Akkuyu site is legally still valuable. Finally it should be noticed that Article 59 rules the execution of this decree by the Council of Ministers; that means the Council of Ministers in accordance with Article 115 of the Constitution decided on and issued this decree. Even if the AEC decides on licenses in substance (for example Article 20 for the construction license and Article 31 for the operating license; TAEK is only the body which releases the decision to the applicant) the Prime Minister according to Article 112 of the Constitution may be deemed politically as the highest competent executive body,⁹⁶ moreover the Prime Minister presides AEC's meetings *»whenever he deems necessary«* (Article 6 lit. a paragraph 1 sentence 1 and paragraph 2 of Law No. 2690).

95 In contrast the Radiation Safety Decree (see footnote 54) deals with this topic in Article 25 Provisional article (see footnote 103).

96 See Özbudun, E. (1996), *»Constitutional Law«*, in Ansay, T., Wallace, D. (Editors), *INTRODUCTION TO TURKISH LAW*, The Hague London Boston, Kluwer Law International, p. 40.

Another concern arises from several regulations, a directive and several guides adopted in 2007 and the following years and dealing especially with safety related matters referred to in the Decree on Licensing of Nuclear Installations of 1983, as for example the Regulation on Specific Principles for Safety of Nuclear Power Plants (2008), the Regulation on Design Principles for Safety of Nuclear Power Plants (2008), the Regulation on Nuclear Power Plant Sites (2009), the Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants (2012) and the Guide on Specific Design Principles (2012); the Regulations are based on Law No. 2690 as the Decree on Licensing of Nuclear Installations does as well.⁹⁷ Therefore the question raises whether the principle of *»lex posterior derogat legi priori«* is valuable and if so, what the legal and practical consequences for the licensing procedure will be. It has to be stated that the reference in the Decree on Licensing of Nuclear Installations as well as in the regulations aims only at Article 4 lit. (e) of Law No. 2690 describing the duty of TAEK *»to give approval, permission and license related to the site selection, instruction [construction], operation ... of nuclear power ... reactors ...; to prepare the necessary technical guides, decrees and regulations for those purposes«* and not at Article 4 lit. (j) which gives the duty to TAEK *»to carry out studies related to national and international law in nuclear field and to propose the necessary regulatory arrangements«*. Although Article 9 no. 12 of the Decree on Licensing of Nuclear Installations (the applicant has to submit a site report comprising *»12. Other information which may be requested in the light of developments and new practices in nuclear safety«*; the same wording is used in Article 14 no. 11, Article 23 no. 8 and Article 26 no. 9) constitutes a gateway for *»developments and new practices«* the interaction between the different legal texts has legally to be clarified otherwise the risk of courts' interventions seems to be given, particularly since the clause *»which may be requested«* seems to be very open for interpretation. Nevertheless, the nuclear legislation following the entry into force of the Decree on Licensing of Nuclear Installations may not be neglected when deciding on and issuing a license.

97 See for details of the regulations, the directive and the guide chapters 3.3.5 and 3.3.7 below. For the legal basis of the Decree on Licensing of Nuclear Installations and the regulations see Article 58 of the Decree on Licensing of Nuclear Installations of 1983 on the one hand and for example Article 3 of the Regulation on Specific Principles for Safety of Nuclear Power Plants (2008) on the other hand which both refer to Article 4 lit. e of Law No. 2690.

Finally permits and particularly licenses as administrative acts must be conform to the basic requirements of administrative law; mainly permits and licenses must be justified in written form; in this context it is important to know whether the administrative acts have to be executed with administrative discretion, but the Decree on Licensing of Nuclear Installations is not obvious on this point.⁹⁸

3.3.4.2 Radiation Safety

The Radiation Safety Decree of 1985⁹⁹ deals with ionizing radioactive sources (Article 1 paragraph 1) which are in general all radioactive materials and equipments (Article 2 paragraphs D, E and F).¹⁰⁰ The decree is based on Articles 4 and 10 of Law No. 2690 and »shall be executed by the Council of Ministers« (Articles 26 and 27). »The keeping, using, producing, import and export, acquiring, selling, transporting, storing of the radiation sources and working with sources within the scope of this Decree are dependent on the license issued by the Authority« (TAEK) (Article 7)¹⁰¹ and therefore the licenses required under the Decree on Licensing

98 See for some principles of administrative acts in Turkish law for example (only Turkish) Akyazan, A. E., (2009) »MADDİ AÇIDAN İDARİ İŞLEMLER«, *TBB Dergisi*, Sayı (No.) 85, 2009, pp. 220-240; Kanlıgöz, C., (1988) »İDARİ İŞLEMLERİNDE YAZILI BİLDİRİM«, available at <http://auhf.ankara.edu.tr/dergiler/auhfd-arsiv/AUHF-1988-40-01-04/AUHF-1988-40-01-04-Kanligoz.pdf> (accessed 14/06/2013); Kırışık, F., Aydın, N., (2002) »İDARİ İŞLEMİN UNSURLARINDA TAKDİR YETKİSİNİN VARLIĞI SORUNU«, *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi*, Y.2002, C.7, S.2, pp. 331-344; Yılmaz, Y., (2006) »İDARE HUKUKUNDA SEBEP UNSURU VE SEBEP İKAMESİ«, *Askeri Yüksek İdari Mahkemesi Dergisi*, 21 NUMARALI DERGİ (2006), available at http://www.msb.gov.tr/ayim/Ayim_makale_detay.asp?IDNO=72 (accessed 14/06/2013); and Çağlayan, R., (2000) »İDARİ İŞLEMİN GERİ ALINMASI ÜZERİNE«, *AÜEHFD*, C.IV, S.1-2, 2000, available at http://www.erzincan.edu.tr/birim/HukukDergi/makale/2000_1_4.pdf (accessed 14/06/2013).

99 See footnote 54.

100 »D - Radiation source; the radioactive materials which emit ionizing radiation and equipments which produce or emit ionizing radiation. E - Radioactive materials; materials containing an isotope, the nucleus of which has been disintegrated spontaneously by emitting one or more ionizing radiation, as alloy mixture, solvent or composite. F - Radiation emitting equipments; equipments containing radioactive materials and manufactured in order to emit one or more ionizing radiation within certain safety measures and under control.«

101 Authority means TAEK (Article 2 paragraph N).

of Nuclear Installations of 1983 are accompanied by a license under the Radiation Safety Decree.¹⁰² But it seems not to be evident to which category of license the operation of a NPP with nuclear fuel has to be assigned (license for the use or for the place); Article 8 »Types of Licenses« states in paragraphs B and C: »B - Licenses issued for the radiation sources, 1- ... 2- Licenses issued for the radiation sources used for industrial or other purposes. C - Licenses issued for the places where the radiation sources are used, stored, manufactured and places where the radioactive wastes are disposed and other similar places.« The validity of a license is five years (Article 11 paragraph A). »Transportation, transit passage, entry and exit in or from the country of the radioactive sources depends on the written permission of the Authority« (TAEK); a license under the decree »does not remove the obligation for taking written permission« (Article 14). Inspections are regulated in Articles 18 and 19. Article 20 states an »Obligation for keeping records«, Article 21 deals with »Theft and loss of radioactive sources« and thus can also be situated in the area of nuclear security, Article 22 regulates obligations in the case of »Radiation Accidents« and therefore refers to emergency issues. A provisional article regulates the validity of licenses issued before the entrance into force of the decree: »The licenses issued before enforcement date of this Decree, are valid for a period of 5 years beginning from their date of issuance. For the renewal process of expired licenses, it is necessary to make an application to Authority [TAEK] within the period of two years beginning from the enforcement date of this Decree.«¹⁰³ General information on radiation safety is published by TAEK.¹⁰⁴

102 Limoncuoğlu, S. A., (2012) »The Missing Part of Nuclear Power Plant Regulations in Turkey: Occupational Health and Safety«, *Mediterranean Journal of Social Sciences*, Vol. 3 No. 6, March 2012, pp. 123-128 (chapter 3.2 second paragraph third sentence).

103 Paragraph 2 of Article 25.

104 See TAEK, Radyasyon Güvenliği ile İlgili Genel Bilgi, available (only Turkish) at <http://www.taek.gov.tr/radyasyon-guvenligi/radyasyonguvenligi/480-atik-guvenligi.html> (accessed 05/05/2013). For the whole system of radiation protection in Turkey see for example Turkey/EU (2006), »SCREENING CHAPTER 15 ENERGY, AGENDA ITEM: NUCLEAR ENERGY, Radiation Protection«, Country Session: The Republic of TURKEY, 14 – 15 June 2006, available at http://www.abgs.gov.tr/tarama/tarama_files/15/SC15DET_Radiation%20Protection.pdf (accessed 23/05/2013).

3.3.5 Regulations as legislation instruments for matters of nuclear safety, radiation safety, nuclear security, physical protection and safe-guards

In accordance with Article 124 of the Constitution »The Prime Ministry, the ministries, and public corporate bodies may issue by-laws in order to ensure the application of laws and regulations relating to their particular fields of operation, provided that they are not contrary to these laws and regulations. The law shall designate which by-laws are to be published in the Official Gazette.« TAEK's terminology being different from the English version of the Constitution (Article 115 »regulation« respectively Article 124 »by-law«) refers to »decree« and »regulation«.

3.3.5.1 Regulations aiming at ensuring nuclear safety including radiation safety

It could be made a distinction between regulations in order to ensure safety by technical means and those with reference to organization, management and personal. The regulations more or less oriented at technical requirements are

- Regulation on Specific Principles for Safety of Nuclear Power Plants¹⁰⁵ which is based on Article 4 lit. e) of Law No. 2690 (Article 3) and is dealing especially with technical matters but also with organizational aspects.¹⁰⁶
- Regulation on Design Principles for Safety of Nuclear Power Plants¹⁰⁷ which is based on Article 4 lit. e) of Law No. 2690 (Article 3) and is dealing especially with General Design Specifications for Nuclear

105 Published in the Official Gazette No. 27027 of 17 October 2008, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/776/> (accessed 07/05/2013). For all safety matters important is the Regulation on Nuclear Definitions with a catalogue of definitions for nuclear topics, voted already in 1991 (Nükleer Tanımlar Yönetmeliği, published in the Official Gazette No. 20986 of 9 September 1991), available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/func-startdown/48/> (accessed 31/05/2013).

106 See Ercan, E., Schneider, H. (footnote 11), p. 587.

107 Published in the Official Gazette No. 27027 of 17 October 2008, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/766/> (accessed 07/05/2013).

Power Plants (Articles 5 – 11) and Specific Design Features of Power Plants (Articles 12 – 25) the latter being specified in the Guide on Specific Design Principles.¹⁰⁸

- Regulation on Nuclear Power Plant Sites which is based on Article 4 lit. f) of Law No. 2690 (Article 3) and on the one hand is laying down as main subjects for a site of a NPP the effects of external events, site and site area characteristics possibly influencing transport of radioactive material and population distribution and intensity and on the other hand is stating that *»the site shall be deemed unsuitable«* if deficiencies identified cannot be compensated (Article 5); as regards siting two guides are to be taken into consideration.¹⁰⁹
- Regulation on Radioactive Waste Management¹¹⁰ which is based on Article 4 lit. e) of Law No. 2690 (Article 3) and focuses in Section Two on Requirements and Principles of Radioactive Waste Management (particularly Responsibility, Control of Radioactive Waste Generation, Management System, Safety Management, Safety Culture, Human Factor and Transparency), in Section Three on Radioactive

¹⁰⁸ The Guide on Specific Design Principles is available (only Turkish *»Özel Tasarım İlkeler Kılavuzu«*) at <http://www.taek.gov.tr/en/component/remository/mevzuat/yonerge-kilavuzlar/kilavuzlar/orderby,2/page,3/> (accessed 12/06/2013); see also chapter 3.3.7 below. For the importance of design for new nuclear reactor types see Raetzke, C., Micklinghoff, M. (2012), *»Regulatory challenges in the licensing of new nuclear power plant – From CORDEL to ERDA –«*, *International Journal for Nuclear Power*, atw 57. Jg. (2012) Heft 12 I Dezember, pp. 720-724. Design is especially dealt with by IAEA, (2012) *Safety of Nuclear Power Plants: Design Specific Safety Requirements IAEA Safety Standards Series No. SSR-2/1 – Published 20 February 2012*, available at <http://www-ns.iaea.org/standards/documents/pubdoc-list.asp?s=11&l=96> (accessed 31/05/2013), and IAEA, (2007) *Nuclear Power Plant Design Characteristics*, IAEA-TECDOC-1544, March 2007.

¹⁰⁹ Published in the Official Gazette No. 27176 of 21 March 2009, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/769/> (accessed 07/05/2013). The guides are available only in Turkish at <http://www.taek.gov.tr/en/belgeler-formlar/mevzuat/yonerge-kilavuzlar/> kilavuzlar - accessed 26/05/2013 (NÜKLEER TESİSLERE YER LİSANSI VE SINIRLI ÇALIŞMA İZİNİNİN VERİLMESİNDE ARANACAK DEPREMLE İLGİLİ KONULAR HAKKINDA KILAVUZ of 1989 and Nükleer Güç Tesisi Sahalarının Gözlem, Değerlendirme ve Onaylanması için Kalite Temini Programı Kapsamında Kullanılan Doküman Örnekleri, Prosedürler veya İş Talimatları için Kılavuz); see also chapter 3.3.7 below.

¹¹⁰ Published in the Official Gazette No. 28582 of 9 March 2013, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/830/> (accessed 07/05/2013).

Waste Management Steps, in Section Four on Release of Radioactive Wastes to the Environment, in Sections Five and Six on General Principles and General Safety Principles in Radioactive Waste Facilities, in Section Seven on Radioactive Waste Management in Nuclear and Radiation Facilities and in Section Eight on Inspections and Sanctions.

- Regulation on Clearance in Nuclear Facilities and Release of Site from Regulatory Control¹¹¹ which is based on Article 8 lit. a) of Law No. 2690 (Article 3) and comprises Clearance Principles (Article 5) and Clearance Limits (Articles 6 – 8), Measurements (Article 9) and especially the Removal of Site from Regulatory Control (Chapter 3, Articles 14 - 15).

Regulations dealing with quality management requirements are

- Regulation on The Basic Quality Management Requirements for Safety in Nuclear Facilities¹¹² aiming at establishing »the statutory basic principles and requirements for quality management in order to enhance the safety of nuclear facilities« (Article 1). This regulation is based on Article 4 lit. e) of Law No. 2690 and the Decree on Licensing of Nuclear Installations of 1983 (Article 3). The principle of Priority of Safety in Article 13 is implemented in the quality management system's improvement. Many Safety Guides for Quality Management Systems are based on the regulation.¹¹³

Documentation being a substantial element of quality management is not subject of a regulation.¹¹⁴ The importance of documentation is acknowledged by Akkuyu NPP.¹¹⁵

111 Published in the Official Gazette No. 28582 of 9 March 2013, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/835/> (accessed 07/05/2013).

112 Published in the Official Gazette No. 26642 of 13 September 2007, changed by regulation of 2009, published in the Official Gazette No. 27144 of 17 February 2009, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/783/> (accessed 09/05/2013).

113 See chapter 3.3.7 below.

114 But guides on site report's format and content as well as on management of document control and records do exist (see chapter 3.3.7 below).

115 See (only Turkish) Akkuyu NGS haberleri, 29.11.2012 Atomenergoproekt şirketi, Akkuyu NGS'nin proje dokümantasyonunu hazırlamak için yürüttüğü etüt çalışmalarını tamamladı, available at <http://www.akkunpp.com/akkuyu-ngs-haberleri> (accessed 08/05/2013).

Regulation on emergency topics presents the

- National Application Regulation on Nuclear and Radiological Emergency.¹¹⁶ This regulation is based on Article 4 of Law No. 2690 and *»Article 4 of Radiation Safety Statute put into force with the Cabinet Decision dd. 24.07.1985 and no. 85/9727«* (Article 3). It *»describes the responsibilities of relevant ministry, institutions and affiliates and governorships relating to accident or dangerous situation before and after any nuclear and radiological accident or danger«* (Article 1). *»Informing the public«* is task of TAEK (Article 10). Article 12 states the execution of this regulation *»by the Prime Minister«*.

Several regulations are thematically supplemented by directives and guide(line)s.¹¹⁷

Radiation safety¹¹⁸ is subject primarily of the

- Regulation on Radiation Safety,¹¹⁹ which after the changes of 2010 clearly comprises the three Basic Principles of Dose Limitation System: Necessity of Applications, Optimization and Dose Limitation (Article 7) and contains Dose limits (Articles 8 – 14) and therefore actually might be in keeping with EURATOM basic standards and the IAEA Radiation Protection Basic Safety Standards.¹²⁰ The regulation is based on Article 4 lit. d) of Law No. 2690 (Article 3), but does not comprise NPPs (Article 2 Scope, paragraph 2: *»This Regulation does not cover the activities regarding nuclear facilities, nuclear fuels, re-*

116 Published in the Official Gazette No. 23934 of 15 January 2000, changed in 2009, published in the Official Gazette No. 27144 of 17 February 2009, available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/843/> (accessed 10/05/2013).

117 Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants, Guide on Specific Design Principles, further guides on especially management, quality assurance and documentation; for details see chapter 3.3.7 below.

118 TAEK, Radiation Safety, available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/radiation-safety/> (accessed 11/05/2013).

119 See footnote 55.

120 See IAEA Safety Standards (2011), *»Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards«*, IAEA, General Safety Requirements Part 3, No. GSR Part 3 (Interim), Vienna, 2011, available at http://www-pub.iaea.org/MTCD/Publications/PDF/p1531interim_web.pdf (accessed 26/05/2013), and Ercan, E., Schneider, H. (footnote 11), p. 588.

*sultant radioactive wastes arise from nuclear facilities and nuclear substances.»*¹²¹

Recently published was the

- Regulation on Protection of Outside Workers from Risks of Ionizing Radiation in Controlled Areas which aims at providing »*protection against ionizing radiation for outside workers*« (Article 1) and which has been issued on the legal basis of Article 4 lit. d) of Law No. 2690 and »*in parallel with European Union Council Directive 90/641/EURATOM of 4/12/1990*« (Article 3); Article 5 lays down the »*Responsibilities of authorized persons and outside undertaking*«, Article 6 deals with »*Outside worker's obligations*«; the regulation does not solve the problems and concerns raised on workers inside NPPs.¹²²

TAEK assigns to Radiation Safety among other things also the following regulations having importance for NPPs' construction and operation:¹²³

121 This is due to a change of the regulation in 2010, see also Limoncuoğlu, S. A. (footnote 102), chapter 3.2 fifth paragraph. Therefore the RADYASYON GÜVENLİĞİ KOMİTELERİ ÇALIŞMA USUL VE ESASLARI are not relevant for NPPs, because this document refers particularly to Articles 71 - 73 of the regulation (Article 1 paragraph 2), available (only Turkish) since 13/01/2010 at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/293/> (accessed 26/05/2013).

122 Published in the Official Gazette No. 27698 of 18 June 2011, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/757/> - (accessed 07/05/2013). For the subject of workers inside NPPs see Limoncuoğlu, S. A. (footnote 102). The recent Law No. 6331 of 20 June 2012 (Occupational Health and Safety Law), published in the Official Gazette No. 28339 of 30 June 2012, available in English at http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_202369.pdf (accessed 09/06/2013), is valid also for workers inside NPPs; see also the three regulations published in order to ensure the application of Law No. 6331 (only Turkish, published in the Official Gazette No. 28512 of 29 December 2012: İŞ GÜVENLİĞİ UZMANLARININ GÖREV, YETKİ, SORUMLULUK VE EĞİTİMLERİ HAKKINDA YÖNETMELİK; İŞ SAĞLIĞI VE GÜVENLİĞİ HİZMETLERİ YÖNETMELİĞİ; İŞ SAĞLIĞI VE GÜVENLİĞİ RİSK DEĞERLENDİRMESİ YÖNETMELİĞİ).

123 See <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/radiation-safety/> (accessed 07/05/2013).

- Regulation on Safe Transportation of Radioactive Materials;¹²⁴ the regulation is based on Article 4 lit. d) of Law No. 2690 (Article 3).
- Regulation on Wastes from the Use of Radioactive Materials;¹²⁵ the regulation is based on Law No. 2690 and Radiation Safety Statute (Article 3) and repeals the »Regulation on Radioactive Wastes those do not need Special Processes issued in Official Gazette dd. 15/1/2000 and no. 23934« (Article 20). »The purpose of this regulation is to determine the conditions of discharge of wastes from the use of radioactive to the environment, by not giving damage to public, workers and environment.« (Article 1).

3.3.5.2 Regulations aiming at ensuring security and physical protection

The only issued regulation is the

- Regulation on Physical Protection of Nuclear Materials and Nuclear Facilities.¹²⁶ This regulation is based on Article 4 lit. b) and k), Article

124 Published in the Official Gazette No. 25869 of 8 July 2005, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/775/> (accessed 07/05/2013).

125 Published in the Official Gazette No. 25571 of 2 September 2004, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/779/> (accessed 11/05/2013).

126 Published in the Official Gazette No. 28300 of 22 May 2012, available (only Turkish, English translation being under way) at <http://www.taek.gov.tr/belgeler-formlar/mevzuat/yonetmelikler/nukleer-guvenlik/N%C3%BCKleer-Tesislerin-ve-N%C3%BCKleer-Maddelerin-Fiziksel-Korunmas%C4%B1-Y%C3%B6netmeli%C4%9Fi/> (accessed 09/05/2013); the Regulation on Physical Protection Measures for Special Nuclear Materials (published in the Official Gazette No. 16702 of 20 July 1979) was replaced (Article 42). Turkey ratified the Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev.1) in 1985, available at http://www.iaea.org/Publications/Documents/Conventions/cppnm_status.pdf (accessed 01/06/2013). See for matters of physical protection and security Stoiber, C. (2010), »Nuclear Security: Legal Aspects of Physical Protection, Combating Illicit Trafficking and Nuclear Terrorism«, in OECD, *International Nuclear Law: History, Evolution and Outlook (10th Anniversary of the International School of Nuclear Law)*, OECD, pp. 219 et seq., Nuclear Energy Agency (NEA), (2008) NUCLEAR ENERGY OUTLOOK, NEA No. 6348, Chapter 9 »Non-proliferation and Security«, pp. 272 et seq., IAEA, (2012) Nuclear Security Achievements 2002 – 2011, Working to build a global response to a global threat, available at <http://www.iaea.org/Publications/Booklets/> (accessed 01/06/2013). The text of the International Convention for the Suppression of Acts of

8 lit. a) and Article 11 of Law No. 2690 and on Articles 13, 14, 25, 35, 39, 45 and 50 of the Decree on Licensing of Nuclear Installations of 1983 (Article 3). It outlines particularly nuclear physical protection culture (Article 5), nuclear physical protection and nuclear safety (Article 6), goals of nuclear physical protection (Article 7), responsibility (Article 8) and physical protection system and program (Articles 10-11). The special measures of physical protection including theft and sabotage are dealt with in Articles 18-35.

3.3.5.3 Regulations aiming at ensuring safeguards

Regulations are

- Regulation on Accounting for and Control of Nuclear Materials¹²⁷ which is based on Article 4 lit. b) of Law No. 2690, the Non-Proliferation Treaty, an Agreement between Turkey and IAEA on Safeguards Control and a Supplementary Protocol (Article 3).
- Regulation on Issuing Documents Base to Export Permission for Nuclear and Nuclear Dual Use Items¹²⁸ which is based on Article 4 of Law No. 2690 (Article 3).

Nuclear Terrorism (Nükleer Terörizmin Önlenmesine İlişkin Uluslararası Sözleşme) is available at <http://www.taek.gov.tr/anasayfa/218-uluslararasi-uluslararasi-cok-tarafli-anlasmalar-sozlesmeler/999-nukleer-terorizmin-onlenmesine-iliskin-uluslararasi-sozlesme.html> (accessed 11/05/2013). See for the issue of nuclear terrorism Demerici, S. (2012), »NÜKLEER TERÖRİZM VE TEHDİT BOYUTLARINA YÖNELİK ÇIKARIMLAR«, *ESAM (Ege Üniversitesi Araştırmalar Merkezi) Dergisi*, Ocak 2012 Sayısı, CİLT (Volume) 3, Sayı (No.) 1, pp. 59-84, abstract available (only Turkish) at <http://esam.ege.edu.tr/ocak-2012.html> (accessed 31/05/2013).

127 Published in the Official Gazette No. 28308 of 30 May 2012, available (only Turkish – the regulation is being translated by TAEK) at <http://www.taek.gov.tr/en/belgeler-formlar/mevzuat/yonetmelikler/nukleer-guvenlik/N%C3%BCkleer-Maddelerin-Say%C4%B1m-ve-Kontrol%C3%BC-Y%C3%B6netmeli%C4%9Fi/> (accessed 10/05/2013); the regulation replaces the regulation of 1997 (Article 40) which was published in the Official Gazette No. 23106 of 10 September 1997.

128 Published in the Official Gazette No. 26642 of 13 September 2007, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/nuclear-safety/Regulation-on-Issuing-Documents-Base-to-Export-Permission-for-Nuclear-and-Nuclear-Dual-Use-Items/> (accessed 11/05/2013).

A Seminar on »Peaceful Use Of Nuclear Energy And Nuclear Nonproliferation« was arranged on 19-20 February 2013 in Ankara.¹²⁹

3.3.6 Regulations on matters of administrative activities and acts

Regulations are

- Regulation of Nuclear Safety Inspections and Enforcement¹³⁰ which is based on Article 4 lit. e) of Law No. 2690 and the Decree on Licensing of Nuclear Installations of 1983 (Article 3). This regulation is completed by the Directive on the Granting of Functions to Inspectors for Nuclear Safety.¹³¹
- Regulation on Radiation Safety Inspections and Enforcements.¹³² This regulation is based on Article 4 lit. d) of Law No. 2690 and Article 19 of the Radiation Safety Decree of 1985 (Article 3). Although the Radiation Safety Decree of 1985 is applicable to NPPs the aforementioned regulation is not applicable to NPPs (Article 2).

TAEK needs experts' support for technical examination and evaluation particularly within the outstanding construction licensing process for the Akkuyu NPP. External experts shall be consulted in a formally organized manner. But the existing nuclear legislation of Turkey does not establish a system for Technical Support Organisations (TSO) inspite of the possibility of the Atomic Energy Commission (AEC) to consult with experts before issuing the site license, to seek the opinions of experts before granting the construction license or to ask for expert recommendations before

129 Available at <http://www.taek.gov.tr/haberler/1046-peaceful-use-of-nuclear-energy-and-nuclear-nonproliferation-konulu-seminer-19-20-subat-2013-tarihlerinde-ankara-da-jw-marriott-otelde-gerceklestirildi.html> (accessed 20/04/2013). See for Non-Proliferation also (in Turkish) TMMOB (footnote 17), pp. 108–112 (»Nükleer Silahsızlanma«).

130 Published in the Official Gazette No. 26642 of 13 September 2007, changed by regulation of 2008, published in the Official Gazette No. 27034 of 24 October 2008, unofficial translation available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/Regulations/nuclear-safety/The-Regulation-of-Nuclear-Safety-Inspections-and-Enforcement/> (accessed 09/05/2013).

131 See footnote 64 and chapter 3.3.7 below.

132 Published in the Official Gazette No. 27658 of 31 July 2010, available at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/774/> (accessed 09/05/2013).

granting the full power operating permit and the operating license (Article 12 paragraph 1 sentence 2, Article 20 sentence 2 and Article 31 sentence 3 of the Decree on Licensing of Nuclear Installations of 1983). In general the AEC may invite experts to participate in their meetings (Article 6 paragraph 2 of the Regulation of Working Procedures of the Atomic Energy Commission of 1983). However, TAEK aiming at ensuring procurement of technical support services for the construction license procedure published tenders for prequalification which were cancelled three times yet; although the tender documents provided some criteria for experts' qualification and experience no binding legislation on these items is in force actually; generally the role of TAEK as regulatory body in Turkey is criticized on the one hand with a view to the separation principle and on the other hand aimed at the staff.¹³³ Finally, as regards TAEK's activities there is no obligation to formally involve the public, especially not in the licensing procedure for NPPs siting, construction and operation.

133 As regards the tenders see footnote 35. For the separation principle see Article 8 paragraph 2 CNS (footnote 14) and Article 5 no. 2 EURATOM directive on nuclear safety of 2009 (footnote 15) and Centre for Economics and Foreign Policy Studies, 2012, »The Turkish Model for Transition to Nuclear Energy II«, Istanbul, pp. 125–151, available at <http://edam.org.tr/eng/EDAMNuclear/Nuclear%20Report%202012/edamreport2012big.pdf> (accessed 01/05/2013), and Gürbüz, M. (footnote 17), pp. 122-124, Kuzeyli, K. (footnote 33), pp. 39–44. On the subjects of separation and independence see Kuş, S., (2004) *Erweiterte Unabhängigkeit im atomrechtlichen Gesetzesvollzug*, Nomos, Baden-Baden, and MacKenzie, B. (2010), »The Independence of the Nuclear Regulator«, *Nuclear Law Bulletin*, No. 85 (Volume 2010/1), pp. 35-63, available at <http://www.oecd-nea.org/law/nlb/NLB-85-E.pdf#page=35> (accessed 26/05/2013). On staff shortage see also TAEK, (2013) »2012 Yılı Faaliyet Raporu« (footnote 41), p. 143 (chapter B fifth bullet point – »*Vasıflı personel temininde güçlükler*« – and sixth bullet point – »*Verilen hizmet yoğunluğuna rağmen personel sayısının yetersiz olması*«). The importance of the regulatory body in nuclear newcomer states underlines World Nuclear Association, WNA Report (footnote 15), p. 46. The relation between TAEK, particularly the Department of Nuclear Safety and Technical Support Organizations (TSO) is not regulated expressively; see Ercan, E., Schneider, H. (footnote 11), p. 588 with footnote [57]. For TSO items see already Ercan, E., Schneider, H. (footnote 11), p. 588 (chapter 3 with footnote [57]) and p. 589 (chapter 5 with footnote [84] referring particularly to Sellner, D., Hennenhöfer, G., Schaefer, A., Sailer, M., (2007) *Expert's Report The Role of the Independent Expert Organisation and the Risks Related to Changing the Supervision Process*, Verlag VdTUV, Berlin).

3.3.7 Directives and Guides

3.3.7.1 Directives

The Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants, the Guide on Specific Design Principles and the Directive on the Granting of Functions to Inspectors for Nuclear Safety¹³⁴ engross in substance the corresponding regulations.

The Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants has been prepared in accordance with Article 4 lit. e) and Article 6 lit. b) subparagraph 1 of Law No. 2690 and the Decree on Licensing of Nuclear Installations of 1983 (Article 3). In order to reach the objective of the directive *»to identify principles and processes for determination of regulations, guides and standards as well as selection of a reference plant for the licensing of«* NPPs (Article 1) Article 5 requires that a *»complete list of regulations, guides and standards forming the licensing basis for the plant shall be determined at the beginning of the licensing process«* and Article 6 lays down the *»order of priority of the regulations to form the licensing basis«*: *»a) Regulations of The Republic of Turkey, b) IAEA Nuclear Safety Series documents under the categories of »safety fundamentals« and »safety requirements,« c) In the areas deemed not adequately covered by subparagraphs (a) and (b), nuclear safety regulations in the Vendor Country, in force as of a date approved by the Authority.«* (TAEK). Moreover it is required for *»safety related issues deemed not adequately covered by regulations mentioned in subparagraphs (a), (b), and (c), a third country regulation conforming to relevant IAEA safety guides or to the design of the plant, for which the license application has been made.«*¹³⁵ Finally shall be mentioned the procedure of proposing a refer-

¹³⁴ See footnote 64.

¹³⁵ See already the similar Criteria to be Met by Investors Who Will Construct and Operate Nuclear Power Plants of 19 December 2007 accordingly to Article 3 of Law No. 5710 (footnote 90): *»2) Licensing: The nuclear power plant shall comply with the up-to-date nuclear safety regulation effective in the designer's country, except for site-related requirements and conditions. A licensed power plant, currently under operation and representing the most recent example of the same technology, shall be presented as a reference plant. In case there is no operational reference, a representative of the same technology that has been approved or authorized for construction by a regulatory body shall be presented as the reference. Turkish legislation related to licensing, and conditions that will be re-*

ence plant (Article 7 paragraph 1). The order of priority reflects the approach of TAEK to ensure safety of NPPs and is crucial for the licensing process (Article 6 paragraph 2: »licensing basis«) as well as for the support to TAEK by external experts.¹³⁶

3.3.7.2 Guides

The guides serve primarily to transpose IAEA Safety Standards into Turkish non binding nuclear legislation. The guide which is obviously the most important for nuclear safety in NPPs is the Guide on Specific Design Principles; this guide requires Levels of Defense in Depth, Plant States and Objectives, Independence Between All Levels, Safety and Security Interface, Radiation Protection and Waste Management and External Events – Earthquakes and Aircraft Crash (Articles 4-10), while a series of further

requested by the national nuclear regulatory body are reserved. Explanations:

a) By compliance with up-to-date regulations of designer's country in addition to national regulations and the International Atomic Energy Authority regulations at the licensing phase, ensuring both home country licensibility and up-to-date technological features is aimed. Compliance of the power plant with the regulations of the designer's country, except site related requirements and conditions, is required to be demonstrated via supporting information and documentation.

b) The aim by the reference plant consideration is to make a comparison between the proposed power plant and the presented reference power plant during licensing. In case there is no reference, a representative one with design approval (certificate) or at the stage of construction may be accepted.

c) The requirements of national legislation and conditions that may be requested by TAEK are reserved and it is emphasized that TAEK is the final authority for any decision regarding licensing. Regulations related to nuclear safety, which will form part of the basis for TAEK's decisions during licensing, in order of priority, are national regulations and the International Atomic Energy Agency regulations given in »Fundamentals« and »Requirements« of Safety Standards Series.«

136 See the structure of the list provided for tender no. 190420 of 26 December 2012, available at <http://www.taek.gov.tr/en/belgeler-formlar/documents/ans-tso-tender/New-Tender-Documentation-With-Addendum/> (accessed 11/05/2013) as pdf-document 2012_190420_3_App_III_Licensing_Basis.pdf (»Licensing Basis for Akkuyu Nuclear Power Plant (Approved) Revision 1«); this tender was cancelled on 22 March 2013 (see »Announcement of Cancellation of Tender No: 2012/190420«, available at <http://www.taek.gov.tr/en/latest-news/1042-announcement-of-cancellation-of-tender-no-2012-190420.html> – accessed 11/05/2013). Law No. 5710 of 2007 (see footnote 56) is not registered in this licensing basis list nor are the criteria and the regulation mentioned in Article 3 paragraph 3 of this law (see footnote 90).

guides deal with management issues¹³⁷ and quality assurance (programmes).¹³⁸ Finally other guides aim at the form of the Site Report for NPPs, at Inspection and Testing, at Safety of Fire Protection, at man-made external events to be taken into consideration in the design of NPPs, at documentation of NPP site activities, at NPPs' earthquake design and sufficiency and at earthquake subjects as regards site license and limited work permit.¹³⁹

137 For the Guide on Specific Design Principles see footnote 108; furthermore see Guide on Management of Non-Conformance Control and Corrective Actions for Safety in Nuclear Installations / GK-KYS-02, 10.12.2009; Guide on Management of Document Control and Records for Safety in Nuclear Installations / GK-KYS-03, 10.12.2009; all these guides are available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/mevzuat/yonerge-kilavuzlar/kilavuzlar/> (accessed 26/05/2013).

138 See Guide on Establishing and Implementing a Quality Assurance Programme for Safety in Nuclear Installations / GK-KYS-01, 10.12.2009; Guide on Assessment of the Implementation of the Quality Assurance Programme for Safety in Nuclear Installations, GK-KYS-05, 24.05.2010; Guide on Quality Assurance in Procurement of Items and Services for Safety in Nuclear Installations / GK-KYS-06, 24.05.2010; Guide on Quality Assurance in Manufacturing for Safety in Nuclear Installations / GK-KYS-07, 31.05.2011; Guide on Quality Assurance in Research and Development for Safety in Nuclear Installations / GK-KYS-08, 31.05.2011; Guide on Establishing and Implementing a Quality Assurance Programme in Siting for Safety of Nuclear Installations / GK-KYS-09, 24.05.2010; Guide on Quality Assurance in Design for Safety of Nuclear Installations / GK-KYS-10, 29.09.2011; Guide on Quality Assurance in Construction for Safety of Nuclear Installations / GK-KYS-11, 29.09.2011; Guide on Quality Assurance in Commissioning for Safety of Nuclear Installations / GK-KYS-12, 29.09.2011; Guide on Quality Assurance in Operation for Safety of Nuclear Installations / GK-KYS-13, 29.09.2011; Guide on Quality Assurance in Decommissioning for Safety of Nuclear Installations / GK-KYS-14, 29.09.2011; all these guides are available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/mevzuat/yonerge-kilavuzlar/kilavuzlar/> (accessed 26/05/2013).

139 Guide on Format and Content of Site Report for Nuclear Power Plants / GK-GR-01, 10.12.2009, available (only Turkish »Nükleer Güç Santralleri için Yer Raporu Biçim ve İçeriği Kılavuzu«) at <http://www.taek.gov.tr/en/belgeler-formlar/func-startdown/607/> (accessed 11/05/2013). Guide on Inspection and Testing for Acceptance for Safety in Nuclear Installations / GK-KYS-04, 10.12.2009; NÜKLEER GÜÇ SANTRALLARINDA YANGINDAN KORUNMA GÜVENLİK KILAVUZU; NÜKLEER GÜÇ SANTRALLARININ TASARIMINDA İNSAN KAYNAKLI DIŞ OLAYLAR ÜZERİNE GÜVENLİK KILAVUZU; NÜKLEER GÜÇ TESİSİ SAHALARININ GÖZLEM, DEĞERLENDİRME VE ONAYLANMASI İÇİN KALİTE TEMİNİ PROGRAMI KAPSAMINDA KULLANILAN DOKÜMAN ÖRNEKLERİ, PROSEDÜRLER VEYA İŞ TALİMATLARI İÇİN KILAVUZ; NÜKLEER SANTRAL TESİSLERİNİN DEPREM TASARIMI VE YETERLİLİĞİ KILAVUZU;

3.3.8 Nuclear third party liability

Turkey has ratified the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, the Protocol to Amend the Convention on Third Party Liability in the Field of Nuclear Energy of 28 January 1964, the Protocol to Amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as Amended by the Additional Protocol of 28 January 1964 (1982)¹⁴⁰ and the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (1988)¹⁴¹, but neither the Brussels Supplementary Convention on Nuclear Third Party Liability and the 2004 Protocol to amend the Brussels Supplementary Convention,¹⁴² nor the Convention on Supplementary Compensation for Nuclear Damage of 12 September 1997¹⁴³ or the Protocol to Amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as Amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004); moreover Turkey did not sign nor ratify the International Convention on the Liabil-

NÜKLEER TESİSLERE YER LİSANSI VE SINIRLI ÇALIŞMA İZİNİN VERİLMESİNDE ARANACAK DEPREMLE İLGİLİ KONULAR HAKKINDA KILAVUZ (1989); all these guides are available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/mevzuat/yonerge-kilavuzlar/kilavuzlar/> (accessed 26/05/2013).

140 See NEA, Legal instruments and related documents, Nuclear liability conventions and protocols, available at <http://www.oecd-nea.org/law/legal-documents.html#agreements> (accessed 26/05/2013).

141 INFCIRC/402, May 1992, available at <http://www.iaea.org/Publications/Documents/Infcircs/Others/inf402.shtml> (accessed 12/05/2013).

142 See footnote 140. Turkey has not even signed these two instruments; Önal, Y., Cihan Alat, D., (2011) NÜKLEER SANTRAL İŞLETİMİNDEN DOĞAN SORUMLULUĞA İLİŞKİN ULUSLARARASI SÖZLEŞMELER, slideshow (only Turkish), December 2011, explain the system of the Brussels Supplementary Convention on Nuclear Third Party Liability of 1963 as well as the 2004 Protocol to amend the Brussels Supplementary Convention (slides 2, 9, 10, 11), but do not indicate why Turkey did not sign nor ratify these instruments and do not mention whether the Turkish government intends to do so in the future, while Smirnov, I. (2012), »Liability for Nuclear Damage«, slideshow presented at Istanbul, Turkey, on April 27, 2012, does not at all mention the Brussels Supplementary Convention on Nuclear Third Party Liability.

143 See INFCIRC/567 of 22 July 1998, available at <http://www.iaea.org/Publications/Documents/Infcircs/1998/infirc567.shtml> (accessed 12/05/2013), and Önal, Y., Cihan Alat, D. (footnote 142), slide 18.

ity of Operators of Nuclear Ships of 15 May 1962.¹⁴⁴ A specific national legislation regulating details of nuclear third party liability in order to complete the international regulations as regards subjects left for national law and to adapt the international regulations to the national legal framework has not yet been elaborated,¹⁴⁵ thus the Paris Convention is applica-

144 See footnote 140 and TAEK, Arrangements (footnote 84). A general presentation (PPP) on the international conventions and agreements with regard to nuclear liability resulting from operation of NPP in Turkish was given by Önal, Y., Cihan Alat, D. (footnote 142) who even mention (slide 19) the International Convention on the Liability of Operators of Nuclear Ships of 15 May 1962 (UNITED NATIONS JURIDICAL YEARBOOK 1962, Part Two, Chapter IV, pp. 209 et seq., available at <http://untreaty.un.org/cod/UNJuridicalYearbook/pdfs/english/By-Chapter/chpIV/1962/chpIV.pdf> – accessed 07/06/2013; see for this convention Colliard, C.-A., (1962) »La Convention de Bruxelles relative à la responsabilité des exploitants de navires nucléaires«, in *Annuaire français de droit international*, volume 8, 1962, pp. 41-64, available at http://www.persee.fr/web/revues/home/prescript/article/afdi_0066-3085_1962_num_8_1_957 - accessed 08/06/2013). A comprehensive composition in Turkish was published by Kocaoğlu, N. K. (2010), »Nükleer Tesis İşletenin Hukuki Sorumluluğu: Karşılaştırılmalı ve Uluslararası Özel Hukuk Analizi«, *Ankara Barosu Dergisi*, Yıl: 68, Sayı: 2010/2, pp. 33-112 (international conventions are dealt with on pp. 55-56 and 72-82); the most recent books are Aydoğdu, M., (2009) *Sivil Amaçlı Nükleer Santral İşletenin ve Nükleer Madde Taşıyanın Hukuki Sorumluluğu*, Ankara, Adalet Yayınevi, and Korkmaz, M. H. (2012), *NÜKLEER SANTRAL İŞLETMENİN HUKUKİ SORUMLULUĞU*, İstanbul, Beta. New articles were published in 2011 and 2012, Özdamar, M. (2011) »Tesislerin İşletilmesinden Doğan Hukuki Sorumluluk«, *ICCI 2011 Proceedings Book*, available at <http://www.butekom.com/docs/ICCI2011BK.pdf> (accessed 12/05/2013), Özdamar, M., (2012) »NÜKLEER TESİSLERİN İŞLETİLMESİNDEN DOĞAN HUKUKİ SORUMLULUK«, *Enerji Hukuku Araştırma Enstitüsü Dergisi*, Sayı: 2012/1, pp. 119-135, and Aydoğdu, M., (2012) »SİVİL AMAÇLI NÜKLEER SANTRAL İŞLETENİN VE NÜKLEER MADDE TAŞIYANIN HUKUKİ SORUMLULUĞUNUN KOŞULLARI«, *Enerji Hukuku Araştırma Enstitüsü Dergisi*, Sayı: 2012/2, pp. 1-83. See also Antalya, O. G., (2013) *Borçlar Hukuku Genel Hükümler, CİLT I (Volume I), 2. Baskı (2nd edition)*, İstanbul, Beta, pp. 718-728. Lastly should be mentioned the publication of Güneysu, G. (1989-1990), »NÜKLEER REAKTÖRLERİN YOL AÇTIĞI ZARARLARDAN DOĞAN HUKUKİ SORUMLULUK«, *Ankara Üniversitesi Hukuk Fakültesi*, pp. 207-223, available at <http://auhf.ankara.edu.tr/dergiler/auhfd-arsiv/AUHF-1989-1990-41-01-04/AUHF-1989-1990-41-01-04-Guneyusu.pdf> (accessed 13/05/2013).

145 See Centre for Economics and Foreign Policy Studies, (2011) *The Turkish Model for Transition to Nuclear Power* (footnote 33), pp. 97-98, Korkmaz, M.H. (footnote 144), p. 65, Smirnov, I. (footnote 142), slide 20, Gürbüz, M. (footnote 17), pp. 124-125.

ble directly in Turkish legislation.¹⁴⁶ Possibly the liability regime of Turkish Civil Code is deemed applicable.¹⁴⁷

However, already in October 1986 a Predraft of a Bill on Legal Liability in the Sector of Nuclear Energy was completed; this predraft was based on the regulations of the Paris Convention and some national legislation especially in Switzerland, but was not finalized nor submitted to the Turkish Grand National Assembly and accordingly an actual conclusion states: *»Besides, the preparation of a special legislation in order to identify the legal liability of the nuclear facility operators is still in progress in our country.«*¹⁴⁸ At the end of the nineteen nineties another draft was submitted to the Turkish Grand National Assembly, but was also not voted definitely.¹⁴⁹ The establishment of Turkish national nuclear liability legislation is intended for the near future as well as the creation of a Nuclear Insurance Pool in Turkey;¹⁵⁰ such a national legislation has to take into account the national insurance legislation which is regulated in the Turkish Commercial Code (Law No. 6102 of 2011, amended in 2012).

Actually in national nuclear legislation Article 7 of the Decree on Licensing of Nuclear Installations of 1983 requires insurance or other financial guarantees for third party liability to be provided by the applicant,¹⁵¹ Law No. 5710 (Article 5 paragraph 4 sentence 1) obliges to obtain an investment insurance in order to cover any damage from the outset of the creation of the plant and (paragraph 5) regulates the application of the Paris Convention for transports and accidents within the NPP,¹⁵² finally the Turkish-Russian Agreement of 12 May 2010 refers to nuclear third party liability in its Article 16.¹⁵³

146 See Aydoğdu, M. (footnote 144), pp. 40-42.

147 Korkmaz, M. H. (footnote 144), p. 67, Aydoğdu, M. (footnote 144), p. 42.

148 See Özdamar, M. (footnote 144), p. 190 no. 3 and p. 194.

149 See Kocaoğlu, N. K. (footnote 144), pp. 57-59.

150 See Smirnov, I. (footnote 145), slides 20 and 22.

151 See for the Decree footnote 53. Correctly Smirnov, I. (footnote 145), slide 18, states: *»The founder shall provide insurance or other financial guarantees according to the Paris Convention – a precondition to issuing the operating license«*, but does not quote an article of the decree.

152 See Smirnov, I. (footnote 145), slide 18, and Kocaoğlu, N. K. (footnote 144), p. 63. Concerns about the validity of Law No. 5710 for construction and operation of NPPs in Turkey are indicated in chapter 3.3.3. above and chapter 5.1.2. below.

153 See Centre for Economics and Foreign Policy Studies (footnote 33 and 145), p. 98, and Kocaoğlu, N. K. (footnote 144), p. 65. For the Turkish-Russian Agreement see footnote 24; Article 16 NUCLEAR LIABILITY reads as follows:

Since in Turkey a nuclear insurer pool has not been established up to now the nuclear insurance company has not the possibility to follow the licensing process already for the construction license.¹⁵⁴ Moreover the future nuclear insurance pool in Turkey has to implement as soon as possible a comprehensive regulatory system for dealing with damages and their compensation.¹⁵⁵

3.4 Perspectives of nuclear legislation in Turkey

A fundamental nuclear framework law does not yet exist in Turkey, although it was announced in 2009.¹⁵⁶ Such a comprehensive law was reminded by the European Commission in the Progress Report 2012 for Turkey.¹⁵⁷ Whether the enhanced EU-Turkey energy cooperation includ-

»Third party liability for nuclear damage, which may arise in connection with cooperation under this Agreement will be regulated in compliance with the international agreements and instruments to which the Republic of Turkey is or will be a party and national laws and regulations of the Turkish Party.«

154 See International Guidelines for Nuclear Safety · Operation · Third-Party Liability at Nuclear Power Plants, (2010) Published on behalf of the Nuclear Pool's Forum, 1 July 2010, p. 30 chapter 3.5.1 first bullet point, available at http://www.nuclearpools.com/downloads/procedures/NSO_TPL_GUIDELINES.pdf (accessed 13/05/2013). Further information provided by the NUCLEAR POOLS, for example on guidelines for fire protection, machinery breakdown, is available at <http://www.nuclearpools.com/home.asp> (accessed 13/05/2013).

155 See NUCLEAR ACCIDENT COMPENSATION, INSURANCE & CLAIMS HANDLING FROM THE NUCLEAR INSURANCE POOLS, available at http://www.nuclearpools.com/downloads/liability/2013-03-01-DRAFT_CM_handbook.pdf (accessed 13/05/2013).

156 See for example Kocaoğlu, N. K. (footnote 144), p. 54 (*»Türkiye'de genel bir nükleer enerji yasası bulunmamaktadır.«*). For the announcement of the elaboration of a nuclear law see NEA Nuclear Law Bulletin No. 2/2009, page 109, paragraph 2: *»Recently, the Turkish Atomic Energy Authority (TAEK) issued a draft nuclear law which is being revised according to stakeholders' input. It is expected to enter into force in 2010. The current Law on the Turkish Atomic Energy Authority (Law No. 2690) will become void when the new nuclear law is enacted. [Issues under the objective of the new law are listed in lit. a) – d).] ... The scope of the draft nuclear law will extend to all activities relating to nuclear and radiation facilities, devices and materials excluding those involving non-ionizing radiation.«*

157 TURKEY 2012 PROGRESS REPORT, Chapter 4.15., p. 62: *»No development can be reported on the adoption of a framework nuclear law, which would ensure a level of nuclear safety in full compliance with EU standards; existing applicable national legislation mainly covers protection against ionizing radiation and*

ing nuclear safety and radiation protection, agreed on 14 June 2012,¹⁵⁸ will accelerate the process for a framework nuclear law, is not yet proven; IAEA and OECD-NEA provide vast advice for nuclear legislation and regulation, but at present no concrete activities in Turkey in the direction of a framework nuclear law are known.¹⁵⁹ The United Arab Emirates (UAE) as a newcomer in nuclear build put into force a nuclear framework law in 2009.¹⁶⁰

the licensing of nuclear installations.», available at http://ec.europa.eu/enlargement/pdf/key_documents/2012/package/tr_rapport_2012_en.pdf (accessed 13/05/2013). For nuclear framework legislation see for example Switzerland (Kernenergiegesetz – KEG – of 21 March 2003 together with the Kernenergieverordnung – KEV – of 10 December 2004), France (Loi n° 2006-686 du 13 juin 2006 relative à la transparence et à la sécurité en matière nucléaire) and Germany (Atomgesetz [German Atomic Energy Act – Act on the Peaceful Utilization of Atomic Energy and the Protection against its Hazards] of December 23, 1959).

158 See *European Commission*, Memo of 14 June 2012, Enhanced EU-Turkey energy cooperation, No. 5. (»Nuclear safety and radiation protection«). Whether this initiative will contribute to the development of adequate legal standards and an appropriate administrative framework with regard to nuclear safety in Turkey, will be proved in the future after special meetings EU-Turkey on these subjects. However, Turkey participated in the stress tests carried out by the European Commission by submitting a report comprising information on the future NPP at Mersin-Akkuyu as regards nuclear safety characteristics and earthquake resistance; see the joint declaration of the Commission and EU neighbouring countries at the high level meeting of 23 June 2011, available at http://ec.europa.eu/energy/nuclear/safety/doc/20110623_stress_test_joint_declaration_eu_neighbouring_countries.pdf (accessed 26/05/2013), and the Communication from the Commission to the Council and the Parliament on the comprehensive risk and safety assessments (»stress tests«) of nuclear power plants in the European Union and related activities, COM(2012)571 final, available at: http://ec.europa.eu/energy/nuclear/safety/doc/com_2012_0571_en.pdf (accessed 26/05/2013).

159 See the recommendations of IAEA (Handbook on Nuclear Law, Publication 1160 of 2003, Implementing Legislation, Publication 1456 of 2010) and NEA (Improving Nuclear Regulation, NEA No. 6275 of 2009) and IAEA's legal as well as technical assistance programmes (IAEA, available at <http://www-ns.iaea.org/OurWork/Services/MemberStates/> – accessed 13/05/2013; NEA, available at <http://www.oecd-nea.org/nsd/WorkAreas/NuclearSafetyandRegulation/> and <http://www.oecd-nea.org/law/WorkAreas/NuclearLaw/> – both accessed 13/05/2013). However, the 10th Development Plan for Turkey (footnote 6), p. 119 no. 791, notes as a goal the strengthening of the legal and organizational infrastructure.

160 See A FEDERAL LAW BY DECREE NO. 6 OF 2009 CONCERNING THE PEACEFUL USES OF NUCLEAR ENERGY, unofficial translation available at http://www.fanr.gov.ae/SiteAssets/PDF/20101024_nuclear-law-scan-eng.pdf (ac-

The lack of a basic nuclear law at the top of the nuclear legislation hierarchy along with the existing compilation of two decrees on licensing nuclear installations and on radiation safety and several regulations could cause difficulties in the enforcement process and later on in the supervision, inspection and enforcement. In the same way the hierarchy of safety requirements being reflected in decrees, regulations, directives and guides is at least not evident for the public which moreover is not formally involved in the licensing procedure for nuclear power plants. Beyond that judicial review may not be conveniently achieved. Finally the Russian influence arising from the construction of a Russian-designed nuclear reactor on administrative procedures must not be underestimated; for example the clear and comprehensible translation of all Russian documents for the reference NPP seems to be a difficult action especially in matters of legal certainty. Thus particularly the judicial review by administrative courts could at the end of the day result in risks for the state authorities' licenses' reliability.

In order to diminish these regulatory risks intensive and transparent international cooperation could be rather helpful to establish *»best practice«* in Turkish nuclear legislation and execution by administrative acts and activities; in that sense the meeting of TAEK with OECD-NEA members (11 and 12 February 2013) on cooperation and support during the licensing process for nuclear power plants, to which involved Russian participants of the Russian regulatory body as well as Rosatom and the Akkuyu Project Company were invited, has to be evaluated positively, because exchange of information and knowledge transfer between regulatory bodies on the one hand and briefing on the planned Russian-type reactor as reference plant including possible differences to the reference plant's design on the other hand are certainly valuable in order to strengthen the capabilities of staff and administrative management so as to carry out particularly the licensing process in a convenient manner.¹⁶¹

cessed 13/05/2013), Federal Authority for Nuclear Safety, *»Nuclear Safety, Licences for Nuclear Power Plants«*, available at <http://www.fanr.gov.ae/En/AboutFANR/OurWork/Pages/Nuclear-Safety.aspx> (accessed 13/05/2013).

161 See for the meeting of TAEK with OECD-NEA on 11 and 12 February 2013, TAEK, *»TAEK, OECD/NEA ve Rusya Federasyonu'ndan İlgili Kuruluşların Katılımıyla Nükleer Tesislerin Lisanslanması Sürecinde İşbirliği ve Destek Konulu Toplantı 11-12 Şubat 2013 Tarihlerinde ANKARA'da Yapıldı«*, available (only Turkish) at <http://www.taek.gov.tr/haberler/1045-taek-oecd-nea-ve-rusya-federasyonu-ndan-ilgili-kuruluslarin-katilimiyla-nukleer-tesislerin-lisanslanmasi-surecinde-isbirligi-ve-destek-konulu-toplanti-11-12-subat-2013-tarihlerinde-ankara-da-yapildi.html> – accessed 20/04/2013. – As regards the involvement of the

4. *Other legislation particularly relevant for siting, construction and operation of NPPs in Turkey*

4.1 Environmental Impact Assessment

Environmental Impact Assessment (EIA) legislation in Turkey on the basis of the Environmental Law and particularly the Regulation on Environmental Impact Assessment¹⁶² covers in principle NPPs¹⁶³ in the way

public during the licensing procedures the German Constitutional Court (Bundesverfassungsgericht) already in 1979 ruled that formal public participation in decision-making for nuclear power plants is guaranteed by the fundamental right of life and health (Article 2 paragraph 2 sentence 1 of the Constitution), see the official collection of rulings of the German Constitutional Court (BVerfGE), volume 53, pp. 30 et seq., pp. 59 et. seq., pp. 65-66; whether in Turkish constitutional law the similar Article 56 paragraph 1 and 2 of the Turkish Constitution (see footnote 47) would be interpreted in the same way is not predictable (Article 56 paragraph 1 and 2 reads as follows: *»Everyone has the right to live in a healthy, balanced environment. It is the duty of the state and citizens to improve the natural environment, and to prevent environmental pollution.«*).

- 162 Environmental Law No. 2872 (Çevre Kanunu), published in the Official Gazette No. 18132 of 11 August 1983, changed for the last time in 2006 (Law No. 5491 of 26 April 2006 »ÇEVRE KANUNUNDA DEĞİŞİKLİK YAPILMASINA DAİR KANUN«, published in the Official Gazette No. 26167 of 13 May 2006); Regulation on Environmental Impact Assessment (Çevresel Etki Değerlendirmesi Yönetmeliği), of which the first regulation was published in the Official Gazette No. 21489 of 7 February 1993, the actual regulation was published in the Official Gazette No. 26939 of 17 July 2008, changed for the last time in 2011 (ÇEVRESEL ETKİ DEĞERLENDİRMESİ YÖNETMELİĞİNDE DEĞİŞİKLİK YAPILMASINA DAİR YÖNETMELİK, published in the Official Gazette No. 27905 of 14 April 2011; for the NPP at the Mersin-Akkuyu site the change of the preliminary Article 3 seemed to be relevant: The change states that projects are exempted until 17 July 2015) and in 2013 after the Council of State having ruled on 1 April 2013 the cancellation of parts of the 2011 regulation (ÇEVRESEL ETKİ DEĞERLENDİRMESİ YÖNETMELİĞİNDE DEĞİŞİKLİK YAPILMASINA DAİR YÖNETMELİK, published in the Official Gazette No. 28609 of 5 April 2013); the Regulation on Environmental Control (Çevre Denetimi Yönetmeliği, published in the Official Gazette No. 27061 of 21 November 2008) is not applicable to NPPs (Article 2 paragraph 2; paragraph 3 however envisages a coordinated control if a protocol is elaborated between TAEK and the competent Ministry of Environment and City Planning). Likewise the Regulation on Environmental Permits and Licenses to be taken in Accordance with Environmental Law (Çevre Kanunu'na Alınması Gereken İzin ve Lisanslar Hakkında Yönetmelik), published in the Official Gazette No. 27214 of 29 April 2009, is not relevant for NPPs nuclear matters (they do not figure in the annexes 1 and 2); for

that EIA procedure must be terminated before the first license is granted, even investment or tenders may not be accomplished (Article 10 paragraph 2 of the Environmental Law). For a NPP the site license (Articles 9-12 of the Decree on Licensing of Nuclear Installations of 1983) is the first nuclear license. An EIA application file or an EIA application report, for a project of minor importance a project description file has to be submitted (Article 6 of the Regulation on Environmental Impact Assessment) to the competent Ministry of Environment and City Planning or in special cases to the competent province governorship. The decision to be taken is either a positive EIA or a negative EIA or the statement that EIA is not necessary (Article 5 of the Regulation on Environmental Impact Assessment).¹⁶⁴ The Ministry of Environment and City Planning is competent in principle for the protection of the environment, the prevention of environmental pollution and the remedy of environmental problems, but the topics which are subject of Law No. 2690 are executed by TAEK (Article 3 lit. j) of the Environmental Law). The public participation in the framework of the EIA process is regulated in Article 9 of the Regulation on Environmental Impact Assessment; in preparing a public meeting information on the project has to be published and the opinions and proposals of the public have to be received by a Commission established by the Ministry of Environment and City Planning.¹⁶⁵

the importance of non-nuclear pollution aspects see chapter 4.2 below. Since the regulation concerning the competent persons and the environmental experts' firms (ÇEVRE GÖREVLİSİ VE ÇEVRE DANIŞMANLIK FİRMALARI HAKKINDA YÖNETMELİK, published in the Official Gazette No. 27757 of 12 November 2010) depends on the two aforementioned regulations, it too is not applicable to NPPs.

163 NPPs figure in the catalogue of projects for which EIA is necessary, i.e. No. 2-b) in Annex I (EK-I Listesi) of the Regulation of Environmental Assessment (see footnote 162). See (only Turkish) T.C. Çevre Orman Bakanlığı, (2006) Çevresel Etki Değerlendirmesi Özel Sektörel Rehberleri, ÇED Rehberi - Nükleer Enerji Santralleri, 2006, available at http://www.csb.gov.tr/gm/dosyalar/belgeler/belge387/Sektorel_rehber_nukleer.pdf (accessed 16/05/2013), and Ünver, Ö. (2012), »LICENSING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR NPP's IN TURKEY«, slideshow presented at the Technical Meeting on Environmental Issues in Nuclear Power Programmes, Vienna/Austria, 20-23 March 2012.

164 See (in Turkish) Alica, S. S. (2011), »ÇEVRESEL ETKİ DEĞERLENDİRMESİNİN YARGI KARARLARI ÇERÇEVESİNDE İRDELENMESİ«, *Gazi Üniversitesi Hukuk Fakültesi Dergisi*, Cilt (volume) XV, Yıl (year) 2011, Sayı 3, pp. 111-112.

165 See for the public participation (in Turkish) Alica, S. S. (footnote 164), pp. 110-111.

For the Mersin-Akkuyu site a nuclear site license was issued in 1976 before the entry into force of the Environmental Law of 1983 and the first Regulation on Environmental Impact Assessment of 1993. The problem of projects underlying an EIA but for which a license was already accorded was regulated in provisional articles and after a negative decision of the Council of State of 7 October 2010 with regard to NPPs the application of the Regulation on Environmental Impact Assessment perhaps would have been not applicable until 17 July 2015; but that regulation was also cancelled by a ruling of the Council of State on 1 April 2013. After that the competent Ministry of Environment and City Planning issued only a few days later a new regulation.¹⁶⁶ Despite all those changes in practice an EIA must be made up as regards the NPP project at the Mersin-Akkuyu site and it seems that the competent authorities deem the EIA being finished before the second step of the nuclear licensing process, the construction license in accordance with Articles 13-21 of the Decree on Licensing of Nuclear Installations; the further development of EIA legislation and exemptions seems to be unclear at this moment. Nevertheless the Akkuyu NGS was and is ready to submit an EIA in the context of the construction license; however, notwithstanding EIA the applicant for the construction license has to submit in the Preliminary Safety Analysis Report »*New Information related to the site and its environment acquired after the issuance of site report*« (Article 14 no. 1 in connection with Article 9 of the Decree on Licensing of Nuclear Installations of 1983).¹⁶⁷

166 The date of 17 July 2015 was due to the change of the Regulation on Environmental Impact Assessment in 2011 (footnote 162), see Alica, S. S. (footnote 164), pp. 108-110. Özdemir, H. E. (footnote 24), p. 175, states that the Akkuyu NPP would not be obliged to obtain an EIA due to the regulation of 2011. The new regulation, published in the Official Gazette of 5 April 2013 (footnote 162), exempts projects which were taken to the investment programme before 23 June 1997 and had accomplished the planning phase by 5 April 2013 or for which a tender was carried out before that date. See also the critics on the new regulation expressed by the UNION OF CHAMBERS OF TURKISH ENGINEERS AND ARCHITECTS (TMMOB) on 5 April 2013, available (only Turkish) at http://www.tmmob.org.tr/genel/bizden_detay.php?kod=8963&tipi=9 (accessed 03/06/2013).

167 See Akkuyu NGS haberleri, available (only Turkish) at <http://www.akkunpp.com/akkuyu-ngs-haberleri> (accessed 08/05/2013), of 12.04.2013: »*Türkiye istemese de nükleere çed alırsız*« and »*Akkuyu için ÇED başvuru*« and of 03.12.2012: »*Akkuyu Santrali için ÇED raporu Haziran'a hazır*«. See also Ünver, Ö. (footnote 163), slide 26. The principle that licenses accorded before the entry into force of a new regulation may keep validity is acknowledged as regards Council Directive 85/337/EEC of 27 June 1985 on the assessment of the ef-

For the Sinop-İnceburun site a positive EIA decision according to Article 5 of the Regulation on Environmental Impact Assessment is a prerequisite for the site license according to Articles 9-12 of the Decree on Licensing Nuclear Installations; moreover investments and tenders may not be started until the positive EIA is granted (Article 10 of the Environmental Law).

The fact that the Council of State ruled in several cases at the disadvantage of the competent state authorities¹⁶⁸ illustrates the risks of administrative failure of EIA procedures. Finally it has to be taken into consideration that changes of the project require an EIA procedure (Article 24 paragraph 1 lit. d), Article 15 paragraph 1 lit. b), Article 18 paragraph 3 and Article 19 paragraph 3 lit. b) of the Regulation on Environmental Impact Assessment).

4.2 Other important legislation for NPPs' construction and operation

With regard to NPPs the non-nuclear pollution, the protection of groundwater, surface water, the coasts and the agriculture are deemed to be prioritized, moreover sabotages in general are a major concern, hence the Environmental Law, the Agriculture Law, the Ground Water Law, the

fects of certain public and private projects on the environment (OJ 1985 L 175, p. 40) – EIA – also by the European Court of Justice (Judgement of 9 August 1994 – Case C-396/92, I-3744-3756, marginal number 19 at I-3753-3754), available at <http://curia.europa.eu/juris/showPdf.jsf?text=&docid=98772&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=3469696> (accessed 27/05/ 2013). For the updated site report see TAEK, Akkuyu Nükleer Güç Santrali – Gelişmeler (footnote 34).

168 See Alıca, S. S. (footnote 164), pp. 97-130, further Alıca, S. S., (2011) »ÇEVRENİN KORUNMASINA İLİŞKİN HUKUKİ SORUMLULUK KURALLARININ YARGITAY KARARLARI KAPSAMINDA İNCELENMESİ (AN ANALYSIS OF CIVIL LIABILITY REGARDING ENVIRONMENTAL PROTECTION IN THE FRAME OF TURKISH CASE LAW)«, *YEDİTEPE ÜNİVERSİTESİ HUKUK FAKÜLTESİ DERGİSİ (JOURNAL OF YEDİTEPE UNIVERSITY FACULTY OF LAW)*, Cilt (Vol.): VIII, Sayı (No.): 1, İstanbul, pp. 37-89, and Alıca, S. S., (2011) »ÇEVRE DENETİMİNDE İDARENİN SORUMLULUĞU«, *Gazi Üniversitesi Hukuk Fakültesi Dergisi*, Cilt (Vol.): XV Ekim (October)-2011, Sayı (No.): 4, pp. 87-120; whether the liability described stands back with regard to the nuclear third party liability regulations is not dealt with in these articles. Moreover the ruling of the Council of State of 13 February 2012 (footnote 34) bringing to a stop the execution of the environmental arrangement plan for the Mersin-Karaman planning area in which is situated the Mersin-Akkuyu NPPs' site is a sign of concern.

Coastal Law, the Regulation on the Protection of Groundwater Against Pollution and Degradation, the Environmental Permits and Licences Regulation, the Regulation on Control of Pollution from Hazardous Substances in Water and its Environment, the Regulation on Implementation of Coastal Law and the Regulation on Protection Against Sabotages have to be taken into account for siting, construction and operation of NPPs.¹⁶⁹

With regard to earthquakes the Regulation on Buildings to be Constructed in Earthquake Regions is not applicable to NPPs.¹⁷⁰ Consequently only some special norms in nuclear legislation¹⁷¹ and particularly the two Guides of TAEK referring to the subject of earthquake¹⁷² are to be taken into account when siting, constructing and operating NPPs.

169 This selection follows the list of TAEK tender of 26 December 2012, Annex III. Articles 11, 13 and 14 of the Environmental Law (see footnote 162), Agriculture Law (Tarım Kanunu), published in the Official Gazette No. 5488 of 18 April 2006, Ground Water Law (Yeraltı Suları Hakkında Kanunu), published in the Official Gazette No. 167 of 16 December 1960, Coastal Law (Kıyı Kanunu), published in the Official Gazette No. 3621 of 4 April 1990, Environmental Permits and Licences Regulation (ÇEVRE KANUNCA ALINMASI GEREKEN İZİN VE LİSANSLAR HAKKINDA YÖNETMELİK), published in the Official Gazette No. 27214 of 29 April 2009 (see also footnote 162), Regulation on the Protection of Groundwater Against Pollution and Degradation (Yeraltı Sularının Kirlenmeye Ve Bozulmaya Karşı Korunması Hakkında Yönetmelik), published in the Official Gazette No. 28257 of 7 April 2012, Regulation on Control of Pollution from Hazardous Substances in Water and its Environment (Tehlikeli Maddelerin Su ve Çevresinde Neden Olduğu Kirliliğin Kontrolü Yönetmeliği), published in the Official Gazette No. 26005 of 26 November 2005, Regulation on Implementation of Coastal Law (3621 Sayılı Kıyı Kanununun Uygulanmasına Dair Yönetmelik), published in the Official Gazette No. 20594 of 3 August 1990, Regulation on Protection Against Sabotages (Sabotajlara Karşı Koruma Yönetmeliği), published in the Official Gazette No. 20033 of 28 December 1988.

170 »DEPREM BÖLGELERİNDE YAPILACAK BİNALAR HAKKINDA YÖNETMELİK«, published in the Official Gazette No. 26511 of 6 March 2007, Annex No. 1.1.5 sentence 2 (Ek numara 1.1.5 tümce 2: »nükleer santraller ... bu Yönetmeliğin kapsamı dışındadır«).

171 For example Article 9 paragraph 1 no. 4 and Article 14 no. 4 of the Decree on Licensing of Nuclear Installations (footnote 53), Articles 19 and 20 of the Regulation on Nuclear Power Plant Sites (footnote 59) and Article 8 of the Regulation on Specific Principles for Safety of Nuclear Power Plants (footnote 59).

172 See footnote 139 (Nükleer Santral Tesislerinin Deprem Tasarım ve Yeterliliği Kılavuzu and Nükleer Tesislere Yer Lisansı ve Sınırlı Çalışma İzininin Verilmesinde Aranacak Deprem ile İlgili Konular Hakkında Kılavuz).

4.3 Informing of the public and of neighbouring and potentially affected countries

»The Espoo (EIA) Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries. The Convention was adopted in 1991 and entered into force on 10 September 1997.«¹⁷³ Turkey has not signed the Espoo Convention.¹⁷⁴ Nevertheless there is interest in Germany of being informed on the NPP activities at the Mersin-Akkuyu site; Turkey offered information on a voluntary basis.¹⁷⁵ Furthermore, the Turkish government will certainly be confronted with the demand of informing neighbouring and potentially affected states, particularly Bulgaria, Cyprus¹⁷⁶ and Greece as nearby EU states as well as other neighbouring or potentially affected states in the southeast (Iraq, Lebanon, Syria) and in the Caucasus region.

With regard to NPPs in Turkey the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters of 25 June 1998 (Aarhus Convention) which is not signed and thus not ratified by Turkey¹⁷⁷ seems to be not fully respected in

173 See UNECE, Introduction to Espoo Convention, available at <http://www.unece.org/env/eia/eia.html> (accessed 15/05/2013). For the Espoo Convention, the corresponding EU legislation and the transposition in German legislation see Feldmann, U., (2007) »Was bedeuten Aarhus-, Espookonvention und SEA-Protokoll für das Atomrecht?«, in Pelzer, N. (editor), *Elements of a Global Nuclear Law Regime, Proceedings of the Regional Conference of the German Branch of AIDN/INLA in Goslar 2006*, Nomos, Baden-Baden, pp. 233-257.

174 See http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4&chapter=27&lang=en (accessed 15/05/2013).

175 See the answer of the Federal Government to a Written Question to the Federal Parliament (Deutscher Bundestag) in Plenarprotokoll 17/239 Deutscher Bundestag Stenographischer Bericht 239. Sitzung, 15 Mai 2013, pp. 30106-30107, Annex 6.

176 For Cyprus the state of the Republic of Cyprus has to be taken into consideration; see for the status in general Ercan, B. (2012), *Zypern, die Türkei und die EU*, Nomos, Baden-Baden.

177 See European Commission, ENVIRONMENT, The Aarhus Convention, available at <http://ec.europa.eu/environment/aarhus/> (accessed 15/05/2013), and for the status of signature and ratification see United Nations Treaty Collection, available at http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-13&chapter=27&lang=en (accessed 16/05/2013).

substance concerning the access of the public to environmental information. Although in Turkey exists Law No. 4982 of 9 October 2003 on the Right to Information¹⁷⁸ and the Regulation on the Substance and the Procedures of the Law on Right to Information decided by the Council of Ministers according to Article 31 of Law No. 4982 on 19 April 2004 by decision 2004/7189¹⁷⁹ is available, the practical application of the right to information is deemed not to satisfy entirely the needs of the public.¹⁸⁰

5. Evaluation and outlook

5.1 Evaluation

Turkish nuclear legislation covers most issues of nuclear matters and is still developing. Though the presentation of this legislation in detail identified some concerns as regards the overall systematic as well as several special points particularly in licensing. In order to accomplish the ambitious schedule for beginning operation of NPPs in Turkey, improvements of nuclear legislation to be achieved as soon as possible are strongly recommended.

5.1.1 International conventions and EU (EURATOM) legislation

Several international conventions should also be ratified as soon as possible. The ratification of the Protocol of 2004 to the Paris Convention, of the

178 In Turkish Bilgi Edinme Hakkı Kanunu, published in the Official Gazette No. 25269 of 24 October 2003, available in an English version at http://www.bilgiedinnehakki.org/en/index.php?option=com_content&task=view&id=7&Itemid=8 (accessed 15/05/2013).

179 Bilgi Edinme Hakkı Kanununun Uygulanmasına İlişkin Esas ve Usuller Hakkında Yönetmelik in Turkish, published in the Official Gazette No. 25445 of 27 April 2004.

180 See (only Turkish) Güney, N. A. (2010), »TÜRKİYEDE ÇEVRESEL BİLGİLENME HAKKI VE AB DİREKTİFLERİ«, slideshow presented at the AVRUPA BİRLİĞİ, ALMANYA VE TÜRKİYE ÇEVRE HUKUKU SEMPOZYUMU, TOBB Plaza Konferans Salonu, 18-20 Ekim (October) 2010, slide 27. See also for informal information TAEK, (2008) »Sinop Nükleer Teknoloji Merkezi«, slideshow dated 12 Şubat (February) 2008, available (only Turkish) at <http://www.taek.gov.tr/belgeler-formlar/func-directinfo/97/> (accessed 16/05/2013), slides 40-44.

Brussels Supplementary Convention together with the Protocol of 2004, of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management of 12 September 1997, of the Amendment to the Convention on the Physical Protection of Nuclear Material of 8 July 2005 and of the Espoo Convention as well as the Aarhus Convention promoted for all Contracting Parties the development and completion of national legislation.

Even if a complete check along the Convention on Nuclear Safety (CNS) »Reporting article by article« systematic is not available on the basis of Turkey's National Reports to the Review Meetings¹⁸¹ it may be stated that the existing nuclear legislation in Turkey complies with many requirements of CNS. However, for reasons of transparency the national reports to the CNS review meetings should be published as soon as possible by the Turkish government. Just as for CNS it is evident with regard to EU (EURATOM) legislation that Turkish nuclear legislation is well on the way to fulfill the specifications of EU law.

Anyhow, to reach the international level of »good practice« all requirements of the CNS and the EURATOM legislation should be taken into consideration for the next steps of elaborating nuclear legislation in Turkey. This could be accomplished by examining in detail the international regulations on the one hand and existing Turkish legislation respectively the legislation to be developed on the other hand.

5.1.2 Nuclear laws

It has to be stated that up to now in Turkey no general and comprehensive framework nuclear law is in force, although framework laws for example in the field of environmental legislation exist for a long time, especially the Environmental Law of 1983. The structure of the existing voluminous nuclear legislation in Turkey therefore has to be deemed as lack of framework and consequently seems to be difficult to execute and to survey until such a framework law is put into force. Thus at the end of the day gaps and overlaps in Turkish nuclear legislation could even cause risks for the

181 For the CNS and the fact that Turkey up to now does not publish the National Reports to the Review Meetings see footnote 14, for the »Reporting article by article« see IAEA, (2009) Guidelines regarding National Reports under the Convention on Nuclear Safety, INFCIRC/7/Rev.3, Date: 28 September 2009, pp. 6-17.

legal execution when claims against administrative acts such as licenses or permits are put to courts for judicial review.

The reasons for not elaborating and putting into force such a nuclear framework law which is recommended by IAEA and demanded by the European Commission¹⁸² are not comprehensible. Perhaps the process finally started with the Turkish-Russian Agreement in 2010 and the Agreements of 3 May 2013 between Turkey and Japan shall not be disturbed. But the uncertainties with regard to judicial review by administrative courts and finally the Constitutional Court create concerns of high risks of at least partial failure or of considerable loss of time. Law No. 5710 anyhow could not be evaluated as a general legal basis for safety and security requirements for NPPs because it is not formulated in the sense of substantial requirements for safety and security but aims at a tender process to select a construction and operation company, it was abolished in parts by court rulings and consequently was not executed for the final selection process of construction and operation companies for the Mersin-Akkuyu and Sinop-İnceburun sites: The Turkish government itself selected authorities and companies responsible for constructing and operating NPPs not according to Law No. 5710. Lastly Law No. 5710 seems to be superfluous in substance in addition to the Decree on Licensing of Nuclear Installations of 1983 together with the safety oriented regulations, directives and guides which in principle refer to all relevant safety, security and safeguards issues for new NPPs.¹⁸³ The framework nuclear law should in order to

182 See footnotes 159 (IAEA, Implementing Legislation) and 157 (EU, TURKEY 2012 PROGRESS REPORT). See further Ercan, E., Schneider, H. (footnote 11), p. 585 (chapter 2 with footnote [18] particularly referring to Raetzke, C., Micklinghoff, M. (2006), *Existing Nuclear Power Plants and New Safety Requirements – An International Survey*, Köln Berlin München, Carl Heymanns Verlag), p. 589 (chapter 5 with footnote [83] particularly referring to Hennenhöfer, G., Schneider, H. (2010), »50 Jahre Atomgesetz – Eine Zwischenbilanz«, in Dolde, K.-P., Hansmann, K., Paetow, S., Schmidt-Aßmann, E. (editors), (2010) *Verfassung – Umwelt – Wirtschaft, Festschrift für Dieter Sellner zum 75. Geburtstag*, München, Verlag C.H.Beck, pp. 347 et seq., in particular pp. 350-357).

183 For example with regard to Article 3 paragraph 2 sentence 2 and paragraph 3 of Law No. 5710 together with the »Criteria to be Met by Investors Who Will Construct and Operate Nuclear Power Plants« of 19 December 2007 and the Regulation of 2008 (footnote 90) see the Regulations of 2007 - 2009 (footnote 59); concerning Article 5 paragraph 1 and 3 of Law No. 5710 see the Decree on Licensing of Nuclear Installations of 1983 (footnote 53), the Regulation of 9 March 2013 (footnote 111), the directives and the guides on safety issues (for details on this legislation including directives and guides see chapter 3.3 above). By the way, TAEK does not refer to Law No. 5710 in the list of nuclear legislation, pub-

transpose the obligations of the Convention on Nuclear Safety (CNS) and the requirements of the Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (Safety Directive 2009) comprise inter alia the principles of license holder's prime responsibility for nuclear safety (Article 9 CNS and Article 6 no. 1 Safety Directive 2009) and of priority to nuclear safety (Article 10 CNS and Article 6 no. 4 Safety Directive 2009), public involvement during the licensing process, in an optimal way at each stage, i.e. siting, construction, operation, and clear as well as stringent regulation of periodical safety review of NPPs during their lifetime (Article 14 CNS and Article 6 no. 2 Safety Directive 2009).

5.1.3 Nuclear third party liability

Until now no specific national regulation on nuclear third party liability at the level of law does exist in Turkey. Moreover, a national insurance pool is not yet established. Consequently any necessary activities of the insurer with regard to developments during the licensing process cannot be carried out. This state could be deemed to be an obstacle for accelerated realization of NPP projects in Turkey. Beyond that the amounts of compensation are not satisfying, at least as long as the Protocols of 2004 to the Paris Convention and to the Brussels Supplementary Convention are not ratified and transposed into national Turkish law.

5.1.4 Licensing procedure

The Decree on Licensing of Nuclear Installation of 1983 is not the status quo of internationally acknowledged nuclear legislation. Although several new regulations were put into force in order to reach at an actual state, the coherence of the whole licensing system seems not very obvious. Contradictions between licensing under the Decree on Licensing of Nuclear Installation of 1983 and the Radiation Safety Decree of 1985 on the one hand and between the Decree on Licensing of Nuclear Installation of 1983 and new regulations on the other hand are highly probable. A rather critical topic as regards the licensing of the NPP at the Mersin-Akkuyu site

lished in the framework of a tender, to be observed with regard to the outstanding construction license for Akkuyu NPP (see footnote 136).

could raise from the fact that a license issued before 1983 may no longer be valid after the entry into force of the Decree on Licensing of Nuclear Installation in 1983, because in this decree no transition clause for old licenses such as in Article 25 paragraph 2 of the Radiation Safety Decree of 1985 was included. Furthermore, in nuclear legislation no involvement of the public during the licensing process is arranged. Therefore in specific regulations on licensing public involvement and participation should also be taken into account by supplementary details. Finally the competences of Atomic Energy Commission seem not in line with the internationally accepted »separation principle«, because the possibility of a final decision by the Prime Minister is given; in the same way TAEK's organisational separation in nuclear safety affairs could be clarified.¹⁸⁴

5.1.5 Safety Requirements

The hierarchy of safety requirements for NPPs as laid down in the Directive on Determination of Licensing Basis Regulations, Guides and Standards and Reference Plant for Nuclear Power Plants (national/IAEA/Russian/other countries' regulations and guidelines) could be evaluated as not practicable and not transparent as well as precise enough for issuing legally reliable licenses. Moreover, this hierarchic system not evidently seems to harmonize with the Decree on Licensing of Nuclear Installations of 1983. A periodical safety review during the lifetime of NPPs is not being regulated in principle or in detail, also as regards administrative aspects and technical specifications.

The evaluation, amendment, control and revision of measures to ensure the necessary safety and security requirements deserves the establishment of an experienced network of external technical experts. In the last two years TAEK's TSO tenders failed and up to now no TSO system for support of TAEK was published. Technical efforts to be made by a skilled

¹⁸⁴ See for the separation principle respectively the independence of the regulatory body Kuş, S. (footnote 133) and MacKenzie, B. (footnote 133). For Prime Minister's role in licensing see Article 6 of Law No. 2690 and for his role in issuing regulations by TAEK see Article 18 paragraph 2 of Law No. 2690. The 10th Development Plan for Turkey (footnote 6), p. 119 no. 791, notes the creation of an independent, efficient and competent regulatory system (*»Nükleer alandaki faaliyetlerin güvenli ve emniyetli bir şekilde yürütülmesini tespit ve teyit etmek için bağımsız, güçlü ve yetkin bir nükleer düzenleme ve denetleme sistemi oluşturacaktır.«*).

staff of a huge number of experts within the construction licensing procedure and the time needed of about one and a half year are well in mind from another nuclear newcomer's construction license.¹⁸⁵

Another matter of concern may be the documentation. Probably the Akkuyu NGS will work on the basis of Russian documents for construction and operation of the Russian-designed reactor; translation into Turkish language for the licensing procedures is necessary and may create huge problems. At least, whether international cooperation with EU, NEA and IAEA brought forth concrete results, is not publicly known. Against that background a comprehensive international evaluation of Turkish legislation and the safety as well as security measures is strongly recommended in order to evaluate whether CNS and EU legislation and IAEA respectively OECD-NEA standards are in principle and to what extent complied with; the IRRS methodology¹⁸⁶ could serve as guideline. By that manner risks and doubts as regards lastly judicial reviews by administrative courts could be widely diminished.

5.2 Outlook

Officially planned further steps for initiatives towards new nuclear legislation, particularly for more systematically detailed legislation are not

185 The license for the construction of the United Arab Emirates' first nuclear power plant has been granted for Barakah units 1 and 2 after »comprehensive review of the construction licence application ... carried out by more than 200 technical experts over a period of 18 months«; see wnn of 18 July 2012, »UAE nuclear cleared for construction«, available at http://www.world-nuclear-news.org/NN-UAE_nuclear_cleared_for_construction-1807124.html (accessed 03/06/2013). Moreover it should be mentioned that no regulation on requirements for the qualification of external experts firms does exist, while in the field of environmental legislation such a regulation was put into force in 2010 (see in footnote 162 the ÇEVRE GÖREVLİSİ VE ÇEVRE DANIŞMANLIK FİRMALARI HAKKINDA YÖNETMELİK).

186 For the Integrated Regulatory Review Service (IRRS) see International Atomic Energy Agency (IAEA), Our Work, Nuclear Safety & Security, Services for Member States, available at <http://www-ns.iaea.org/reviews/rs-reviews.asp?s=7&l=47> (accessed 19/05/2013). See for the recently concluded IRRS mission to Poland as a nuclear newcomer IAEA Press Release 2013/04, International Expert Team Concludes IAEA Peer Review of Poland's Regulatory Framework for Nuclear and Radiation Safety, available at <http://www.iaea.org/newscenter/pressreleases/2013/prn201304.html> (accessed 27/05/2013).

known. For further steps of developing nuclear legislation in Turkey it is highly recommendable

- with view to international law to ratify nuclear conventions (Paris Convention Protocol of 2004, Brussels Supplementary Convention and the Protocol of 2004 hereto and Joint Convention on Spent Fuel and Waste of 1997) and the Conventions of Espoo and Aarhus, to publish the national reports to CNS review meetings by making the reports available for the public in order to strengthen transparency and to take into consideration the EU/EURATOM legislation,
- as regards national legislation to work out a national atomic energy act as a framework nuclear law including obligatory public involvement during the licensing process, periodical safety reviews especially for NPPs during their lifetime; the role and the importance of Law No. 5710 of 2007 should be revised; the hierarchy of nuclear legislation should be arranged in order to clearly identify the content as well as the systematic relations of the provisions in laws, decrees, regulations, directives and guides. Therefore a new systematic compilation of these legal instruments should be put into force according to the missing, but urgently needed framework nuclear law in order to establish a comprehensive structure of particularly safety and security requirements and thus accomplish a reliably basis for judicial review,
- concerning adequate compensation for victims of nuclear incidents to establish specific and detailed national legislation on nuclear third party liability and a national insurance pool for nuclear liability issues of NPPs,
- to regulate radiation safety for NPPs clearly in a single decree or regulation, if possible by avoiding the necessity of a separate license on radiation safety issues parallel to licenses for siting, construction and operation of NPPs,
- to establish a regulatory body conform to the requirements of CNS and EURATOM-Safety Directive 2009 (taking into account the changes planned by the European Commission),
- to take the necessary measures to obtain sufficient technically experienced staff within the regulatory body and benefit from competent external experts by developing a TSO network being available for the regulatory body,
- to clarify the scope of EIA as well as the interplay with nuclear legislation and licensing,

- to promote and implement in binding norms public information on nuclear issues and take the necessary steps to guarantee considerably the individual right to information.

Particularly the concerns as regards the validity of the site license and potentially the process of EIA for the NPP at the Mersin-Akkuyu site may turn to serious delays in the ambitious nuclear energy plans of Turkey in the case of judicial review.

6. *Conclusion*

With regard to several doubts whether the system of nuclear legislation in Turkey developed and established up to now will – looking especially at judicial review at administrative and constitutional courts – approve, confirm and thus ensure the licensing of siting, construction and operation of the first NPPs in Turkey in time, the vision of the Turkish Prime Minister announced on 7 April 2013 of breaking open the bureaucracy respectively the bureaucratic oligarchy by a future presidential system¹⁸⁷ may be taken into consideration.

A comprehensive, systematic and transparent nuclear legislation according to international »best practice« including the organisation of competent state authorities and their knowledge of nuclear technical subjects might be realized within short delay and stabilize the consequent way to start the peaceful use of nuclear energy in Turkey by 2020.

Anyway, nuclear law with the whole legal extent of administrative law including civil third party liability regulations will have significantly growing importance in Turkey in the next years.

¹⁸⁷ See for example ANADOLU AJANSI at <http://www.aa.com.tr/tr/haberler/155863--oligarsinin-belini-baskanlik-sistemi-kirar>, BEYAZ GAZETE at <http://www.beyazgazete.com/video/anahaber/tvnet-75/2013/04/08/erdogan-baskanlik-sistemi-burokratik-oligarsiye-kirar-396792.html>, DÜNYA BÜLTENİ at <http://www.dunyabulteni.net/?aType=haber&ArticleID=254867> and ZAMAN POLITIKA at http://www.zaman.com.tr/politika_erdogan-burokratik-oligarsinin-belini-baskanlik-sistemi-daha-rahat-kirar_2075047.html (each of 7 April 2013, accessed 18/04/2013).

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*»İyi sözün aslını bilen derdi bu söz nerden gelir
Söz aslını anlamayan sanır bu söz benden gelir.«
Yunus Emre^{188, 189},*

188 Yunus Emre Hazretleri (kaddesallahu sirrahu); this wisdom means that those who know the origin of a good word, ask themselves where it is from, while those who do not recognize the origin of the word think it is from me; available (only Turkish) at <http://www.yunusemresozleri.com/iyi-sozun-aslini-bilen/> (accessed 18/04/2013).

189 The text of this article was finished on 5 July 2013.