

Nuclear Power on the Vistula River Law and Policy in Shaping Energy Future of Poland

The author attempts to present coupling of policy and law in the energy sector using the example of nuclear power introduction in Poland. In particular, he highlights the most important aspect of this combination i.e. how legal instruments, including legislative ones, are used to achieve the strategic goals of state policy.

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1. Introduction

Energy policy is not just energy. Its implications extend in principle to all areas of the state's functioning, with particular regard to the economy as a whole and to social and political issues, including foreign policy. And so is the implementation of nuclear power seen by decision-makers in Poland – in a multi-faceted manner, where direct energy benefits are only one of many. The implementation of nuclear power is both a goal and a means to achieve other strategic goals such as energy security, economic development, public health, foreign policy aspects. These policy goals can be achieved using nuclear power, but the construction of nuclear power plants will not be possible without achieving the intermediate policy goals: gaining and keeping public acceptance, reducing investment risks, and ensuring state control over

the decision-making process. These intermediate goals can be achieved mainly through legal, i.e. legislative and regulatory measures, including coherent strategic planning at the government level (internal law) and active participation in the decision-making and law-making processes of supranational bodies (mainly EU institutions). This article is an attempt to present coupling of policy and law in the energy sector on the example of nuclear power introduction in Poland. The author however does not comment on the issue of whether nuclear energy is the right choice in Poland's energy policy, just as he does not consider the possibilities and prospects for its implementation. The author's only will is to show how the political goals are strived to be achieved by legal means and which legal means are being used to implement policy of the state in this regard.

2. Nuclear, but why? Strategic goals to be achieved using nuclear power

The decision on the implementation of nuclear energy in Poland has a solid substantive basis. The intention of the decision-makers is not only an end in itself, but above all a means to achieve other specific goals. In this sense, it can be defined as a general goal, conditioning the possibility of achieving further goals. Importantly, the general belief in the need to implement nuclear energy is shared by all subsequent governments and all major political forces, regardless of whether they are currently in government or in opposition. The goals that Polish policymakers intend to achieve through implementing nuclear energy are long-term development goals, and therefore the strategic goals of the state, whose implementation will affect to a greater or lesser extent the entire society and economy. Five strategic objectives can be distinguished, the achievement of which depends, at least in part, on the successful implementation of nuclear energy in Poland:

1. The first of these is to strengthen the security of energy supply, mainly through diversification of electricity generation technologies and directions of energy carriers supply, replacement of aging generation units, improvement of grid security and preservation of the current level of energy independence.
2. The second goal is to protect the environment and public health mainly by reducing emissions from the energy sector.
3. The third goal is the expected development impulse for the entire economy due to the unprecedented scale of investment.
4. The fourth objective falls within the scope of foreign policy and concerns the strengthening of Poland's security and sovereignty through the expected reduction of Russian energy expansion and by the potential strengthening of relations with the vendor country.
5. Finally, the fifth objective is the performance test of the Polish state, including institutional mechanisms and organizational capabilities.

For further considerations, it is worth briefly discussing the individual goals and ways to achieve them.

2.1. Security of energy supply

2.1.1. Diversification of electricity generation technologies and directions of energy carriers supply

The implementation of nuclear power will allow to significantly cut dependence on carbon technologies. The Polish power sector is based mainly on fossil fuels, i.e. hard coal and lignite which account for around 80% of electricity production¹. The main motives for action in this area are the EU energy policy that involves the shift away from emission technologies, climate change and public health². Regardless of the above, the fossil fuel reserves financially viable for extraction in PL will end. Hard coal mining is becoming more expensive due to the increase in mining costs (decreasing availability, labor costs, health and safety costs) and relatively low prices on world markets. Despite the physical abundance of lignite its availability is limited due to social resistance against the opening of new open pit mines. Nuclear power will make it easier for the government to further reduce the carbon economy (mainly the mining sector but also carbon energy generation). The hard coal mining sector has been one of the most important sources of potential social problems in Poland. Expiry of the sector should be gradual which is already happening³, but existing nuclear power plants will strengthen the government's negotiation position against the coal lobby (mainly strong trade unions). Introducing new generation sources will also hamper the potential increase in natural gas consumption in the power sector, which would be undesirable given the (still) dominant supply direction from Russia. The meanwhile proposed and to some extent discussed program of implementation

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- 1 Polskie Sieci Elektroenergetyczne, *Raport 2018 KSE*, <URL=https://www.pse.pl/dane-systemowe/funkcjonowanie-rb/raporty-roczne-z-funkcjonowania-kse-za-rok/raporty-za-rok-2018#t1_2>, [accessed: 31.12.2019].
 - 2 *Polish nuclear power program (Program polskiej energetyki jądrowej)* adopted by the resolution of the Council of Ministers no. 15/2014 of 28 January 2014 on the multiannual program called "Polish nuclear power program" (Official Gazette „Monitor Polski” 2014, item 302), 46-51.
 - 3 *Program for hard coal mining sector in Poland (Program dla sektora górnictwa węgla kamiennego)* adopted by the Council of Ministers on 23 January 2018, 37. URL=https://www.gov.pl/web/aktywa-panstwowe/program-dla-sektora-gornictwa-wegla-kamiennego-w-polsce. [accessed: 31.12.2019].

of high-temperature reactors could eventually contribute to reducing the consumption of natural gas in the industry⁴.

Nuclear fuel purchases will diversify the overall balance of primary energy supplies from abroad dominated by oil and gas supplies from Russia assuming that it will not be Russian fuel (in addition Poland imports from Russia certain quantities of hard coal and biomass). Dependence on energy supplies from Russia is commonly considered a threat to the political and economic security of the state, which is largely contributed by the current Russian aggressive, expansionist politics executed by military force in the region and the officially declared role of energy resources as a tool of Russian foreign policy (so called „energy weapon”).

2.1.2. Replacement of aging generation units.

Construction of nuclear power plants will also be part of the solution to the problem of power plant aging. About one third of the existing power plants is older than 40 years. Nuclear sources will replace some of the conventional units that are being decommissioned in the near future.

2.1.3. Improvement of grid security

It is planned to locate nuclear power plants in the north-east coast, where there are currently no significant generating units. These are mostly located in the south in the industry and mining region of Upper Silesia and Dąbrowa Basin (hard coal-fired) and in central Poland (lignite-fired). Reducing distances from customers will increase the security of the electrical grid and will reduce transmission losses.

2.1.4. Preserving the current level of energy independence (in electricity sector)

Finally construction and operation of new (nuclear) power plants will allow Poland to keep the status of net electricity exporter by preservation of generation sources on the domestic territory, subject to national laws and under national regulatory control, which is one of the foundations of Poland's current energy doctrine.

4 See the report for the Ministry of Energy on possibilities for HTR implementation in Poland. URL=<https://www.gov.pl/web/aktywa-panstwowe/wysokotemperaturowe-reaktory-jadrowe-chlodzone-gazem-htgr>. [accessed: 31.12.2019]. On regulatory aspects of potential implementation of HTRs in Poland see Tomasz R. Nowacki, *On Legal Requirements for Construction of High Temperature Reactors (HTR) in Poland*, “atw – International Journal for Nuclear Power” No. 8/9 (2017): 520-527.

2.2. Environmental protection and public health

The implementation of nuclear power is also part of a broader package of actions aimed at improving air quality and protecting the environment. In addition to the reduction of emissions from the energy sector (including heating) using nuclear and RES⁵ as emission-free sources, other measures are being taken. To reduce transport emissions the government adopted the electromobility program – a package of solutions to facilitate the development of electric cars followed by dedicated legislation⁶. The low emission generating sources as nuclear or RES are thus indispensable to guarantee that the electric cars and buses will not be powered by electricity generated in coal-fired plants. To tackle the so-called low emission in towns and cities originating from housing sector new stringent requirements for boilers and fuel quality are being introduced. It has been accompanied by government subsidies for modern individual heating sources and thermo-modernization of the buildings within the framework of the *Program „Clean air” (Program „Czyste powietrze”*)⁷. Meanwhile, the powers of local self-governments to impose regulations and fines in this area are being increased.

2.3. Impulse for economic development

The nuclear program is also seen as the ability to provide a strong impetus to the development of the country's economy. Foreign investments inflow (e.g. gradual localization of equipment production), increasing demand for high-skilled personnel, improving the quality standards of domestic producers, facilitating the expansion of Polish firms by gaining experience and integrating into the global supply chain in nuclear sector (several dozen Polish contracting companies are already present worldwide on NPP sites) is expected. Special attention is paid to the northern part of Poland where NPP are to be sited with the perspective on significant development of infrastructure – road, rail and sea transport, transmission and communication networks, health care, education, etc.

5 Among traditional support mechanisms for large RES installations (wind, photovoltaic, biogas etc.) subsidies for individual photovoltaic sources have been recently introduced. See the description of the *Program „My electricity” (Program „Mój prąd”*). URL=<http://nfosigw.gov.pl/moj-prad/>. [accessed: 31.12.2019].

6 See the *Electromobility development plan in Poland (Plan rozwoju elektromobilności w Polsce)* adopted by the Council of Ministers on 16.03.2017. <URL=<https://www.gov.pl/web/aktywa-panstwowe/elektromobilnosc-w-polsce>. [accessed: 31.12.2019].

7 See the description of the program: URL=<http://nfosigw.gov.pl/czyste-powietrze/o-programie-czyste-powietrze-/>. [accessed: 31.12.2019].

2.4. Foreign policy

2.4.1. Limitation of Russian energy expansion

Successful construction of NPPs in north-eastern Poland will ultimately turn the stalled construction of the Russian NPP in Kaliningrad region unprofitable (lack of potential market) and will close the issue of potential electricity imports from the Belarussian NPP in Astravyets (currently under construction to be connected to the grid soon). Thus, the energy expansion of Russia in electricity sector in this region will be significantly limited, if not stopped.

2.4.2. Strengthening the political ties with the supplier country

Decision-makers are aware that, given the scale of the project, the implementation of nuclear investments will mean deepening the economic and consequently also political relations with the supplier country. At this stage it is difficult to determine which company will be the technology provider for NPPs in Poland, but with each potential supplier country Poland may combine the supply of reactor technology with other aspects. These may be national security issues in relations with the US, strengthening the strategic partnership in the EU in case of France or part of broader economic cooperation package with China (setting up in Poland a Chinese hub for Europe). In case of Canada, Japan or Korea, nuclear power can strengthen rather the industrial cooperation (e.g. moderately intensive with Korea in the arms industry). It is to be assumed that the Russian technology is basically out of the question because of the already significant energy dependence on Russia's resources, its aggressive stance in the region and the unequivocal use of the energy sector in bad faith to exert political pressure.

2.5. Testing efficiency of state's institutions

Finally, according to Polish political elites, the nuclear program is also supposed to test the efficiency of the state and its institutions. Nuclear investments are rightly regarded as the most important and complex investment challenge (in terms of capital, infrastructure, human resources, social issues, etc.) in the history of the Polish economy. Successful implementation of nuclear power in Poland is seen as a stimulator to further strengthen the integrity and efficiency of the state and its institutions and procedures. From this perspective it would be a real confirmation of the sovereignty and maturity of the Polish state as an organism capable of planning and executing the most difficult projects given only the 28 years of independence and the painful transformation from centrally planned socialist economy and political dependence on the Soviet Union. Once, as the opposition member of parliament, the current Secretary of State responsible for strategic energy infrastructure Piotr Naimski said in Sejm: „This investment, if we are able to implement it in Poland, will be a measure of the maturity of the Polish state.

Because if we decide that we want to run this investment, it will be run by different governments, different parliaments, in different external conditions. It will have to be carried out extremely consistently for ten or more years. It must be taken into account”⁸.

3. Intermediate goals and legal means aimed at their achievement

Successful implementation of the nuclear program, which opens the door to achieving strategic goals, needs the intermediate goals to be met first. Based on government documents⁹, there are three intermediate objectives on the way to nuclear power implementation: 1. Public acceptance; 2. Reduction of investment risks; 3. Retention of political control over the selection of the investor and operator. A significant role in achieving each of them was passed for legal actions, in particular for legislation. To facilitate the achievement of intermediate goals, the government proposed a number of changes in Polish legislation subsequently adopted by the parliament.

3.1. Nuclear legislation in Poland – an overview

Legislative regulation of radiation risks in Poland started in early 1950s. First relatively comprehensive act was the 1986 Atomic Law¹⁰ adopted during the construction of the Żarnowiec nuclear power plant. In 2000, the new Atomic Law was adopted¹¹ taking into account technical progress, the experience of the previous law, the obligations resulting from ratified international agreements, and to a certain extent also the *acquis communautaire* of Euratom, as Poland made efforts to join the European Union. The current

8 Chancellery of the Sejm. Office of Sejm Committees, *Full record of the proceedings of the extraordinary commission on energy and energy raw materials (No. 6) of February 6, 2014*, 18. URL= <http://orka.sejm.gov.pl/zapisy7.nsf/0/9658D269AD6FF3EFC1257C7C004DB1F4/%24File/0293307.pdf>. [accessed: 31.12.2019].

9 Resolution no. 4/2009 of the Council of Ministers of 13.01.09 on activities to be undertaken in the scope of nuclear power development (unpublished); “*Energy Policy of Poland until 2030*” adopted by the resolution no. 202/2009 of the Council of Ministers of 10.11.09 on the „*Energy Policy of Poland until 2030*” (unpublished); *Polish nuclear power program* (see footnote 2); *Draft energy policy of Poland until 2040*. URL= <https://www.gov.pl/attachment/433c2e3f-364d-4845-acc2-2e0239405825>. [accessed: 31.12.2019].

10 Act of 10 April 1986 – Atomic Law (Official Journal of Laws „*Dziennik Ustaw*” 1986, item 70 as amended).

11 Act of 29 November 2000 – Atomic Law (Official Journal of Laws „*Dziennik Ustaw*” 2001, item 18 as amended, of 2019, item 1792 – unified text).

Atomic Law has been shaped by three major amendments: 1) the amendment of 2011¹² concerning the need to adjust the Polish legal system to the implementation of nuclear power and the implementation of the 2009 nuclear safety directive¹³; 2) 2014 amendment¹⁴ related to the implementation of the nuclear waste directive¹⁵; 3) 2019 amendment aimed mainly at implementation of the so-called new BSS directive¹⁶. The current legal acts regulate coherently and comprehensively issues related to nuclear safety as well as the investment and construction process and public involvement in decision-making. The Atomic Law is supplemented by dozens of regulations, including specific requirements for the lifecycle of nuclear installations (design, siting, construction, operation and decommissioning) and successively issued non-binding recommendations of the nuclear regulatory body – PAA President. The second major component is a separate law concerning the non-nuclear aspects of the investment and construction process of nuclear power plants – Law of 29 June 2011 on preparation and implementation of investment in nuclear power plants and associated investments¹⁷ (investment law)¹⁸.

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- 12 Act of 13 May 2011 amending the Atomic Law and other acts (Official Journal of Laws „Dziennik Ustaw” 2011, No 132, item 766).
 - 13 Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009; OJ L 260, 3.10.2009; OJ L 219, 25.7.2014).
 - 14 Act of 4 April 2014 amending the Atomic Law and other acts (Official Journal of Laws „Dziennik Ustaw” 2014, item 587).
 - 15 Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011).
 - 16 Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014).
 - 17 Official Journal of Laws „Dziennik Ustaw” 2017, item 552 (unified text). For an overview of this law see Tomasz R. Nowacki, „Budowa obiektów energetyki jądrowej. Nowe instytucje w procesie inwestycyjnym”, [in:] *Wybrane węzłowe zagadnienia współczesnego prawa energetycznego*, ed. Anna Walaszek-Pyziół (Kraków: AT Wydawnictwo, 2012), 197-217.
 - 18 For more on Polish nuclear law see Tomasz R. Nowacki, „Nuclear Power Programme for Poland – Establishing the Legal Framework”, [in:] *Nuclear Law in the EU and Beyond – Atomrecht in Deutschland, der EU und weltweit. Proceedings of the AIDN/INLA Regional Conference 2013 in Leipzig*, ed. Cristian Raetzke (Baden-Baden: Nomos Verlag, 2014),

3.2. Public acceptance

The most important factor determining the construction of nuclear power plants is public acceptance. In modern democratic societies, it is not possible to undertake any wide-ranging activities: infrastructure investments, social and economic reforms or even some actions in international politics without the consent of the majority of society (public). In the case of investments such as the construction of a nuclear power plant (but also for example a new highway, airport, etc.), the risk is double because it is borne by both the investor (business dimension) and the current government (political dimension). Financial resources, necessary know-how and technical capabilities do not determine alone the final possibility of carrying out such an investment. The best example of this is Germany - a state that has successfully operated nuclear power plants for decades, which, to a large extent contributed to German economic growth and success. What's more, German nuclear power plants have always been an example of safe operation, and yet under social pressure, culminating in the reaction to the Fukushima accident, the German government has officially declared a gradual phase-out from nuclear energy¹⁹.

Social acceptance cannot be decreed legally. It will not be introduced by law or regulation. It is obtained through long-lasting and consistent factual activities, including transparency of the decision-making from the planning phase. The law however can play an extremely important stimulating role. Certain entities like the government, its agencies and operators of nuclear installations, can be legally obliged to specific activities that will prove beneficial from the public acceptance point of view. One of the key elements in gaining public acceptance is to provide the public with independent and wide access to knowledge. This can be achieved, for example, by introducing information obligations, providing explanations etc. On the other hand, legal means can be used to equip society with specific tools – rights for social supervision over the construction and operation of nuclear installations. Priority should also be given to traditionally sensitive issues such as nuclear safety requirements and radioactive waste management. An important issue to be dealt separately is the question of financial benefits for local communities attracting their support. It should be noted that social acceptance should exist on two parallel and mutually penetrating levels – national and local. They differ in the specificity, as well as the selection of resources and means to obtain and

121-166. See also NEA OECD, *Nuclear Legislation in OECD and NEA Countries. Regulatory and Institutional Framework for Nuclear Activities. Poland*, OECD 2015. <URL=<https://www.oecd-nea.org/law/legislation/poland.pdf>. [accessed 31.12.19].

19 See e.g. Michael Siegrist, Viviane H.M. Visschers, „Acceptance of nuclear power: The Fukushima effect” *Energy Policy*, Vol. 59 (2013): 112-119.

maintain the favor of nuclear investments. Such a comprehensive approach was applied in Poland, where through legislative actions in key areas for social acceptance, a number of changes were introduced aimed at strengthening the rights of the society, strengthening the nuclear safety regime, increasing financial benefits for local communities.

3.2.1. Strengthening public information, control and decision-making powers

With the 2011 amendment to the Atomic Law certain provisions regarding public information have been introduced. Since then, according to art. 35a(1-4) of the Atomic Law the operator of a nuclear installation is obliged to inform the public on the certain safety aspects. Everyone has the right to obtain information from the operator on the nuclear safety and radiation protection status of the installation, its impact on human health and the environment and on the magnitude and isotopic composition of any releases of radioactive substances (during commissioning, operation and decommissioning phase). Such information should be published on the operator's website. Moreover, the operator shall inform the regulator and other authorities (provincial governor, county and municipality authorities) of any occurrences at the nuclear installation that may lead or lead to a danger. Information on all such occurrences should be published on operator's website. This does not apply to sensitive information (on physical protection, safeguards and business secrets).

New information obligations were also imposed on the regulator. Regardless of the general principle of access to public information the regulator based on art. 35a(5) of the Atomic Law is obliged to inform about the nuclear safety and radiation protection level of a nuclear installation, its impact on human health and the natural environment, magnitude and isotopic composition of the releases, occurrences which may lead to a danger, licences related to the nuclear installations and annual assessments of their security and safety status. The regulator shall also immediately publish the construction licence application with an abbreviated safety report along with information on the initiation of proceedings, the right and mode to make submissions or observations, the place and time of the administrative proceedings. All this information are to be published on the regulator's website and in local press. Since the 2014 amendment of the Atomic Law came into force the same applies to nuclear waste repositories in accordance with the art. 55c of the Atomic Law. The 2019 amendment introduced imposed another obligation on operator of the waste repository. According to the new wording of art. 55c(2) of the Atomic Law he is obliged to carrying out information and educational activities including issuing an information bulletin at least twice a year.

The key change, however, was granting the local community specific powers to monitor the construction and operation of nuclear power plants

and other installations. According to the new chapter 4a of the Atomic Law (art. 39l – 39o) introduced by the 2011 amendment the investor and subsequently the operator of a nuclear installation which simultaneously constitutes a nuclear power facility in the meaning of art. 39l(1), is obliged to create a local information center prior to the commencement of the construction works and to ensure its functioning until the decommissioning of the facility is completed (art. 39m). The main duties of the operator in this regard include: collecting and providing updated information on the operation of the plant and on the status of nuclear safety and radiological protection in the surrounding area. Local information center shall also cooperate with other bodies and entities on activities related to public communication, education, popularization and distribution of scientific, technical and legal information concerning nuclear power engineering, nuclear safety and radiation protection. All information should be available on the web and in the information bulletin in traditional paper form.

Parallel to obligations imposed on the investor and operator the Atomic Law in the art. 39n provides the public with special powers to obtain information, monitor the implementation of the investment project and the operations of nuclear installations as well as adopt own information policy. The local community may set up a local information committee. Its tasks include mainly: providing community supervision over the nuclear installation from the start of its construction to its decommissioning, informing the local community on the activities of the plant and representing it in relations with the operator. To perform their duties the committee members can enter the plant (and the construction site) and are entitled to obtain information and documents on its construction and functioning.

The committee composition is decided upon by citizens themselves since, in order to obtain membership it is sufficient for an adult member of the local community enjoying full civil rights to file an application to take part in the committee activities (art. 39n(1)(2)). Applicant fulfilling the above conditions cannot be refused membership, especially as there is no upper limit as regards the number of members. The committee adopts resolutions in simple majority voting procedure and may invite external experts to take part in their meetings to give opinion on the issues discussed. The financing of committee activities relies not upon the local residents themselves, but is ensured by the municipality where the largest part of the plant is located.

Notwithstanding the above it is possible that the local government of the municipality may decide to execute its information policy, independently of the operator's or committee activities i.a. by establishing the community information point.

In the area of administrative proceedings related to the construction of nuclear installation, the public has at its disposal a whole range of ordinary procedural means to influence the decisions of the authorities. However,

in order to strengthen the procedural guarantees of the parties to the proceedings, the principle was introduced that if there is an administrative hearing regarding the construction license for nuclear installation or radioactive waste repository, it is obligatorily open to the public (art. 39d(3) and art. 55n(3) respectively). This is an exception to the general principle of the Code of Administrative Procedure, which does not provide for such an obligation.

3.2.2. Strengthening safety and security requirements

An important element in obtaining social acceptance is the law enforcing the safe construction and operation of nuclear installations. Until the 2011 amendment to the Atomic Law, nuclear energy legal order were of a hull nature, as there were no detailed nuclear safety requirements specified for particular stages of construction and operation. During the construction of the Żarnowiec nuclear power plant in the 1980s this issue was practically solved by filling in the gaps through direct application of the Soviet regulations, issuing of nonbinding regulatory guidelines and supplementary application of current IAEA recommendations²⁰. For the next 30 years, no nuclear installation had been built²¹, so there was no impulse to complete the existing legislation. Thus, new safety requirements in accordance with world's best practices including post-Fukushima experiences (i.a. IAEA safety standards, WENRA standards, EUR and URD requirements as well as legislations from leading nuclear countries) has been introduced. These had been done by issuing a number of regulations based on the 2011 amended Atomic Law and concerning site assessment and site report, design, commissioning and operation, decommissioning, preliminary safety analyses and safety report, periodical safety assessments²². Besides the nuclear safety requirements

20 For more on the IAEA Safety Standards and their position in the constitutional system of sources of law in Poland see Tomasz R. Nowacki, „Możliwość uznania standardów bezpieczeństwa Międzynarodowej Agencji Energii Atomowej za źródło prawa w świetle Konstytucji Rzeczypospolitej Polskiej”, [in:] *Aktualne problemy konstytucji. Księga jubileuszowa z okazji 40-lecia pracy naukowej Profesora Bogusława Banaszaka*, ed. Halina Babiuch, Piotr Kapusta, Justyna Michalska (Legnica: Państwowa Wyższa Szkoła Zawodowa im. Witelona, 2017), 639-659.

21 The only operating research reactor – a 30 MWt “Maria” started operation in 1974.

22 The above-mentioned requirements are specified in following Regulations of the Council of Ministers: Regulation of 10 August 2012 on detailed scope of assessment with regard to land intended for the site of a nuclear installation, cases excluding land to be considered eligible for the site of a nuclear installation and on requirements concerning site report for a nuclear installation (Official Journal of Laws „Dziennik

further provisions had been introduced as to waste management. The obligation to create a fund for the decommissioning of a nuclear power plant was introduced and mechanisms for collecting funds for waste management and decommissioning were defined (art. 38d).

The independence of the regulatory body has also been increased already by the 2011 Atomic Law amendment through a series of less significant changes as the regulator had already enjoyed the majority of independence attributes. It has been done mostly by separation of activities not related to nuclear regulation and so not necessarily compromising the independence principles. A more significant change was the introduction of an explicit duty of impartiality of technical support organizations working on behalf of the regulator (art. 66a). The most important change in this regard was the restoring of the term of office for the PAA President (art. 109(2a)) by the 2019 Atomic Law amendment thus giving him full independence in accordance with the relevant international and European legal provisions including non-binding IAEA Safety Standards.

Changes were also introduced as regards the regulator's advisory body. The 2011 amendment of the Atomic Law replaced the Council of Atomic Sciences existing in the years 1982–2011 by the Council for Nuclear Safety and Radiation Protection (art. 112). As opposed to the Council of Atomic Sciences current council does not deal with the entirety of atomic questions in the broad sense, including the promotion of different uses of nuclear energy and nuclear power. Composed of external and independent technical, scientific and other experts its competences are limited to giving independent expert opinions on draft licences for nuclear installations, draft legal acts and draft

Ustaw” of 2012, item 1025); Regulation of 31 August 2012 on nuclear safety and radiological protection requirements which must be fulfilled by a nuclear installation design (Official Journal of Laws “Dziennik Ustaw” of 2012, item 1048); Regulation of 11 February 2013 on requirements for the commissioning and operation of nuclear installation (Official Journal of Laws “Dziennik Ustaw” of 2013, item 281); Regulation of 11 February 2013 on nuclear safety and radiological protection requirements for the stage of decommissioning of nuclear installations and the content of a report on decommissioning of a nuclear installation (Official Journal of Laws „Dziennik Ustaw” of 2013, item 270); Regulation of 31 August 2012 on the scope and method for the performance of safety analyses prior to the submission of an application requesting the issue of a license for the construction of a nuclear installation and the scope of the preliminary safety report for a nuclear installation (Official Journal of Laws „Dziennik Ustaw” of 2012, item 1043); Regulation of 27 December 2011 on periodical safety assessment of a nuclear installation (Official Journal of Laws „Dziennik Ustaw” of 2012, item 556).

regulatory guidelines („double check”), as well as bringing forward own initiatives aimed at streamlining the supervision performed by the regulator and enhancing the level of nuclear safety and radiation protection in the country. Consultation of the council by the regulator is mandatory. Thus, the new advisory body ensures an additional threshold in the regulatory decision-making aimed at securing the overall interest of the society and increasing the credibility of the licensing process in the view of the public²³.

Mechanisms for the regulator’s effective response to irregularities in nuclear installations have also been introduced. Nuclear inspectors may issue decisions in the form of orders and prohibitions directly during inspections when there is a situation of immediate threat to nuclear safety (Article 68). As a result of inspection other decisions aimed at ensuring compliance of the performed activity with legal provisions may also be issued (Article 68b). If the situation having negative influence on the level of nuclear safety does not constitute violation of laws or the license conditions an *ad hoc* recommendation may be issued (Article 68a). Additionally, PAA President may impose an obligation on the operator to review certain technical aspects and organizational issues related to the operation of a nuclear installation (art. 35a(7-20)).

The 2019 amendment also introduced the obligation to develop a national strategy for nuclear safety and radiological protection at least once every 10 years. The strategy is adopted by way of a resolution of the Council of Ministers (Article 39p).

Certain improvements had also been made in respect of nuclear security, in particular the powers of Internal Security Agency regarding supervision and control of nuclear installations has been broadened. Internal Security Agency is authorized to supervise both the investor and operator of a nuclear installation (art. 49 of the investment law and art. 41m of the Atomic Law). The 2019 amendment introduced also the obligation to develop the design basis threat document (DBT)²⁴ for nuclear installations and nuclear materials (art. 41o).

23 However, contrary to recent legislative tendencies, the 2016 Atomic Law amendment initiated by a group of Sejm members (Act of 6 July 2016 amending the Atomic Law, Official Journal of Laws „Dziennik Ustaw” of 2016, item 1343) limited the PAA President’s autonomy in relation to his advisory body transferring some powers to the supervising minister. This has been criticized in the doctrine. See Tomasz R. Nowacki, „Ograniczenie autonomii Prezesa Państwowej Agencji Atomistyki” *Przegląd Sejmowy*, No. 4 (2017): 53-73. For a brief overview of the amendment see *Nuclear Law Bulletin*, No. 2 (2016): 78-79.

24 See the DBT definition: “The attributes and characteristics of potential insider and/or external adversaries, who might attempt unauthorized removal or sabotage, against which a physical protection system

3.2.3. Economic benefits

Social cost benefit analysis of nuclear power is essential to gain public acceptance. The advantage of profits over costs in the perception of society affects positively the level of social acceptance for nuclear investments²⁵. This direction was also chosen by the Polish legislator.

Nuclear investment law provides for an innovative solution in the scope of tax provisions. However, it does not apply to all nuclear installations but is limited to nuclear power plants only. The law obliges the municipality, where the nuclear power plant is sited, to pay a fee of 50% of property tax obtained from the plant to the neighbouring municipalities. Such fee constitutes an income of the neighbouring communes, which also become beneficiaries of the NPP's location. The fee is shared in equal parts between all the neighbouring municipalities, with the exception of those on which the nuclear power plant or part thereof is sited (art. 50 and 51 of the investment law). This solution has been designed to help in obtaining investment support also from neighboring municipalities and their society. Lack of real benefits from the large infrastructural investment while feeling its actual or theoretical nuisance (e.g. fear of nuclear accident) is very often the reason for negative social moods that can significantly slow down or even thwart the implementation of the project. So is the experience with new investments in opencast mining in Poland recent years.

The desired effect could also be achieved through establishing a separate fee payable by the operator directly to the neighbouring municipalities. Such a method was designed and implemented, for example, in Italy, where the decree issued by the government provides for direct and regular payments of funds from the operator to the municipality²⁶. In the opinion of Polish decision-makers, however, it was possible to achieve the same goal without unnecessarily charging the future operator with additional operating costs what could potentially adversely affect the profitability of the investment. Even without an additional money from the operator the expected property tax income from the plant that after distribution remains in the possession of the municipality hosting an NPP is sufficiently high to secure its development.

is designed and evaluated”, IAEA, *Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5)*, IAEA Nuclear Security Series, Recommendations, No. 13, Vienna 2011, 51. See also similar definition in art. 40(5a) of the Atomic Law.

25 See e.g. T.N. Srinivasan, T.S. Gopi Rethinaraj, „Fukushima and thereafter: Reassessment of risks of nuclear power” *Energy Policy*, Vol. 52 (2013): 726-736.

26 See Fabrizio Iaccarino, „Nuclear Renaissance in Italy – Maintaining Momentum” *Nuclear Law Bulletin*, No. 1 (2010): 72.

Benefit mechanisms were also applied to radioactive waste repositories. In Poland, there is already a need to build a new radioactive waste repository for low- and medium-active waste. Announced and expected implementation of nuclear energy still reinforces this necessity. In the longer term, if nuclear power plants are to be deployed and operated, there will also be a need to build a deep repository for high-level long-lived waste. In order to make it easier to obtain public acceptance for this, the already existing annual fee transferred by the state to the municipality hosting such an installation has been increased by 20% from c.a. € 2 Million to € 2.5 Million (art. 57(1) (1) of the Atomic Law).

In the national dimension of financial issues related to the construction of a nuclear power plant, the electricity price is of crucial importance for the government. Its goal is to limit the rate of price increase so as not to cause social unrest. Mitigation of the negative impact of electricity prices on households of poor people provides admittedly general rules for protection of vulnerable customers. However, fearing a wider increase in electricity prices, the work on dedicated financial support scheme for nuclear investment was abandoned. The model based on the British contract for difference scheme has been considered 2017 by the new government as potentially too expensive for the consumer²⁷.

3.3. Reduction of risk

The construction of a nuclear power plant is a long-term and capital-intensive investment and therefore fraught with considerable investment risk. Cost overruns in the case of new constructions are not uncommon, and the explanation of the reasons for this phenomenon has been dealt with by a large group of experts on finance, construction and law. Regardless of the point of view and the final conclusions, all these investigations have one thing in common. They show that this is a multi-faceted and complex problem, and although it is possible to identify the dominant causes depending on the case, there is no single, permanent reason for delays and cost overruns. Not all of these reasons can also be mitigated by state action, e.g. by means of legal measures, but there are areas in which the state has considerable potential to affect investment risk and its reduction. They include fixed positions in the calculation of the risk and costs of nuclear investments: regulatory and political challenges. Although in the case of purely political risk, the room for maneuver for decision-makers is limited (e.g. by the voters' will), so in terms of regulatory issues the state has great freedom to shape the legal situation in order to facilitate or at least not hamper the construction of nuclear power plants.

27 See Jo Harper, *Poland mulls options for financing first nuclear power plant*. URL=<https://financialobserver.eu/poland/poland-mulls-options-for-financing-first-nuclear-power-plant/>. [accessed: 31.12.2019].

The key element here is the issue of financial support mechanisms, procedural facilitations in the nuclear licensing procedure as well as spatial planning and general construction law. Last but not least applying the right regulatory philosophy based on the dialogue with the licensee may play a crucial role in reducing the investment risk profile.

3.3.1. Coherent strategic planning

Most changes introduced to the Polish legal system in the sensitive areas as energy policy result from previously accepted strategic governmental documents. From the formal point of view they are internally binding within the government and all of its subsidiary institutions thus obliging them to act in accordance with the approved policy line. Conducting a long-term, coherent policy begins with careful and consistent planning. This cannot be achieved without a political stability around the issue of nuclear power implementation. In Poland since decades a political consent regarding nuclear power is to be observed. Regardless of the political option, continuity and consistency of government planning is ensured. Strategic documents are thoroughly prepared and being implemented by successive government teams. Even abandoning of the NPP project in Żarnowiec in the early 90s did not mean turning away from the use of nuclear technologies in the energy sector. At the same time the Parliament of Poland declared nuclear power, based on new reactor technologies, as one of the main directions of future development of the Polish power sector²⁸. This has been repeatedly confirmed in subsequent governmental strategic documents in the field of energy policy²⁹, in the

28 Resolution of the Sejm of the Republic of Poland of 9 November 1990 on guidelines for Polish Energy Policy until 2010 (Official Gazette „Monitor Polski” 1990, No. 43, item 332).

29 Documents adopted by the Council of Ministers: *Assumptions for Energy Policy for Poland 2020*, adopted on 22 February 2000; *Assessment of implementation and correction of the Assumptions for Energy Policy for Poland 2020*, adopted on 02 April 2002; *Energy Policy for Poland until 2025* (Official Gazette „Monitor Polski” 2005, No. 42, item 562); Resolution no. 4/2009 of 13 January 2009 on activities to be undertaken in the scope of nuclear power development (unpublished); *Framework schedule of activities for nuclear energy* adopted by the Council of Ministers on 11 August 2009; *Energy Policy for Poland until 2030* adopted on 10 November 2009 (Official Gazette „Monitor Polski” 2010, No. 2, item 11); *Polish nuclear power program* adopted on 28 January 2014 (Official Gazette „Monitor Polski” 2014, item 502); *Energy Security and the Environment until 2020* adopted on 15 April 2014 (Official Gazette „Monitor Polski” 2014, item 469); *National plan for the management of radioactive waste and spent fuel* adopted on 16 October 2015 (Official

general development strategies³⁰ as well as in the political statements of subsequent prime ministers³¹. Many of them contained a list of activities to be

Gazette „Monitor Polski” 2015, item 1092). Documents of other bodies: *Program for the power sector* adopted by the Minister of Economy on 27 March 2006; *Draft Energy policy for Poland until 2050* adopted by the Minister of Economy in August 2015; *Draft Energy policy for Poland until 2040* adopted by the Minister of Energy on 8 November 2019.

- 30 *National Strategy for Regional Development* adopted on 13 July 2010 (Official Gazette „Monitor Polski” 2011 No. 36, item 423); *Assumptions for National Program for Development of Low-Emission Economy* adopted on 16 August 2011 (unpublished); *National Spatial Development Concept* adopted on 13 December 2011 (Official Gazette „Monitor Polski” 2012, item 252); *National Development Strategy 2020* adopted on 25 September 2012 (Official Gazette „Monitor Polski” 2012, item 882); *Strategy for Innovation and Efficiency of the Economy “Dynamic Poland 2020”* adopted on 15 January 2013 (Official Gazette „Monitor Polski” 2013, item 73); *Long-term National Development Strategy. Poland 2030. Third Wave of Modernity* adopted on 5 February 2013 (Official Gazette „Monitor Polski” 2013, item 121); *Strategy for the development of the national security system of the Republic of Poland 2022* adopted on 9 April 2013 (Official Gazette „Monitor Polski” 2013, item 377); *Strategic adaptation plan for sectors and areas sensitive to climate change by 2020* adopted on 29 October 2013; *Territorial Contract for the Pomeranian Voivodeship* adopted on 14 November 2014 (Official Gazette „Monitor Polski” 2014, item 1144); *Strategy for Responsible Development until 2020* adopted on 14 February 2017 (Official Gazette „Monitor Polski” 2017, item 260).
- 31 See 2006 exposé of prime minister J. Kaczyński. URL=[http://orka.sejm.gov.pl/StenoInter5.nsf/0/02457252459CD2CCC12571B10004D596/\\$file/22_b_ksiazka.pdf](http://orka.sejm.gov.pl/StenoInter5.nsf/0/02457252459CD2CCC12571B10004D596/$file/22_b_ksiazka.pdf). [accessed: 31.12.2019]; public statements of prime minister D. Tusk: URL=<https://www.premier.gov.pl/wydarzenia/aktualnosci/rzad-o-elektrowni-atomowej-i-budowie-drog-ekspresowych.html>. [accessed: 31.12.2019]; URL=<https://www.premier.gov.pl/wydarzenia/aktualnosci/premier-tusk-w-budapeszcie-pracujemy-nad-porozumieniem-na-rzecz-ukrainy.html>. [accessed: 31.12.2019]; URL=http://wyborcza.biz/biznes/1,100896,13550362,Premier_nie_odpuszcza_programu_budowy_elektrowni_atomowej.html. [accessed: 31.12.2019]; public statements of prime minister E. Kopacz: URL=<https://www.youtube.com/watch?v=tgBbA1gDRSg>. [accessed: 31.12.2019]; 2017 and 2019 exposé of prime minister M. Morawiecki: URL=http://orka2.sejm.gov.pl/StenoInter8.nsf/0/7FB7AC056BB67FEDC125821A002F0A5D/%24File/54_a_ksiazka_bis.pdf. [accessed:

carried out during the implementation phase, including legislative plans and their justification.

3.3.2. Applicant's friendly approach to nuclear licensing

Reducing the number of licensing steps. The new approach reduced the number of decisions necessary to obtain in the licensing process from 6 to 3. The concept of for trial operation license as well as separate licenses for site and design have been abandoned. Currently, in the nuclear licensing process it is necessary to obtain consecutive licenses for construction (including site and design), commissioning and operation. Aide license is required for decommissioning of the nuclear installation³².

Pre-licensing. Pre-licensing of a design or a site is seen as an important feature of a regulatory system, reducing the risk of licensing and making the outcome of a licensing process more predictable³³. 2011 Atomic Law also introduced significant elements of pre-licensing. For the first time a possibility has been created to request opinions from the regulator prior to the formal submission of the application for a license. This enables to make much of necessary clarifications regarding licensing well before the proper licensing process starts, thus significantly avoiding unnecessary burdens including additional costs. Two main elements of the pre-licensing are optional applications for regulator's opinions on: 1. Planned organizational and technical solutions in future operations and draft documents to be submitted with the application for a licence (art. 39b), 2. Preliminary siting assessment (art. 36a).

Prior to obtaining the license (for construction, commissioning, operation or decommissioning) the investor can submit an application to the regulator for issuing the general opinion on the planned organizational and technical solutions to be used in the course of future activities and draft documents to be filed together with the "real" license application. This provides the applicant with broad possibilities as regards applying for regulator's opinion. In practice, the applicant may submit questions regarding any topic of interest. As regards the technical aspects, the applicant may ask for the regulator's opinion on elements of the structure and equipment of the planned nuclear installation, as well as the reactor design or even the design of

31.12.2019]; URL=http://orka2.sejm.gov.pl/StenoInter9.nsf/0/65E0AEB97E76894EC12584B800149932/%24File/01_c_książka_bis.pdf. [accessed:31.12.2019].

32 On licensing challenges for new nuclear power plants in general see i.a. Cristian Raetzke, Michael Micklinghoff, „Regulatory challenges in the licensing of new nuclear power plant – From CORDEL to ERDA” *atw – International Journal for Nuclear Power*, No. 12 (2012): 720-724.

33 See e.g. World Nuclear Association, *Licensing and Project Development of New Nuclear Plants*, London 2015, 10, 35.

the entire nuclear installation. Thus, the above provision may in some respect be considered as the equivalent or similar to the British Generic Design Assessment or the U.S. Standard Design Certification. As regards the organizational aspects the future applicant may ask for the regulator's opinion on the management of the nuclear installation, upgrading and maintenance, emergency preparedness and response or permissions that should be vested with the employees. In addition, the application may concern also draft documents to be delivered alongside the license. This allows to determine their content at this early stage eliminating the risk of delays in the licensing process due to the fact that the documentation submitted does not fulfil the regulator's requirements. Application for a general opinion may be submitted several times according to the needs of the license applicant. It should be noted however that the regulator's opinion is non-binding. Theoretically on the later stage of the process the regulator may issue decisions contradictory to the previously issued general opinion. The latter should however occur only in exceptional cases e.g. as a result of a significant change of the legal requirements or state of the art in the scope of nuclear safety and radiation protection.

As to preliminarily siting assessment the applicant can use this tool to assess all siting aspects before he applies for the construction license, thus significantly reducing the investment risk by settling the siting issues at an early stage. The opinion is not binding for the regulator. While assessing the construction application he may decide upon the siting differently than in the previous assessment. However, as in the case of the general opinion on the planned organizational and technical solutions the latter should only occur in exceptional cases related to the need to ensure nuclear safety and radiation protection, e.g. as a result of a significant change of requirements or state of the art in the scope of nuclear safety and radiation protection or change in the factual circumstances at the assessed site. Preliminary siting assessment is also similar to the above-mentioned general opinion in terms of its optional character. But once issued it must be attached to the application for the decision on the siting of the investment (in terms of land use and planning procedures).

Submission of comments as regards the draft license. In addition to pre-licensing the applicant may also submit comments to the draft license (art. 39f(4)). Although not part of the pre-licensing process in the strict sense it may eventually contribute to improving the licensee's situation if the license is amended according to his comments. The regulator presents the applicant with the draft licence with 1 month deadline.

Regulatory guidelines. The regulator has also started to make use of its power (dated back to 2000) to issue technical and organizational recommendations regarding nuclear safety and radiation protection (art. 110(3)). The regulatory guidelines are aimed at facilitating communication between the applicant and the regulator before and during the licensing process as well as

during operational phase. Their use simplifies the procedures by helping the applicant to properly meet the requirements stemming from laws, regulations, license conditions and regulatory orders. Thus, they may be seen as an official clarification (non-binding though) of the regulator's expectations as to given elements of the licensing process. Their value is the greater that they are being prepared based on wide public consultation including contributions from potential licensees. The transparency of the process is additionally strengthened by the fact that the internal policy as to drafting and issuing regulatory guidelines is open to the public³⁴. Four regulatory guidelines have been issued so far³⁵.

3.3.3. Non-nuclear procedures (planning and construction)

Besides the „classic” nuclear law provisions also some major changes have been introduced in planning and construction law through the 2011 nuclear investment law.

New siting decision

The autonomous siting decision issued independently of the planning law provisions constitutes one of the major elements of the new approach to nuclear investment (art. 7 of the investment law). Simple notification on the commencement of proceedings aiming at siting an investment is enough to trigger a number of consequences as far-reaching as a suspension of the ongoing proceedings in the scope of planning and the investment process within real estates. Also, a final siting decision is binding upon relevant authorities. This means that local authorities irrespective of their position must take into account and implement such a decision as regards further planning activities. The same applies to decisions issued on the basis of the existing local zoning plans – the pending proceedings are extinguished, while in the case of new motions the relevant authorities are obliged to refuse the issuance of decisions.

The siting decision is also important in terms of securing the real estate for the purposes of the nuclear investment. On the date the siting decision

34 PAA, *Rules for issuing organizational and technical recommendations of the PAA President*. URL=www.paa.gov.pl/portal/download/file_id/245.html. [accessed: 31.12.2019].

35 *Technical recommendations for the assessment of ground seismicity for the siting of nuclear installations* (2013), *Technical recommendations for the assessment of ground tectonic stability and fault activity for the siting of nuclear installations* (2014), *Technical recommendations regarding the assessment of geological-engineering and hydrogeological conditions for the siting of nuclear installations* (2014), *Technical recommendations on securing radioactive sources* (2017).

has become final listed real estate become the property of the State Treasury by means of expropriation for compensation. Then, the investor, may submit a request to create the perpetual usufruct of such land. However, the investor may as well decide to build the plant on its own real estate, therefore, the expropriation option is only intended as a remedy in the case when acquiring the real estate through other means (like acquisition) proved impossible, e.g. due to „antinuclear” attitude of the owners.

Indication decision

The application for the construction license as well as the siting decision submitted to the regulatory body must include siting report. The report also needs to be drawn in order to perform a number of examinations that requiring entering the premises of the potential site. If the premises do not constitute the investor's property, their owner may refuse access. In such a case it would appear that the only solution for the investor would be to buy the real estate in question. However, after the site surveys are completed it may turn out that the acquired site does not fulfil the siting conditions, thus creating a financial loss and postponing the whole undertaking. The optional decision designating the investment site (art. 11(1)(1) of the investment law) is intended to reduce such a risk, while not determining the final site. Obtaining such a decision enables entering the necessary real estate and carrying the surveys (upon obtaining separate permits) even without the permission of the owner. Having finished surveys the investor must however return the real estate to its original state or pay the damages. During the decision validity period (up to five years), the real estate covered by the decision is excluded from other spatial planning activities.

Permission to enter the property

Since the issuance of the far-reaching indication decision may not be necessary the investment law also provides for a possibility to apply for other optional decision – the permission to enter the premises (art. 11(1)(2) of the investment law). Performing land surveys on the basis of such permission will be much less burdensome for the owner (similarly the user, the lessee, or the land lessee) of the property. Contrary to the indication decision the permission to enter the premises does not result in the suspension of the ongoing proceedings. The validity of the permission is also shorter than in the case of the indication decision (maximum 3 vs. 5 years). Also, there is no mechanism securing the durability of the permission as it is in the case of the indication decision. It is thus possible to issue other permissions enabling entering the premises or indication decisions with regard to the same property while the permission in question is in force. As in the case of the indication decision, having finished works the investor must return the real estate to its original state or pay the damages.

Permission for preparatory works

In order to save time the new law provides for the possibility to obtain another optional decision in the form of a separate permission for conducting preparatory works before the construction permit (art. 17 of the investment law). Until 2011 preparatory works under general construction law rules were allowed only on the property for which the construction permit has already been issued. Having obtained the siting decision the investor may apply for a permission to conduct preparatory works covering land levelling, land development including construction of temporary buildings, connection to the technical infrastructure for the purpose of construction and other work (not requiring the architectural and construction design), demolition of existing buildings, as well as removal of trees or shrubs located on the property covered by the siting decision.

Facilitations within environmental procedures

The investment law also simplifies some environmental issues. The number of environmental decisions necessary at different stages of the investment process has been reduced. Before it was necessary to obtain environmental decisions at the following stages of the investment: siting decision, construction license („nuclear” licence), construction permit. Currently, the environmental decision obtained prior to the issuance of the siting decision remains valid until the construction license is issued (art. 72(1)(18a) of the EIA law³⁶ and art. 39j(1)(1) of the Atomic Law). In addition, the durability of environmental decisions for investments in nuclear power facilities was extended up to 10 years (art. 72(4b) of the EIA law), while the deadline for their issuance was reduced to 45 days (art. 20(3) of the investment law). The time given does not include however the time limits provided by law to execute certain activities, particularly in context of the transboundary environmental impact assessment, periods of suspension of proceedings and periods of delays caused by the fault of the party or for reasons beyond the authority.

More stringent conditions as regards the participation of environmental organizations in the investment process have also been introduced. To take part in the proceedings an organization has to be registered at least 1 year prior to their initiation (art. 20(2) of the investment law). This is aimed at the elimination of *ad hoc* environmental organizations established only for the purpose of blocking the investment.

36 The Act of 3 October 2008 on sharing information about the environment and its protection, public participation in environmental protection and environmental impact assessment (Official Journal of Laws „Dziennik Ustaw” 2018, item 2081 as amended).

Other facilitations

The investment law also introduces other facilitations. As regards acquiring the legal title to the land it provides that limited property rights (usufruct, servitudes, pledge, cooperative member's ownership right to residential premises, mortgage), encumbering of expropriated real estates, the right of perpetual usufruct, permanent administration, lease as well as use or other obligations, expire for compensation on the date the siting decision has become final (art. 24 of the investment law).

There is also the possibility to restrict the use of property in order to assure proper implementation of the investment. Upon investor's application the province governor is under obligation to issue a permission to enter the premises for placing installations and equipment needed for construction works (art. 28 of the investment law). In addition, in order to pass through the area of public roads, railroad tracks or water flows, the investor is entitled to occupy such areas for the duration of the investment and operation (art. 29 of the investment law). The law also reduces the terms within administrative proceedings and provides for pecuniary penalties to be imposed on the administration authorities in the case of delays in settling administrative proceedings as well as restrictions as regards appealing administrative decisions (art. 35(2) of the investment law). Public procurement procedures as regards the nuclear investment were also simplified to some extent (art. 41-44 of the investment law). All main decisions aiming at the delivery of the investment were transferred to higher rank authorities. The majority of decisions is issued by province governor, ministers or central authorities, with the aim to accelerate the investment process through engagement of more competent authorities that display greater experience and predictability in the field.

3.4. Protection of the state's interest

For the undisturbed functioning of the state, economy and society, it is extremely important to ensure that the investor and the operator of a nuclear power plant are credible. This credibility includes both aspects of economic stability and predictability, as well as the elimination of the possible impact of third countries. The latter is particularly important in the context of the expansive Russian foreign policy officially using energy instruments to achieve its objectives in the region. Besides the energy security aspects the strategic importance of nuclear investments regarding the state's interest is also linked to the existence of certain risks pertaining exclusively to the use of nuclear technologies: standard operational risk, terrorist risk and proliferation risk together with their consequences. In order to keep control over the selection of the investor and operator a special decision has been introduced. The so called „decision in principle” (of different kind as e.g. in Finnish legal system) is a form of a political consent given by the public authority – minister competent for energy on behalf of the government to a certain investor,

technology and site (art. 22 of the investment law). After prior consultation with the Internal Security Agency the minister competent for energy may issue such a decision but is not obliged to do so. This was mainly aimed to avoid „unwished” investors, who might be seen e.g. as a threat to national security or economy³⁷.

4. Conclusion

Government documents define strategic goals to be achieved through the implementation of nuclear energy. The main one is to ensure energy security in the current framework of EU energy policy, in the face of diminishing opportunities to exploit own energy resources (mainly hard coal and lignite) and in challenging political situation in the region mainly connected to aggressive stance of Russia. Indeed, low-emission nuclear sources would allow the diversification of electricity generations and directions of energy carriers supply, and would additionally renew the park of gradually decommissioned, well-drained coal-fired power plants, which would allow Poland to maintain the position of a net electricity exporter. Their appropriate geographical location would also help to improve the security of the electricity grid. In addition, reducing energy emissions would be an important part of a wider package of clean air solutions for the benefit of the environment and public health. An investment of such a large scope would also be a significant development impulse for the economy and would check in practice the efficiency of the structures of the Polish state and its institutions. Finally, to a limited extent, the construction of nuclear power plants in Poland could allow achieving certain goals in the field of international relations.

Due to social, economic and organizational challenges, the construction of nuclear power plants is not an ordinary investment. Pre-conditions have been defined, without which the construction of NPP would not be possible. The necessity of ensuring social acceptance and limiting the investment risk have been considered as key factors. It was also important to ensure state control over the choice of the investor and operator. Achieving such goals without legislative activities would be extremely difficult, if not impossible, especially in the case of nuclear newcomer countries like Poland, where certain issues need to be organized from the scratch. Hence, a number of legislative changes were made, adopting three major amendments to the Atomic Law (2011, 2014, 2019), the special law dedicated to nuclear investment (2011), issuing a number of regulations (executive acts) and recommendations

37 The Polish model of „decision in principle” has just recently been extensively discussed in: Łukasz Młynarkiewicz, *Decyzja zasadnicza w procesie przygotowania i realizacji inwestycji w zakresie obiektów energetyki jądrowej* (Sopot: Arche 2020).

of the regulator. In addition, due to major changes, a number of other legal acts have also been amended.

In order to obtain social acceptance, the scope of public information and its participation in monitoring the construction and operation of a nuclear power plant has been significantly increased. In particular, attention should be paid to the introduction of local information committees organized by the public and the obligation to establish local information points maintained by the investor and the operator of a nuclear power plant. It was also decided to introduce economic benefits for potential dissatisfied, that is neighboring municipalities. At the same time, a fee was raised for communes in which radioactive waste repositories are located. Strict nuclear safety requirements have also been created from scratch and standards for the regulator's functioning have been raised.

The level of public acceptance has raised significantly both nationally and locally after the above mentioned legislative changes have been implemented³⁸. On the local level it may be connected with an intensive information and educational campaign based on newly created information centers in the three potential sites. It is however hard to predict how did it influence the broader picture since no evidence based on surveys etc. exists.

In terms of investment risk reduction the legislative means play indispensable role. First of all the government proposed a completely new philosophy of nuclear licensing and the parliament as a legislator approved it. Particular attention must be paid to pre-licensing elements such as optional licenses: preliminary siting assessment and general opinion. The process has been further simplified by reducing the number of required decisions and implementation of more interactive approach in relations between the regulator and the applicant/licensee. Similar simplifications designed exclusively for nuclear investment have been implemented in the „non-nuclear” proceedings as planning and general construction law, where i.a. the responsibility for issuing crucial decisions has been transferred from lower-level to higher-level bodies.

For an evaluation of the procedural facilitations it is too early as no licensing procedure has been launched so far. However on early stages (e.g. environmental procedures, planning) there is an improvement of the quality of investor's cooperation with the central authorities compared to the local bodies and some time savings are to be observed. A serious gap that could even constitute the weakest point of the plan at the moment is the lack of financial support scheme. No legislative intervention has been done so far in this

38 According to latest public opinion poll 59% Poles support the construction of nuclear power plants in Poland, <URL=<https://www.gov.pl/web/aktywa-panstwowe/poparcie-spoeczne-dla-budowy-elektrowni-jadrowej-w-polsce>> [accessed: 31.12.2019].

regard, although government documents provide for the creation of such mechanism. After few years of works the government withdrew from the plan to create support scheme based on the idea of so called „contracts for difference”.

Also in the case of decision in principle, the time will show whether the designed model will meet the expectations of decision-makers and ensure effective state control over the investor selection process.

The changes in the Polish legal system discussed above are a good example of using law (legislation) as an instrument to implement state policy in a socially and economically sensitive area. In this case, a holistic approach was applied, not limited to single changes. The entire spectrum of issues has been revised in several key identified areas, including introducing of solutions previously unknown to the Polish legal order. The relatively low cost of introducing changes is a significant asset of the law as an instrument of policy implementation. On the other hand, its disadvantage is the fact that changes in the law do not themselves make the assumed political goals fulfilled. They only provide conditions for their achievement, among others stimulating the behavior of individual entities, or creating more favorable rules of the game than before. Laws are also not created in a vacuum. The desired state of affairs cannot be decreed without real support. Laws themselves, even the most perfect, will not build nuclear power plants. In order to achieve the goals they are to serve, it is also necessary to apply them properly and demonstrate consistently the credibility of stakeholders in particular the government and the investor and operator.

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