

Steps towards transparent nuclear legal and regulatory regime



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Lithuania's existing nuclear regulation adopts the best European and international practices, regulation of the nuclear sector activities, including nuclear safety and security, radiation protection, civil liability, radioactive waste management, continuous control of nuclear fuel cycle, as well as sustainable development, transparency and international cooperation.

Since Lithuania is the only Baltic State with both experience of operation and decommissioning of civil purpose nuclear facilities, an extensive legal framework for regulating the entire nuclear power plant life cycle from design to decommissioning has been developed.

The Law on Nuclear Energy is the principal legislation in relation to the nuclear energy sector. It relates to regulatory competences, nuclear and radiation safety, licensing, nuclear infrastructure development and operation, physical safety, transportation of nuclear materials, etc. The particular regulatory provisions are further developed in specific laws (The Law on Management of Radioactive Waste, The Law on Radiation Protection, etc.) and secondary legislation.

However, current legislation is aimed at regulating existing nuclear facilities (Ignalina NPP), therefore, there is no transparent and clear licensing scheme applicable to other projects, and also there is an absence of clear separation of functions and responsibilities of state authorities involved in

licensing process. Taking into account the above mentioned, it is obvious that legislative changes are unavoidable in order to ensure the necessary comfort level for the new Visaginas NPP project.

Addressing the relevant legal challenges identified before the start of new Visaginas NPP project implementation in Lithuania, nuclear legal reform has been initiated in 2007. The first step was related to a comprehensive review of relevant laws and analysis of existing regulations. Based on the results, necessary changes were identified and existing legislation is being updated or new legal acts are being drafted.

The expected new legislation on nuclear licensing will define the clear, transparent and streamlined licensing scheme designated only for the nuclear energy project, thus avoiding the overlapping with the licenses in other regulatory sectors/activities and relieving the licensing and authorisation regime from excessive administrative and bureaucratic burden.

The EC Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations is to be transposed to the Lithuanian legislation – the new Law on Nuclear Safety is to be passed in the Parliament addressing major requirements to be met in the field of nuclear safety.

In order to streamline the regulatory infrastructure, in 2009, the Government of Lithuania initiated the regulatory reform by merging the State Nuclear Power Safety Inspectorate, VATESI, and the Radiation Protection Centre (RSC) into a new competent regulatory authority – Nuclear and Radiation Safety Regulatory Authority. As soon as the relevant changes in the laws will pass the Parliament, the new authority will be in charge of regulation of all the matters related to nuclear safety and radiation protection in the country.

The proposed Lithuanian legislative and regulatory structure is constructed fully in line with the adopted international legal acts, EU regulation and IAEA recommendations.

In this issue:

Steps towards transparent nuclear legal and regulatory regime	1
▶ Common electricity market of the Baltic States in 2013	2
▶ New Visaginas NPP construction project in Lithuania	2
Preparation works for cargo transportation of the new NPP are started	2
Possibilities of local businesses to participate in the NPP construction are under consideration	3
▶ Lithuania – Sweden NordBalt power interconnection	3
▶ LitPol Link –power interconnection between Lithuania and Poland	4

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Common electricity market of the Baltic States in 2013

On 27 April 2009, Lithuania, Latvia and Estonia made an agreement on the common electricity market policy. The joint declaration expressed the emphasis of all three countries on the significance of the creation of the open and common Baltic electricity market and provided for the integration of this market into the electricity market of the Nordic countries.

Three Baltic countries undertook to develop electricity markets in accordance with the principles of the market of the Nordic countries Nord Pool Spot and to develop infrastructural projects that will ensure energetic independency and acceleration of the interconnection of the Baltic electricity networks with the EU Member States.

Last year 8 countries and the European Commission signed the Baltic Energy Market Interconnection Plan (BEMIP). According to this Plan the Baltic electricity market shall be created by 2013 and the common market of Scandinavia and the three Baltic States shall be launched in 2015.

For this purpose there should be established a bidding areas in each of the Baltic States.

On 1 January the power exchange operating on the principles of Nord Pool Spot was opened in Lithuania. The exchange trades in locally produced or imported electricity. It has hourly trade where the price is established at the intersection point of demand and supply curves. At the moment there are 21 participants that can trade in the exchange. Since 1 of January large companies in Lithuania are no longer subject to the regulated electricity tariffs. There are 1.5 thousand of such companies. They consume approximately 35 per cent of the total

electricity demand required by Lithuania. The number of consumers subject to regulated tariffs will be decreasing every year and by 2015 household consumers will not be subject to them either.

According to the BEMIP the Baltic States are heading towards the creation of the common Baltic market and the integration into the EU markets, thus ensuring energetic integration and independency. Furthermore three Baltic countries hope to implement a highly ambitious plan – to create the common Baltic market by 2013.

New Visaginas NPP construction project in Lithuania

After Lithuania's decision to develop nuclear energy and thus assure country's energy independence, in 2007 preparation works for the new Visaginas nuclear power plant (NPP) construction project have been started. By now already 13 preparation projects, like environmental impact assessment, which usually takes 2 years to complete, environmental audit of construction sites, measurements of hydrological and thermal balance of Drūkšiai Lake, evaluation of Ignalina NPP infrastructure and etc. are successfully completed. Other preparation projects are intensively undertaken and in a very advanced stage.

Preparation works for cargo transportation of the new NPP are started

Construction sites of the new Visaginas NPP to be evaluated are located in the territory of the old Ignalina NPP, 500 km away from the Klaipėda Seaport. Heavyweight (up to 1033 t) and extra large (exceeding 20 m in length and 4–9 m in height and width) cargo as well as other cargo, construction modules and materials will be intensively transported



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- Whether the electricity market is truly competitive depends on whether there are restrictions on trade and what portion of transactions are outside the market conditions. Even with "Baltpool" we still have subsidized production, regulated tariffs for transportation and even certain types of production. The market had already helped the consumers. If it weren't for import, Lithuanians would be paying for electricity substantially more. To realize the full potential market conditions should be expanded to the full extent. „Baltpool“ is definitively a step in the right direction, but we need more. More market, more trade.

- Price stability and price level are two different concepts; stable prices are not desirable if they are high. New Visaginas NPP (VNPP) could have a stabilizing effect and provide a stable base for establishing the price of electricity under market conditions. In the optimistic scenario VNPP could provide shelter from high prices and price volatility. In the worst-case scenario VNPP would produce relatively expensive electricity and price stability would be achieved by relatively high final price to the consumers.

during the entire period of the construction of the nuclear power plant, i.e. for approximately 5–6 years. As a result, it is necessary to prepare for such cargo transportation in advance.

Last year the potential routes and modes of transportation of heavyweight and extra large cargo from the Klaipėda Seaport to the construction sites of Visaginas NPP were established and evaluated, the sections of transportation routes to be reconstructed were identified. Now the designing works of routes of transportation of heavyweight and extra large cargo are being carried out. Already this year, it is planned to prepare project proposals concerning almost 40 engineering structures – bridges, overpasses, underpasses, new roads and separate reconstructed sections.

Possibilities of local businesses to participate in the NPP construction are under consideration

To ensure the proper preparation for the construction of the new NPP in Lithuania, at the end of March the consideration of possibilities and preparation of local industries to participate in this project was started. The existing capacities and preparation of businesses of the Baltic Sea Region states (Lithuania, Latvia and Estonia) to participate in the construction of the new NPP have already been identified and evaluated. Later a strategy and further action plan will be drawn up for Lithuanian authorities and businesses, which will help local industries properly to prepare for the participation in the project of the new NPP.

According to the Minister of Energy Arvydas Sekmokas, the construction of the new Visaginas NPP is one of the most important national projects that will reduce our energetic and geopolitical dependence on the single source. The economy of the country will also greatly benefit from it – upon the commencement of the construction of the new NPP in

Visaginas, local businesses, if ready, will be able to apply for works amounting to approximately LTL 2 billion.

The investments into the construction of the new NPP are estimated at approximately EUR 3–5 billion (LTL 10.3–17.2 billion). Taking international experience into account, local industries, given their preparation and capacities, may apply for works amounting to 20–30 per cent of the total project value.

Lithuania – Sweden NordBalt power interconnection

Green light for power interconnection between Lithuania and Sweden

On 18 March 2010, Aloyzas Koryzna, General Manager of Lietuvos Energija AB, and Mikael Odenberg, Chief Executive Officer of Affärsverket Svenska Kraftnät, signed a cooperation agreement regarding the implementation of the NordBalt project. The agreement aims at defining conditions at which the jointly implement the NordBalt power link project by interconnecting the electricity systems of Lithuania and Sweden.

“Upon the implementation of the NordBalt project, the Baltic and Scandinavian power systems will be interconnected, while the integration of the Lithuanian power system into the unified market of the Baltic Sea region will allow us to improve the security and reliability of electricity supply to domestic consumers – that is one of the most important strategic tasks of our company,” says Mr Aloyzas Koryzna, General Manager of Lietuvos Energija.



Signing of NordBalt cooperation agreement

The cooperation of the parties will consist of three key stages – the link development, construction and operation stages. It was agreed that ownership of the infrastructure developed at the construction of the power bridge would be split by the parties as follows: Lietuvos Energija will own the converter at Klaipėda transformer substation, the cable from Klaipėda substation to the sea and 50 per cent of the submarine cable. The respective share of the cable and the link infrastructure in the Swedish territory will be owned by Svenska Kraftnät. The settlement also includes an agreement regarding the link funding and the conditions as well as procedure for the use of EU assistance allocated to the construction of the link. The planned EU assistance amounts to EUR 131 million. The preliminary cost of the power link is estimated at EUR 552 million.

Submarine cable route is planned

A Swedish company Marin Mätteknik AB has submitted a report on the sea bottom survey regarding the NordBalt interconnection. At the sea bottom survey all type of objects were found: anchors, springs, metal cylinders, fishing tackle,

remains of cables, remains of weapons likely of the wartime period. Three drowned ships of 25–30 metres were also among findings. The planned route included the bend of 15 metres around non-hazardous findings and of 25 metres around the hazardous ones. The Baltic Sea bottom survey helped to select the safe cable route.

Preparatory work of the NordBalt project is running smoothly. A Voltage Source Converter (VSC) interconnection technology has been chosen. The procedure for selection of manufacturers of the cable and the converters, the contract with the selected manufacturers will be completed by the end of 2010 and the production will be started.

The length of the connection to be laid is approximately 450 km, 400 km of which is to be laid across the bottom of the Baltic Sea. The interconnection is due for commissioning at the end of 2015, while estimated lifetime of the cable is approximately 30 years. The line capacity will be 700 MW, voltage – 300 kV.

LitPol Link –power interconnection between Lithuania and Poland

The energy interconnection between Lithuania and Poland will consist of 400kV overhead double-circuit transmission line Elk (Poland)–Alytus (Lithuania), where the transformer substation will be reconstructed and expanded by a back-to-back converter station. The length of the line will be approximately 154 km. The line in the territory of Lithuania will be of approximately 48 km



Lithuania – Poland power interconnection LitPol Link

and will be laid in Alytus and Lazdijai regions of Alytus County. Upon the implementation of this project, the energy systems of the Baltic States and the Western Europe will be interconnected for the first time. In 2015 the capacity of the interconnection will be 500 MW, in 2020 – 1,000 MW. The interconnection is due for commissioning at the end of 2015.

Route options are planned in both countries

The strategic environmental impact assessment identifying

possible corridors for building the line has been already carried out in Lithuania. In Poland the route localisation study approved by the Polish PSE Operator has been also completed. It provides for 6 possible line routes.

Environmental impact assessment and detailed planning works

A Swedish consortium Sweco is preparing an environmental impact assessment (EIA) for Lithuania's first 400 kV power transmission line and a special plan on the territory of Lithuania, from Alytus transformer substation to the state border of Poland. The EIA study is also assessing possibilities of reconstruction and expansion of Alytus transformer substation by a back-to-back converter. The special plan will provide for the route of the new line in the territory of Lithuania. The EIA report on Lithuania will be prepared by the end of 2010.

Ornithologists were watching migratory birds

In April, the spring watching of migratory birds was performed at the surroundings of Meteliai Regional Park and Žuvintas Biosphere Reserve. Ornithologists and energy specialists were watching birds because of the exceptional natural value of these important bird protection areas. Regardless the fact that the track of the planned 400 kV power transmission line from Alytus to the state border of Poland will not cross any of these areas, exhaustive knowledge of the bird species migrating in the near-by areas will be of high importance for the environmental impact assessment of the project.