

Russian Nuclear Projects: a Deadly Threat to Energy Independence of the Baltic States

Dr. Stan Backaitis, P.E., SAE Fellow

USCBSC Consortium, member of CEEC

Russia can turn the lights out on Lithuania and the other two Baltic states any time it pleases. And they can't turn them back on without Russia's permission.

Not only does this small, central European nation, as well as its neighbors Latvia and Estonia, not have access to the Russian owned-switch, but, to a large extent, it also depends on energy supplies from Russia to power its electricity generating plants; power that is needed for energy and economic independence. Lithuania as well as the other Baltic countries, being poor in energy resources, are facing a tough future and are seeking solutions.

What would you do?

Background

Lithuania's Ignalina Nuclear Power Plant (INPP), a Soviet Union built installation with two RBMK-1500 reactors, was finally shut down on December 31, 2009. Closing down INPP was one of the conditions of Lithuania's accession to membership in the European Union (EU). Overnight, the shut down changed Lithuania from a country exporting large amounts of electricity to a huge electricity importer, mainly from Russia, which is seen as an unreliable, and driven by political motives, supplier. Unfortunately, most of the remaining Lithuania's power plants, that produce electricity, are fired by natural gas. Russia is its only accessible supplier.

To escape from dependency on Russia's energy resources, Lithuania's government, upon shut-down of the first INPP reactor in 2004, has made occasional statements of building a new nuclear power plant (NPP) in partnership with Latvia and Estonia. However, beyond rhetoric, nothing concrete was accomplished for the following four years. Only in June 2009, Andrius Kubilius, upon forming a new Lithuanian government, indicated that a new NPP, serving all three Baltic countries - Latvia, Lithuania, and Estonia, as well as Poland, would be built and put into operation in the 2018-20 timeframe.

In December 2009, the newly formed Lithuania's Energy ministry (ENMIN) announced a tender offer for the development, design, construction, and management of a new NPP at Visaginas (VNPP). Review of some 20 responses indicated that only five of the proposals were worthy of further consideration. In September 2010, the ENMIN asked the five respondents to propose committing bids. Of the two responding parties in November 2010, only South Korea's "Korea Electric Power Corporation" (KEPCO) was found to be in full compliance with the terms of the tender offer. However, two weeks later on December 10, 2010, KEPCO announced withdrawing its proposed bid.

The news media in Lithuania and the other Baltic countries are busy speculating about reasons for failing to home-in on an investor for the new NPP. The stories range from Russia's pressure on all bidders to withdraw from the bidding process and its announcements to build two separate NPPs on the eastern and southwestern borders of Lithuania to KEPCO's withdrawal because of possible armed conflict between North and South Korea.

This mini study recognizes several factors that appear to have been predominant causes for the failure of the tender offer. They are: political, economic, financial, and indecisions partly due to Russia's controlling influence on the existing electricity system and partly due to insufficient appreciation by Lithuania's politicians and energy planners of how large international corporations and financial institutions operate as well as interact with their respective countries' governments in such large financial commitments.

Political factors

Although Lithuania and the other two Baltic states have attained political independence, they still belong by virtue of electricity and gas imports to Russia's sphere of influence (Fig.1). Apparently, Russia has no intention to strong-arm the Baltic states over energy issues, since the sale of energy to them provides Russia substantially better margin of profits than sales, for example, to western Europe. Being the sole supplier of energy resources, Russia has a tremendous amount of leverage over the three countries in terms of their price and delivery. To break away from this dependence, Lithuania and its partners Latvia and Estonia announced their intention in 2004 to build a new nuclear plant that would provide them the needed electric power and thus free them of imports from Russia. However, for nearly four years, while the second reactor of INPP was still operating, Lithuania showed little initiative in firming up the plans to build the new NPP.



Figure 1. Russia's Controlled Electricity Infrastructure in the Baltics

While Russia until 2008 had no apparent intentions to build a new NPP in the Baltic region, realizing that Lithuania's plans for a new NPP are in disarray, Moscow took the bull by the horns and announced in early 2009 its decision to construct a two reactor NPP in the Kaliningrad region – the Baltiiskaya nuclear power plant (BNPP). Inasmuch as the first BNPP reactor is aimed to begin operations in 2016 and the second one in 2020, the need for power from a significantly more expensive to fund reactor in Lithuania was put into question. By deciding to build the BNPP, Russia gained a strategic advantage. It reinforced its position as an overpowering electricity supplier to the Baltic region and eventually to Western Europe. This situation has become even more complex by Byelarus announcement in 2009 of its intention to build a new NPP in Ostrovets in the Grodna region, in close proximity to the Lithuanian border. Russia's Putin and Byelarus' Lukashenka (Fig. 2) signed a financial agreement on March 16, 2011, [securing Russia's financial backing in the amount of 9 bln. USD and technical assistance for the Ostrovets project](#). In return, Russia will own 50 percent share in the future NPP and is likely to offer its share of energy output to the European market.

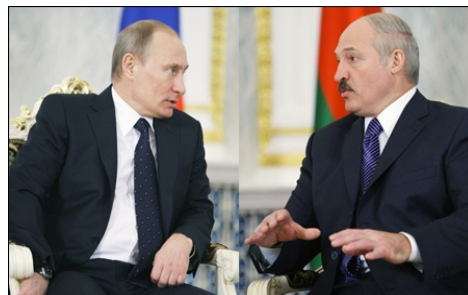


Figure 2. Putin and Lukashenka agreeing on financing the Astravets NPP

It appears that Lithuania's desire to free itself from dependence on Russia's energy supplies, by building the VNPP, might be a very desirable and valiant goal, but not very realistic in the current energy politics environment. Of course, this might change if the EU agreed to provide substantial funds for this project. However, there are no current signs for this kind of support apart from some vague statements by EU commissioners about the importance of energy independence.

Upon closure of the first INPP reactor in 2004, several Lithuania's government officials talked on a few occasions, of the need to build a new NPP in partnership with Latvia and Estonia. In 2007 Lithuania invited Poland to join as an additional partner. However, even to date the partnership statements about the new NPP remain more rhetoric than formal commitments and contractual obligations. Normally, such massive projects require published consensus by all parties defining the need and scope of the undertaking, identifying principal elements, time schedules, financial contributions, sharing work and responsibilities by each participant, etc. Of further concern is apparent lack of commitment by both Latvia and Estonia to sever their ties from Russia's NorthWest (BRELL) power grid, which is essential for the Baltic states to achieve complete electrical independence.

The only accomplishments by Lithuania's government during the first four years, from closure of the first INPP reactor in 2004, was to create in 2008 a semipublic utility corporation - the LEO.LT and the VNPP project office, with the intention of giving the NPP project some momentum. However, since then, in nearly two years, the rhetoric continued without any visible results.

The ENMIN, upon its establishment by the Kubilius government, dissolved the LEO.LT in September 2010 for its ineffectiveness. Subsequently, the ENMIN issued a tender offer for building the VNPP. However, the ENMIN failed to include its partners in the preparation of the tender offer and thereafter, in the review of the responses. Such exclusion of partners, significantly reduced the integrity and credibility of the project and its importance in the eyes of the bidders, particularly that Latvia, Estonia and Poland are supposed to be financial participants and customers for electricity. To make matters worse, the partners by now were also openly discussing the possibility of going alone with the acquisition of nuclear power plants for own electricity needs.

Economic factors

Shortly after closing INPP's first reactor in 2004, Lithuania had a relatively easy opportunity to resolve its energy problems by building a new NPP. Its economy was strong and growing, raising the needed finances was relatively easy, and its neighbors, Latvia and Estonia, were very interested in participating in the project as receivers of their share of electricity. Construction of NPPs in the world was until 2007 in relative stagnation, and numerous NPP construction companies were eager to compete for new construction jobs. However, in the latter part of 2007 and in later years, the emerging economic crisis in the Western World and escalating energy demands have begun to radically increase the number of NPP constructions, particularly in China and India. It is to be noted that over 60 new NPP constructions have been started in the past several years throughout the world and many more are planned. Such rapid escalation of construction activity, coupled with less than a dozen companies capable of building NPPs, resulted in large increases of NPP construction costs. Lead times needed to manufacture major reactor and power plant components are now well over five years.

Regrettably, Lithuania's delay for almost four years to come to a decision undermined a relatively easy opportunity to become a nuclear based power producer again. Current environment for the construction of a new NPP is particularly unfavorable to small, highly indebted countries, compared to those having reasonably large initial down payments including capabilities of guaranteeing repayment of loans. Accordingly, it is not surprising to see low level of interest by large investors to participate in the project, because VNPP's competitive viability became highly questionable in view of Russia's intention to construct competing NPPs in the Kaliningrad enclave and in Byelorussia.

Russia's skills to use various opportunities to its advantage should be considered normal commercial practice but with added political overtones. By being a major and an aggressive player in the nuclear field, Russia is

capable of offering a variety of economic and financial enticements to attract business. For example, a late news item in the energy news media indicates that Russia offered to provide a long term low interest loan to the Czech Republic if it was awarded the contract to build a two reactor power plant. As a sweetener, the Czech industry would be invited to build a number of large NPP components not only for the Czech plant, but also for other NPPs that Russia is constructing in different parts of the world.

Russia, being keenly aware of the attempts of the Baltic countries to break away from their electric energy dependence, saw upon closure of the INPP, a considerable power shortage developing in the region. It also foresaw, that Lithuania, by delaying its resolve to replace the INPP with a new NPP, would allow Russia to fill the energy void with a two reactor power plant in the Kaliningrad region with expressed aim to sell its output in the Baltic and the Western European markets.

Russia knew that if its new plant NPP was built and put into operation ahead of the VNPP, it would have a significant price advantage over the price of electricity that any future Lithuanian NPP could offer. Such information would be a considerable deterrent to investments in any future NPP venture in Lithuania. It reasoned that since BNPP would be built with non-returnable state funds, Lithuania's planned NPP, constructed with borrowed private funds, would have to impose hefty surcharges to consumers of its electricity to pay off the debts. Accordingly, VNPP would have great difficulty competing based on the price of electricity that did not carry such charges. Understandably, knowledge of such financial burdens would cast in doubt the financial viability of the VAE in the eyes of any potential investor.

It can be agreed with ENMIN claims that the direct expense to produce electricity at VNPP would be relatively low. However, it needs to be pointed out that the cost to the consumer would be significantly higher upon inclusion of expense to maintain reserve power plants at capacities similar to that of the new NPP, outlays associated with treatment and storage of nuclear waste, profits to the foreign plant operator, payments covering the return on borrowed capital and corresponding interest, and very extensive interior and exterior safety provisions. Published comparisons of average costs for labor and nuclear fuels to produce 1 kWh of electricity at a U.S. NPP are around 2.2 cents USD, and about seven Lithuanian (lt) cents (about 2.7 cents USD) at INPP. The addition of all other expenses, such as operating and maintenance costs at the NPP, plant and equipment amortization, and transmission and distribution of electricity expenses result in an average delivery price between 8 and 9 cents (USD) for 1kWh to the U.S. consumer, while comparable cost of 1 kWh electricity produced by INPP was approx 30 cents (lt) (12 cents USD) to the Lithuanian consumer. After closure of INPP, the price of 1kWh of electricity rose to 45 cents (lt).

Future costs to produce a kilowatt hour of electricity at the future VNPP are unknown. Lithuania's ENMIN estimates indicate 34 cents (lt). Recently, Turkey signed a nuclear power plant construction contract with Russia. It guaranteed Russia for building and operating the NPP, a purchase price of 35 cents (lt) per kWh for some 15 years. Inasmuch as Lithuania proposed in the tender offer similar funding and operating conditions as those between Turkey and Russia, it would be reasonable to assume that 35 cents (lt) per kWh would be the minimum price of electricity sold by the operator of the future VNPP facility. Accordingly, it might be difficult to convince any buyer at the BaltPool or NordPool exchanges to purchase electricity at such a price if Baltiiskaya NPP can offer the same for 10 cents (lt) less or even lower, since it would not be burdened with the return on capital and interest payments. The only way VNPP could compete on price would be by the government subsidizing the price difference.

The price of electricity to the consumer is also dependent on amortization of the plant and the power grid, losses within the transmission and distribution systems, and theft of power from the network. Unfortunately, repayments of interest on the loan will need to start before the first watt of electricity is generated. Inasmuch as Lithuania is already highly indebted, any large loans for the NPP would fall in the high risk category, ranging from 10 to 12 percent interest rates. Assuming that the construction of the VAE would require some 18 to 20 bln. litas (7-8 bln. USD), expected interest payments would keep escalating as the construction is progressing, and would amount to approx. 2 bln. litas (800 mln. USD) annually just before the plant produces the first watt of

electricity. Inasmuch as the government does not have any funds to make such payments, this money would have to be collected as additional fees to the consumers of electricity. Such payments would be expected to add approx. 15 to 20 cents (lt) to the normal price of electricity that is either imported or generated by conventional power plants. It would be extremely difficult for anyone to justify a price escalation of this magnitude when the same electricity can be imported or bought from BNPP for substantially less.

While the current Lithuanian government is attempting to remedy this unfortunate course of events, regrettably, the four year delay and the arrival on the scene of other large scale power generating capabilities, might have killed or greatly impeded the opportunity to build a competitive NPP. As a result, Lithuania's people are now burdened by very high electricity prices, and will have to face not only their further escalation, but also uncertainty in continuous supply of electricity and natural gas in future years.

Financing Considerations

Lithuania's politicians regarded the statements by Russian and Byelarussian leaders of intention to construct the BNPP and the Ostrovets NPPs, as bluffs, even as late as mid 2010. Moscow was quite clear that the BNPP would generate electricity mainly for export to Western European and the Baltic countries and not for internal needs. This was confirmed in March 2011 agreement between BNPP and Lietuvos InterRAO to import to Lithuania 1000 MW of electric power. By deciding to build a new NPP in the Kaliningrad region, Russia assured that Lithuania's new NPP, if it was to be built, could not compete on price of electricity generated by the BNPP. As a result, once Russia's plans for the BNPP were made public, it became extremely difficult for Lithuania to attract investors to finance the VAE project, unless the EU would guarantee the loans. Furthermore, most recently Russia invited both Poland and Latvia to participate as partners in the construction of BNPP in an attempt to wean them away from participating in Lithuania's NPP project. In addition, Poland was offered not only low electricity prices by the BNPP, but also the opportunity to earn money for the transmission of electricity to Western Europe through Poland's existing power transmission network.

Lithuania's government created in 2008 a semi-public LEO.LT energy corporation for the purpose of taking care of Lithuania's energy needs, and by working together with its Latvian and Estonian partners to raise sufficient finances for the construction of a new nuclear power plant at Visaginas. However, upon establishment of LEO.LT, it became apparent that its two shareholders – the government and a private “NDX Energija” corporation – had totally different interests. The government interest was to ensure energy security through construction of a nuclear power plant, while the private investor's interest was to maximize profits primarily by importing electricity. Such diverse interests were not conducive to good dialogue either in determining on what needs to be done or to conduct constructive discussions with their other partners. To make matters worse, while NDX Energija was to lead and guide the technical effort to build the NPP, its representatives acknowledged that they did not have the needed technical expertise either to plan and organize the building of a nuclear power plant or to raise the needed finances.

Large-scale investors in the western world showed over the years very little interest in Lithuania's energy problems and particularly, its nuclear initiatives. Significant international investors view Lithuania's and the Baltic states' commercial energy viability as highly risky, unattractive due to relatively isolated geographic location, small internal and difficult access to large markets, and poor in natural resources. Discussions with a vice president of one of the largest NPP construction company and with several operators of nuclear power plants revealed that they see “the Baltic countries as too small of a market in the region, bordered by a powerful and unpredictable neighbor who is also a significant size low cost energy producer and is ready to undermine any competition using price and other economic as well as political measures. Lithuania, even partnering with its neighbors, could not assure a return of investment of nearly 10 bln. USD, unless the EU would guarantee the needed loans. Considering that the EU had most recently to rescue a number of euro zone member countries from bankruptcy, it would be extremely difficult to find banks willing and capable of providing high risk loans to additional EU countries that are drowning in debts and for projects that might not be financially viable.

Following the publication of a tender offer for the construction of VNPP, Lithuania, as far it is known, has still failed to engage its potential partners in constructive discussions and developing obligatory agreements on the scope and extent of the new NPP, including their projected power needs and their financial contributions. Without such documentary evidence, it would be very difficult to attract serious investors. In spite of these shortcomings, the press reported several ENMIN hints of some 20 companies responding to the tender offer of which only five were found worthy of further consideration. Upon request of the five to submit binding bids, only two responded. Of the two, only KEPCO was found to be fully responsive to all technical specifications, building deadlines and raising the needed financial resources. At this point, the ENMIN vice minister Romas Svedas noted, that Lithuania was ready to inform its regional partners in Latvia, Estonia and Poland about the agreement with KEPCO. However, after two weeks of submitting the final bid, KEPCO notified the ENMIN on December 16, 2010, of its withdrawal from the project.

The withdrawal from the contest of the last candidate, forced the ENMIN to consider a new phase of negotiations with parties that might be interested in the NPP project based on a different set of conditions. With no time to waste, the ENMIN announced that direct negotiations with potential investors would start in January 2010 with a decision to be made as early as June 2010. Obviously, the new conditions would have to be considerably more favorable to attract potential investors. Knowing of the failure of the tender offer, all potential bidders will be at considerable advantage to extract for them much more favorable financial rewards. Any such agreement would be disadvantageous to Lithuania and its partners. At this point, with the government's prestige on the line, the government either would have to agree with the best offer it receives, or find some excuse to gracefully withdraw its offer.

Indecisions: a detriment to the future

Lithuania, upon attaining independence, has inherited a number of large industrial enterprises such as INPP, electric power and gas facilities, an oil refinery, a large fishing fleet, sizeable electronics industry, etc. Unfortunately, a number of them were mismanaged and not developed to their full potential. Numerous others were either privatized, sold as junk property or went into bankruptcy and disappeared as functioning entities. Similarly, looking at the government delays to plan and take timely action in constructing the new NPP, keeping the public and the partner countries at a distance, continuously revamping the organization and management of the project, suggests that these actions were not in the best interest of the country and its people. It appears that the opportunity was shattered by competing interests between political parties, personal ambitions, disregard of partners' interests, and manipulation by powerful and resourceful interests of the neighboring country to gain strategic advantage. Apart from commitment to the EU to close the INPP, it is not clear what rationale guided the planning or the absence of planning of Lithuania's energy future upon closure of the INPP first reactor in 2004. It can be inferred from some newspaper reports of public officials' comments that one line of thought was that Lithuania has a reliable natural gas and fuel supplier as well as sufficient power generating capacity of its own to produce adequate amounts of electricity to satisfy all Lithuania's needs well into mid 2030-s. With gas and oil available in abundance from Russia, there is no urgency to build a replacement nuclear plant for the INPP. Another line of thought was that, shortly before the final closure of the INPP, EU's authorities in Brussels would be approached with a story that the closure of the second nuclear reactor would create for Lithuania and its population very serious economic hardships. Since it would take nearly a decade to build a new nuclear plant, the EU would be asked to allow the INPP to continue the production of electricity several more years beyond 2010. Unfortunately, Lithuania's people, who are paying the electricity bills, were never asked of what might be the best approach and/or solution in their judgment.

This line of wishful thinking or self deception prevailed for nearly four years until the arrival of the Kubilius government in late 2008. Although the preceding Kirkilas government announced as early as 2006 informal agreements with Latvia and Estonia to build a new nuclear power plant in Lithuania, surprisingly, the "National Energy Strategy 2007" (NES 2007) document covered the new NPP topic by only one sentence. It stated "that upon closure of the Ignalina NPP and until construction of a new nuclear power plant, the primary source for electricity will be "Lietuvos Elektrine" (Lithuania's primary power plant)". In contrast, the same document

described in considerable length the development of Lithuania's energy in future years by diversification of energy sources in line with EU directives, such as competitiveness in energy generation, expanded use of natural gas, energy security, and preparation of proposals for a common EU energy policy dialogue with Russia. Of significance is also a discussion of expanded electricity generation using combined cycle gas turbines at "Lietuvos Elektrine", whose operation is based on imports of natural gas from Russia.

It is not clear why the Government of Lithuania in spring 2007 did not consult its Latvian and Estonian partners by unilaterally including Poland into the partnership. This greatly alarmed both Latvians and Estonians. As a result, in energy conferences in Tallinn and later in Washington, D.C., both in 2007, Latvian and Estonian speakers were publically discussing consideration of smaller nuclear power plants for their future power needs. Latvia did not hide its frustration with Lithuania's indecision and fogginess regarding the plans to build a new nuclear power plant. "Of course, we are now, as before, very skeptical about this project. From time to time, us, the Estonians, and the Poles wrote letters to Lithuania's government, delivered appropriate demarches, hoping to somehow move the Lithuanians into action", said Artis Camphors the Latvian Minister of Economic Affairs.

After Andrius Kubilius takeover of the government in late 2008 and upon establishment of the ENMIN, an extensive review was initiated to determine Lithuania's current state of affairs of the energy sector and its future needs with particular concern on steps to be taken to attain energy independence. The ENMIN published on October 6, 2010 a new document the "National Energy Strategy 2010" (NES 2010). A couple months later, the ENMIN dissolved the LEO.LT and separated Lithuania's electrical grid into East and West sectors, which just a year ago were merged into one conglomerate. However, in both cases, the government employed similar bulldozer tactics as used by the previous government. It did not consult either the public or private sector organizations including industrial and commercial users on how the future might be best served and the desired objectives achieved.

Upon KEPCO's withdrawal from further discussions, the next round of negotiations with potential contractors might be very difficult and could involve significant additional expenses for NPP construction that might be more than Lithuania and its partners could bear. For this reason, it would be prudent for the ENMIN to lay out to the nation the true status of the nation's energy, realistic projections of future needs, and an array of alternative measures that could be taken to attain sufficient generating capacity and the best means to achieve energy independence. In follow-on nation-wide hearings, rather than self-serving statistical poles, Lithuania's taxpayers and energy users should be given the responsibility to decide if they would choose to remain a nuclear country and whether other alternatives should be pursued. Lithuania is in dire need of such public discussions during which the public should have the opportunity to listen not only to government declarations of a brighter vision of the future, which is actually very vague, but also to hear independent energy experts' views and the positions of different user categories. Such discussions would not only bring for consideration additional relevant data and studies, but also facilitate the search for better solutions.

Recent nuclear plant disasters in Japan, necessitate an in -depth safety review of nuclear technologies for generation of electric power and their internal and external safety provisions. It is essential to reexamine the need for and safety of nuclear power plants not only for use in Lithuania, but also the two NPPs that Russia intends to build in the immediate proximity of Lithuania's major population centers and at locations with marginal water resources. The of water sufficiency resources to fight NPP fires, potential meltdowns and radiation effects must be considered for all extreme climate conditions and other types destructive events. Lithuania needs to request at the highest international levels for an assessment by an independent international team of all safety provisions that Baltiiskaya and Ostrovec NPPs (Fig. 3) will be equipped with. Self certifications by the building and operating countries of the NPPs are just not sufficient when the lives of the entire nation and its habitat are involved. Furthermore, inasmuch as a nuclear disaster can have devastating effects on neighboring countries, the reactor owning country should establish financial insurance deposits at the World Bank or a similar institution to cover losses, should they occur.



Figure 3. Future Russian Nuclear plants on both sides of Lithuania

In the writer's view, which is also supported by independent academic studies, the government in general and ENMIN in particular is over relying on studies produced by foreign consultants while disregarding analysis and recommendations of qualified experts in the country. It is known, that in many instances external consultants tend to produce studies supporting the purchaser's desired outcome, knowing that a satisfied customer, would give them a much better chance to win subsequent studies. According to the ENMIN, the consultant projected a bright future and very profitable financial outcome for Lithuania if the new NPP was to be built. It noted that after a dozen years, the new NPP would be like a "hen laying golden eggs". Unsaid was that Lithuania would have to wait for the first golden egg at least thirty years and hoping that the hen does not die in the meantime because of either old age or in the face of advancement of new technologies and other developments. Indeed, when all costs are taken into account, such as repayment of the NPP construction loan and interest, holding in ready reserve conventional power plant(s), storage of spent nuclear fuel, internal and external safety provisions, etc, very different conclusions could be reached. Furthermore, it is known, but not well publicized, that none of the world's existing nuclear power plants can survive without financial support of their respective governments. While large-scale nuclear power plant might be the most logical and cost-effective solution for energy resources poor Lithuania to assure energy independence, such comparative studies have not been made available to the public. It is the author's professional and considered opinion that Lithuania should evaluate and make public all available options for its citizens to decide the alternatives they would be willing to support rather than being bulldozed into a financial quagmire by a bureaucratic decree.

Concluding remarks

Although it is difficult to pin down precisely the causes for creating the current energy dilemma, one can observe that Lithuania's foreign and domestic policy imbalances have greatly contributed to the country's self-inflicted isolation and energy crisis. It creates the impression that diatribe on these issues by political parties, failure to recognize the critical energy situation by the Parliament, quest for quick personal gains, lack of attention to potential partners' energy concerns, insufficient attention to international political and energy interests and associated manipulations, and failure to conclude with their partners binding agreements, pushed Lithuania's energy independence in the foreseeable future into serious doubt.

Energy availability in the future requires long term (30-50 years) strategic planning that is independent and isolated from interference by political parties or special interest groups who are primarily interested in short term gains. Currently proposed solutions by ENMIN appear to be mostly tactical decisions to initiate activities that would address short term problems, but not to resolve complex and long term issues. It is of utmost importance for vitally important long term energy problems to engage all parties interested in finding solutions in order to assure the object, on which consensus has been reached, the best possible environment to survive, as Russia is doing for the Kaliningrad and Byelarussian NPPs.

For success, the decision maker needs to have a thorough and in depth understanding of all technical issues, because knowledge of just business or financial management is not sufficient to address all of the complexities and intricacies of the energy systems. Diminution of views of energy experts in important energy decisions and in many instances their replacement during reorganizations by individuals based on political party or family connections, threatens to reduce the competence needed to manage technical issues at many power generating and distribution facilities. Furthermore, management and distribution of financial resources without thorough appreciation of their effects either on the system or the various subsystems, exposes their functioning to severe disruptions and possible total collapse.

Shortly after closing the INPP first reactor, Lithuania had a relatively easy opportunity to resolve the energy problem in its favor. However, the delay for nearly four years to come to a decision helped Russia to turn around an unfavorable energy situation to its advantage. Current attempts to help remedy this unfortunate course of events are commendable, but might be too late, and most likely will lead to serious long term energy and economic consequences. Lithuania's people are now burdened by very high electricity prices and will have to face not only their further escalation, but also uncertainty in continuous supply of electricity and natural gas unless alternative energy measures are vigorously pursued and implemented. If the nuclear option is to be selected, consensus by the people is essential, and Latvian and Estonian participation need to be assured by documented agreements. Assistance of EU would be of great value in persuading all of the neighbors that the new NPP would be a win-win situation for all in the long run. To overcome the small market dilemma of the Baltic countries and to maximize their power generation efficiency, it would be of substantial benefit to create a joint Baltic Energy Authority, similar to the Tennessee Valley Authority. Its responsibility, under an oversight committee of the tri-country governments, would be to negotiate the purchase and import of gas and electricity, provide advice on most efficient power generating methods and equipment for future needs, raise the needed financing, and to facilitate planning and organizing the construction of power plants at the regional level, including coordination of their operations and power distribution. Such joint activity would motivate the EU to support the quest of the Baltic States for energy security and reduce, if not nullify, their current vulnerability to Russia's energy political power plays and price manipulations.