The Ignalina nuclear power plant in Lithuania. Photo: EPA/AFI

Lithuania's nuclear power dreams

Lithuania is pinning its energy hopes on keeping the nuclear plant at Ignalina open beyond 2009 and building a new nuclear power plant at the same spot. But many observers believe both projects are pipe dreams. 'The government should face reality.'

by Reiner Gatermann

The extension of the operating licence for the Ignalina nuclear power plant beyond December 31 2009 until at least mid 2012, the construction of a "new Ignalina" with an output of up to 3,400 MW, a power line to Sweden and a link initially to Poland and later to Germany – that's the energy wish list of the Lithuanian government. It is how Lithuania intends to address its energy isolation and break free of its dependency on Russia, the "monopolistic supplier".

But how realistic are these plans? Darius Montvila, a member of the supervisory board of the Lithuanian Electricity Organisation (LEO LT), which was formed in mid 2008, states with confidence that 'everything is under control'. The finance has largely been secured, he says, with the aim of 'creating a strong foundation for Lithuania's energy independence, integrating the country into the European energy market by constructing the interconnections and the new nuclear power plant.' But a degree of doubt would be well placed. All items on the wish list have run into considerable problems.

The hope of an extension to Ignalina's operating licence looks more like a pipe dream – one that can only be fulfilled with the approval of all 27 EU Member States. Vilnius has not even been able to convince the European Commission so far.

As regards to the new nuclear plant which is planned to be built in cooperation with Latvia, Estonia and Poland, the partners have signed only one letter of intent so far. Although the government maintains that negotiations have gone beyond the initial stages and concrete agreement will soon be reached, experts doubt this. They point out that Estonia is considering its own nuclear power plant, and that there is growing objection to the project in government circles in Poland. The Poles are increasingly asking themselves why they should invest in a project which is located more than 1,000 km from their primary market.

With regard to the power connections, Latvia and Lithuania have not even been able to agree on a joint landing site on their coast, and negotiations have been going on with Poland for more than 10 years, without concrete agreement being expected in the near future.

The icon and centrepiece of Lithuanian energy policy is Ignalina. The two large 1,500 MW reactors were brought into service in the north east of the country not far from the border with Belarus and Latvia in 1984 and 1987 to supply the western Soviet Union, which meant the three Baltic states and Kaliningrad. Following the collapse of the Soviet Union, the plant passed to Lithuania in 1991 and became a political football in negotiations with Brussels on Lithuania's accession to the EU. Lithuania had to promise to close the plant in order to become a member.

> *Reactors for the new nuclear plant will 'under no circumstances' come from Russia*

Today, a growing number of politicians – including Sweden's foreign minister, Carl Bildt, and Finland's former prime minister, Paavo Lipponen – as well as many energy experts, such as Professor Jurgis Vilemas, Chief Scientist of the Lithuanian Energy Institute, Chairman of the Senate at the Vytautas Magnus University in Kaunas and a member of the Lithuanian Academy of Sciences, believe that Lithuania was not treated fairly when it came to Ignalina. The nuclear power plant has been tarnished with the label of being a "Chernobyl reactor". The fact that the safety systems have been upgraded to the tune of several 100 million euros, with the biggest single grant coming from Sweden (nearly 50 million euros), did not play a role in the accession negotiations. The EU had already made it clear from the outset: no accession unless Ignalina is closed. Viktor Sevaldin, Director of the Ignalina plant for the last 17 years, asserts that, 'the reactor is half as powerful as Chernobyl and 100 times safer.' International experts support this view.

The Nuclear Safety Advisory Committee of Lithuania recorded its findings on May 15 2008. 'The Ignalina NPP seems to us to have achieved a safety level similar to that achieved by other plants around the world of comparable vintage.' The Committee sees no reason to shut down the reactor at the end of December 2009. In an individual statement, German committee member Jochen Peter Weber, Technical Project Leader of the German National Assistance Programme for RBMK (a certain type of Russian reactor, of which Chernobyl was an example) and a nuclear engineer at Berlin's Technical University writes, 'Nothing singles out the date of December 31 2009 as especially significant in terms of safety.'

But during Lithuania's accession negotiations, EU Commissioner Günther Verheugen announced in no uncertain terms: 'Whether the plant is safe or unsafe is not the matter under discussion.' A solution other than shutdown would be 'politically impossible'.

The Lithuanians were left with no option other than to accept. As a small country – though the largest of the three Baltic states with a population of 3.5 million - wanting to join the EU at all costs, Lithuania found itself in a politically weak position. In late 2007, soon after the accession, Reactor 1 was disconnected from the national grid. The accession treaty specifies December 31 2009 as the last day of production for Reactor 2. 'What one god gives, another takes away,' President Valdas Adamkus told journalists in a cynical, resigned tone. The President remarks, 'We don't understand the real reason why the EU insisted on closing the Ignalina plant, which is very safe operationally. Finland is building new nuclear power units, and Lithuania is being forced to close something that's not broken. If you ask whether it's unfair or not, I don't believe it is fair.' As Sevaldin stresses, 'There has never been a single reported incident at Ignalina.'

Dinosaur

In the small country of Lithuania, Ignalina rises up like a dinosaur from the Soviet past. An industrial complex in the middle of a flat, gentle landscape, it generates around 70% of the country's power supply. The name above the main entrance, written in Lithuanian and Russian, is the only official reminder of Soviet times. Inside the plant, which you are allowed to enter once you have passed a Soviet-style, though less sophisticated, safety check, all the information signs are almost exclusively in Lithuanian, as required by law. In contrast, the operating instructions and manuals are almost always in Russian. Over 80% of the staff are ethnic Russians, including Sevaldin. Despite this, he adamantly protests – in Russian – 'I'm a Lithuanian patriot,' a remark later commented on by a Lithuanian journalist: 'He is a typical relic from Soviet times.'

'If you ask whether it's unfair or not, I don't believe it is fair'

Ignalina was built by the Russians. They had their own town built especially for them, Visaginas, Lithuania's newest town and 10 km from the power plant. It is 50 km to the town of Ignalina. Work has started on dismantling the turbines in Reactor Hall 1. The radioactive rods are still in place in their containers in their original position. Storage facilities are lacking. The second reactor, originally designed for 1,500 MW, had already been reduced to 1,400 MW when it was brought into service in 1987, one year after "Chernobyl". Its capacity is now 1,300 MW. Ignalina still employs 3,000 people. 500 look after Reactor 1. If Reactor 2 is to be decommissioned, around 1,000 people would have to be laid off. Sevaldin makes the following calculations. After shutdown, maintenance of the plant would cost around 100 million euros a year. Over a period of 20 to 25 years, the total dismantling process would swallow up approximately 1 billion euros, 'and this money would have to come from the EU'. On the other hand, continuing operations until the middle of 2012 for example, when, according to the plant's director, large-scale replacement of the fuel rods would be necessary, 'could save the EU about 250 million euros a year'.

Clearly, Lithuania's attempts to have the EU extend the operating licence are still not regarded as hopeless within the government. In contrast, it is hard to find anyone outside the government who still "believes in miracles". For Arturas Racas, Editor-in-Chief at the Baltic News Service (BNS), the Ignalina shutdown is a "done deal". Key evidence of this was the reaction of José Manuel Barroso, President of the European Commission, when he ignored the request of Gediminas Kirkilas, the then Prime Minister of Lithuania, to comment on negotiations at a press conference following joint talks. Many believe that the government 'should acknowledge the reality of the situation'. It may be true that Lithuania was not treated fairly, but to go through the internal EU process of approving an extension to the operating licence would be 'out of all proportion', says Racas, as each and every Member State would have to give its consent, 'and this would never happen'.

The government is anticipating problems with power supply from 2010 if Ignalina's second reactor is shut down. An electricity deficit of 400 to 500 MW is feared. This could only be covered by increased imports of gas from Russia. And according to the Lithuanian government, it is uncertain whether Russia wants or will be able to supply such gas. In addition, this would cause production costs to triple and prices to the end consumer to double, not to mention a significant increase in CO_2 emissions. Professor Vilemas doubts it would come to this, calling it an 'exaggerated scenario'. 'Lithuania ultimately has overcapacity. Just as the shutdown of the first reactor had no negative impact on domestic supply, bottlenecks would not necessarily occur this time, provided that Lithuania mobilises its reserves.' He is referring to the period between August and September 2008, when the reactor was shut down for maintenance, 'and hardly anyone noticed.'

In 2007, Lithuania exported 1,372 GWh. Total production capacity runs to 4,822 MW, of which 1,300 is accounted for by Ignalina. The highest daily consumption was reached on January 26 2006 at 2,123 MW, which means that even without the nuclear plant, there would still be considerable room for manoeuvre. According to Vilemas, the absence of nuclear power, which accounted for 39% of production in 2005, could be offset by boosting production in the gas-powered thermal plants from 14% to 54%. But herein lies the Lithuanian dilemma: Where should the gas come from?

Russia today provides 100% of the country's gas and nuclear fuel, furthermore 97% of coal and 93% of oil are coming from the East. This causes great unease, with history since 1940 playing a significant role. Although President Adamkus talks of a desire for good relations characterised by respect, he quickly adds, 'Russia is playing games, and not only with us.'

The supply networks between the Baltic states, and with Belarus and Russia, are good, but they do not give the Lithuanians a feeling of confidence. They are therefore seeking links with the West, Central Europe and the Nordic countries. So far, there is only one 350 MW cable from the Baltic region between Estonia and Finland. Plans are in place for a 1,000 MW link from Lithuania/Latvia to Sweden, with the Baltic electricity market being integrated into Nordpool, the Nordic power exchange, and another 1,000 MW cable from Lithuania to Poland (154 km, cost approx. 237 million euros). Both cables are, according to today's plans, to be brought online in 2015. It is also

Director-General of the Ignalina nuclear power plant, Victor Shevaldin. Photo: Stringer/AFP/Getty Images

planned to install another 650 MW link from Estonia to Finland.

Visaginas

Then there is the new nuclear power plant. It was initially planned as a joint project between Estonia, Latvia and Lithuania, and each was to finance a third of the project. Then Poland declared its interest, and Vilnius suddenly insisted on keeping its third, with the rest being shared between the other three partners. Now Lithuania is demanding a majority share. This has caused much irritation. What's certain is that the plant will under no circumstances be called Ignalina 2. The town of Ignalina has been profiting from a leisure boom for some time and does not want to be associated with a new nuclear plant. As a result, the plant is to be named after the town built for the Russians, Visaginas (VAE), although the reactors will 'under no circumstances' come from Russia. Capacity up to a 'maximum of 3,400 MW' has been indicated, but 'it could also be less'. For every 1,000 MW, a cost of 1 billion euros has been estimated. According to LEO LT, it's full speed ahead as far as preparations are concerned. This includes the financing assurance process. The design and licensing process is set to begin in 2011; 11 drafts are currently in place. By 2013, the approval process is to be complete and work started on construction. The schedule envisages the launch of the reactor in 2018.

At any rate, this is the timetable envisaged by LEO LT. There are, however, a number of buts. Sevaldin notes: 'They have been talking about it for three years, and so far nothing has happened. If the partners do not adopt a completely new approach, nothing will come of it.' Racas, the BNS editor-in-chief, is somewhat bolder: 'I'm prepared bet any amount that no new nuclear plant will be built.'

> *'What one god gives, the other takes away'*

The persistence with which the "four-nation project" has been advocated in Lithuania is surprising, even when it is pointed out that, 'there has never been anything like it before'. Sceptics talk of "unrealistic expectations", mainly against the background of the financial crisis, which is also becoming more marked in the Baltic region. Professor Vilemas, renowned as Lithuania's leading expert on energy, sets out his own view: 'In my opinion one of the most realistic scenarios is that some large Western utilities (EON, RWE, Vattenfall, EnBW, EDF, etc.) will join the project with money and project management expertise. Lithuania can provide the existing site with all its infrastructure, experienced personnel etc. After completion of the interconnectors with Sweden, Poland and later maybe Germany, the construction of the new NPP in Lithuania for regional needs looks quite attractive. Some of these companies have already expressed interest in such an idea.' ■