

LET THERE BE LIGHT!

Information bulletin of Paks Nuclear Power Plant

LET'S LOOK AT THE WORLD ITSELF!

*“Good solutions are not fixed.
Only outdated ones remain so.”*

Jenő Wigner

In the past half-century, despite great and spectacular promises, no new energy source was discovered that could have covered the world's growing demand for power in such a cheap and environmentally clean way as nuclear power plants do.

Today, close to 440 reactor units are functioning all over the world, and for almost all of them, there are plans to safely extend their predetermined service life. This is particularly true in technologically more developed countries like the United States and Japan. In member states of the European Union more than one-third of the gross output of electricity is produced using nuclear methods, and there are plans for safely lengthening the service life of nuclear power plants in these countries, as well.

In Hungary the Paks Nuclear Power Plant by itself produces as much energy as the 20 other conventional power plants together, many of which will become outdated and stop functioning within a couple of years. If we do not want to be late, if we do not want Hungary to start the third millennium with an energy crisis, we can not lag behind.

In a couple of years, the licence of the first unit at Paks expires. Hungary needs to start extending the service life of its nuclear power plant.

THE ROLE OF PAKS IN HUNGARY'S POWER SUPPLY

*“If you failed to prepare,
You can prepare for failure.”*

Ede Teller

More than 20 years ago, on 14 December 1982, Hungary's first nuclear reactor started to function. It was followed by three more units in the next five years. According to international experts, our units have belonged to the frontline of nuclear power plant units of the world for many years. Paks has provided 36% to 40% of the country's energy production for decades. Almost every second light bulb, refrigerator, almost every second factory and plant, electric cooker, tram and trolley bus runs on energy produced by us.

CLEAN...

*“Wisdom is not when you understand things,
It is when you slowly get used to them.”*

János Neumann

Paks provides the country with clean energy. To replace the performance of Paks, even the whole renewable energy potential of the country is insufficient, since the amount of electricity produced in this way does not reach 15% of the performance of Paks. At the same time, energy produced in nuclear power plants is clean; it does not pollute the environment. Unlike virtually all other power plant types, nuclear plants do not strengthen the greenhouse effect, one of the most dangerous phenomena for our planet today.

If energy production at Paks was replaced by, for instance, a modern coal-fired power plant, in one year 10 million tons of carbon-dioxide would be released into the atmosphere, while it would consume as much oxygen as the woods of Hungary are able to produce within the same time period.

CLEAN, SAFE...

*“People are looking for the evidence that there is a solution.
Science is looking for the solution.”*

György Hevesy

Paks Nuclear Power Plant is as safe as the likewise modern power plants of the United States, Finland or France. The Hungarian nuclear power plant was the first in the countries of the Eastern Block which, already in the beginning, conformed to the current international safety regulations.

CLEAN, SAFE, ECONOMICAL...

*“Scientists describe things that exist.
Engineers create things that never existed.”*

Tódor Kármán

As for the costs, Paks can still wear the title of “the cheapest power plant in the country”, since in 2007 it sold electricity to distributors for 9.43 forints. In recent years the extent of the increase of costs did not exceed that of the inflation rate.

This nuclear power plant belongs to the small, but special group of industrial establishments which, during its operation, in a manner determined by the law, accumulates money in a separate state fund. We need to emphasize that this sum, contrary to what opponents of nuclear energy production claim, does include the costs of the tear-down operation and long-term waste management!

FUTURE AND FUTURE PROSPECTS

*“I support the democratic principle that
A narrow-minded person is worth as much as a genius.
But I detest the logic that two narrow-minded ones are
worth more than a genius.”*

Leó Szilárd

The future prospects of our nuclear power plant correspond well with its messages towards society, and can be expressed as follows:

- Assurance and enhancement of sincerity and transparency.
- Gradual enhancement of nuclear safety.
- Vindication of environmental interests.
- Production of electricity at an affordable price.
- Performance enhancement.

These are the reasons why it is necessary to lengthen our operation time. Having examined this possibility, Paks Nuclear Power Plant has already studied the projects that have to be completed concerning the know-how, permits and technology. The first step was taken in 2000, when a feasibility study was carried out.

POWER SUPPLY FOR FIFTY YEARS MORE

*“The main goal of science is simplicity.
What we call science today is everyday technology tomorrow.”*

Ede Teller

Paks Nuclear Power Plant has just entered its mature age. The feasibility study proved that, beyond the planned 30-year operation time, it can be kept in operation for 20 more years. Lengthening the operation time can be done without any technological or safety-related obstacles, while economically it is evidently beneficial.

According to the study, we have two very important tasks: preserving the good conditions and operability of the long-life instruments of the power plant, and replacing the rest. The condition study demonstrated that:

- Lengthening the operation time of the power plant can be done with no technological or safety-related obstacles.
- In the case of most of the systems and devices, lengthening the operation time does not require significant costs.
- In the case of a few systems and devices, reconstruction and serious investment will be needed.
- In the case of a few systems and devices, capacity enhancement might be necessary.

WHY WOULD WE NOT CHOOSE THE CLEANEST AND CHEAPEST?

“People do not believe that physics is simple only because life is so complicated.”

János Neumann

Since the cleanest and cheapest electricity is produced today in Paks, it would not be ethical to criticize our rivals. There are facts, however, that the feasibility study evidently supports. The most important of these is that lengthening our service life requires less investment costs than would be the case with gas power plants, and direct operation costs are lower, as well. Costs include payment liabilities to the Central Nuclear Monetary Fund (the price of the tear-down operation), and the expected costs of safety enhancement investments and the renewal of our operation licence.

Despite all this, we are still cheaper, which would not change even supposing that the price of uranium doubled or tripled.

WHAT SHOULD BE DONE?

*“After a couple of decades, the scientist must realize that almost every problem was solved by someone else not him.
But this should not discourage him from following his way to the future!”*

Tódor Kármán

In order to be able to keep in operation the units of the nuclear power plant in Paks for 20 more years beyond the planned life-span, we need to get its operation permit renewed. The first step is obtaining the nuclear safety provisional permit in 2008, and then getting the operation licence renewed in 2012.

This project is being carried out with the help of the most qualified and experienced professionals of the power plant. The safety and technological preparation, foundation and licensing of the above-mentioned project is a complex task.

**THE MOST IMPORTANT,
HOWEVER,
IS YOUR UNDERSTANDING,
SUPPORT AND
HELP.**