CONFERENCE ON ACCESSION
TO THE EUROPEAN UNION
- CZECH REPUBLIC -

Brussels, 17 September 2001

CONF-CZ 50/01 ADD 1

Document provided by the Czech Republic

Sixth Additional Information to the Position Paper on Chapter 14 "Energy"

Annex

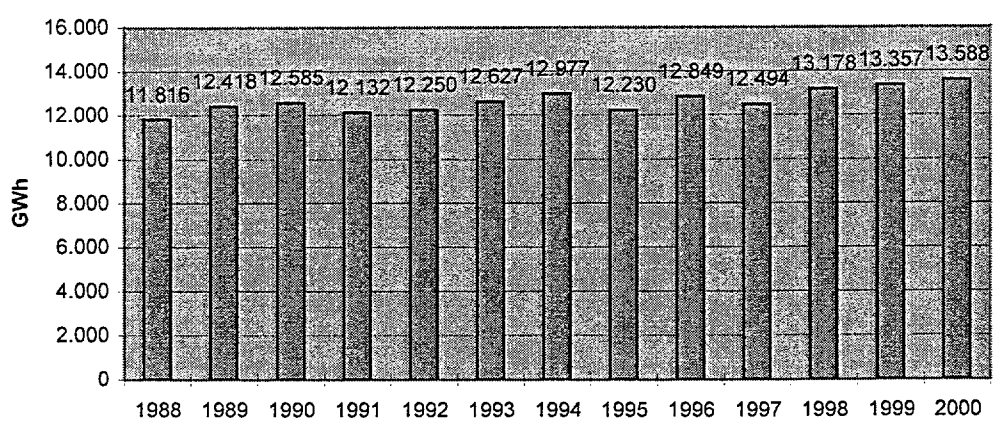
Basic Information on the Dukovany Nuclear Power Plant

1. The Operating Results of the Dukovany NPP and Comparison with EU Member States

The key operating parameters of the Dukovany NPP are compared with the nuclear power plants in the European Union. The Dukovany NPP compares favourably with other NPPs also in other parameters, apart from those shown here.

Electricity generation

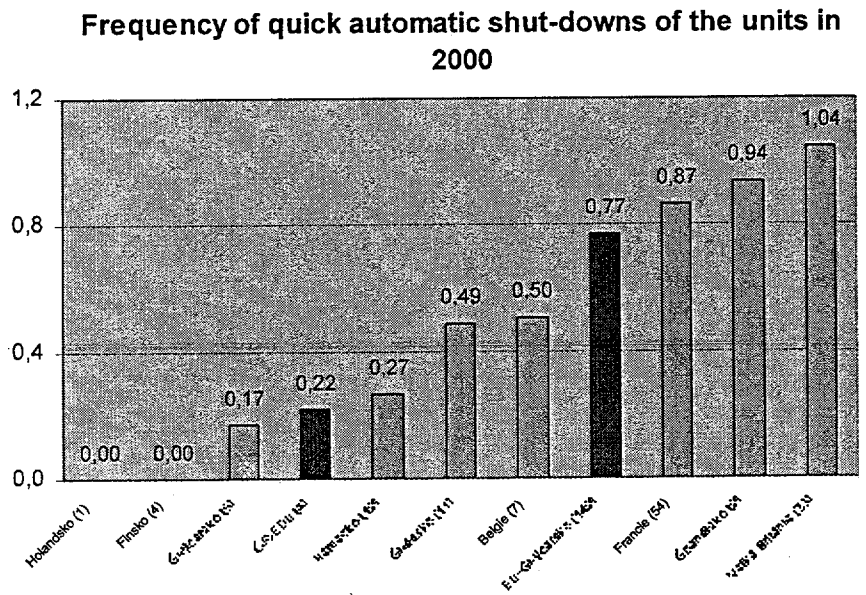
The annual electricity output of the Dukovany NPP ranges between 12000 - 13000 GWh. Just for illustration – in a coal-fired power plant the generation of this amount of electricity would involve the release into the air of about **14,000,000 tonnes of carbon dioxide**. The Dukovany NPP leaves just about **43 tonnes** of spent fuel after generating this volume of electricity. Four containers of the CASTOR type suffice to store this quantity of spent fuel.



Costs of Electricity Generation in the Dukovany NPP

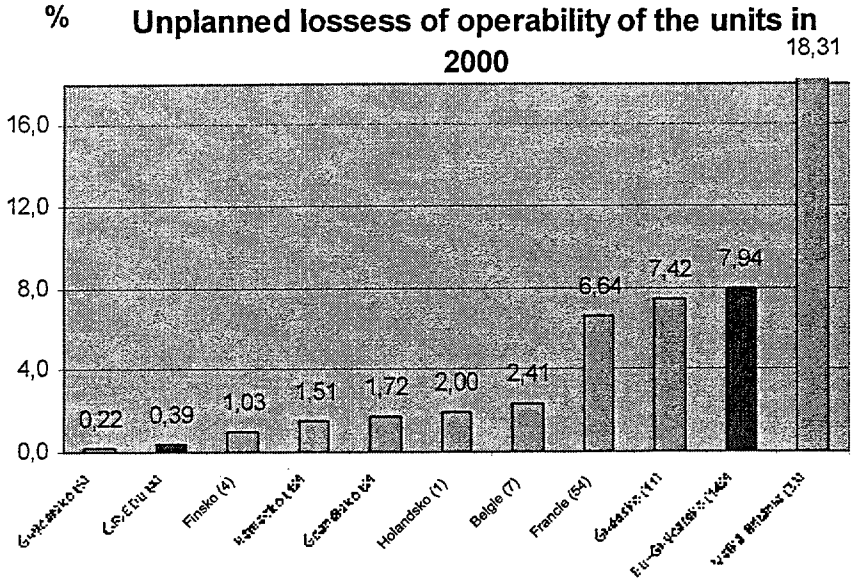
The specific costs of the electricity supply constitute the basic economic parameter for comparison both inside the Czech Republic and in the world. In the case of the Dukovany NPP these costs also include the costs associated with the termination of operation of the NPP (provisions for decommissioning and payments to the so-called nuclear account which is intended for financing the disposal of high-level radioactive waste, including also the disposal of spent fuel). The costs also reflect funds for securing internal readiness for the case of accident and also, to a considerable extent, for securing external preparedness. Hence, although the costs of electricity generation in the Dukovany NPP also include costs of activities which are to be performed in the future (which is not a normal occurrence in all areas of business activities), the **specific costs of the generation of electricity supplied from the Dukovany NPP amount to 0.60 CZK/kWh, which are the lowest costs of all major electricity generators in the Czech Republic.**

Nuclear Safety



The number of quick automatic shut-downs of the reactors per 7,000 hours of operation is an important indicator of the safety of operation. In 2000 there was just one such quick automatic shut-down of the reactor in the 3rd unit. Dukovany's outstanding performance is due to the simple and well-managed construction of the units and to the high professionalism of operation, combined with the reliable equipment.

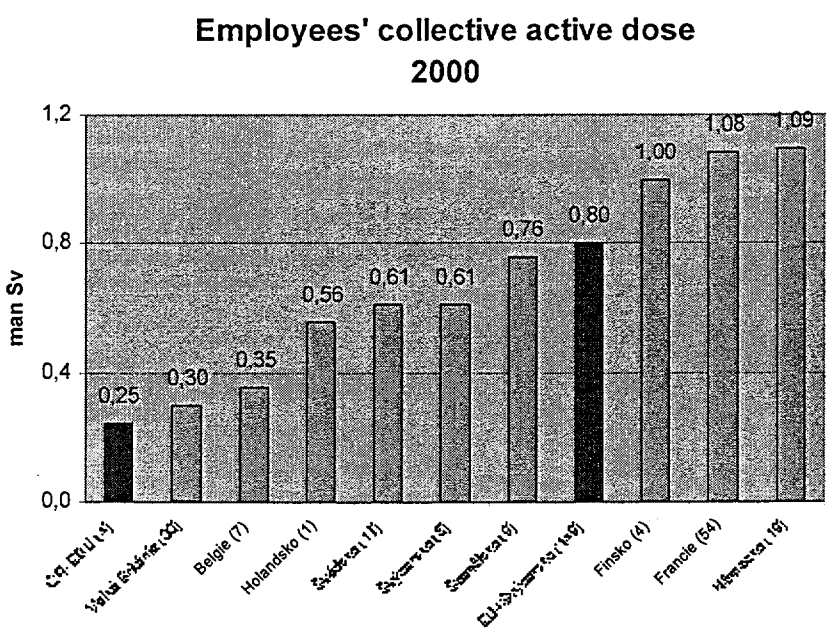
Reliability of operation



The unplanned operability loss parameter characterises very clearly the reliability of the operation of the nuclear power plant. It expresses the ratio of the losses in electricity generation for a certain period of time on the one hand and the maximum possible electricity output on the other. Considered as unplanned are all losses caused by unplanned shut-downs or unplanned reductions of the performance of the reactor units, and extension of shut-downs for fuel recharging.

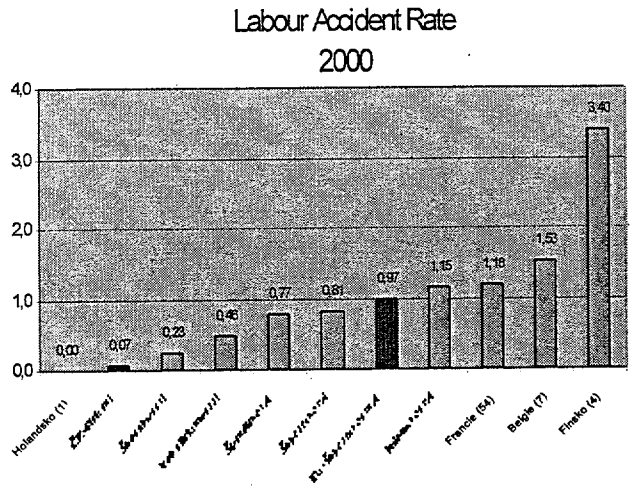
Radiation Protection of the Staff

The basic parameter for determining the staff's exposure to ionising radiation is what is called "collective active dose". This figure informs about the dose received by all employees who entered in the controlled zone of the power plant during the calendar year.



In the Dukovany NPP, the collective active dose remains constantly very low and the power plant belongs to the world leaders in respect of this parameter.

Labour safety



It is also in the labour accident rate (the number of injuries at work per 200,000 hours worked by the power plant employees) that the Dukovany NPP reaches good results, compared with other nuclear power plants. This is illustrated by the graph above. The high level of labour safety in the power plant is also documented by the ***"Safe Operation"*** certificate awarded to the Dukovany NPP by the Czech Office for Nuclerar Safety in September 1999: the Dukovany NPP is the first business in the energy area to have this certificate. To win it, the power plant had to undergo a comprehensive labour safety inspection exercise, which had favourable results.

Environmental Safety

The effect of the Dukovany NPP's operation on the environment in its vicinity

The only form of effect of the operation of the Dukovany NPP on the environment are the so-called liquid and gaseous discharges, evaporations and drift of water from the cooling towers, and the production of ordinary municipal waste. The technical solutions of the Dukovany NPP's systems completely eliminate any direct escape of ionising radiation outside the plant. Almost all the radioactive waste generated during operation remain inside the NPP and are treated to gain the form of concentrated solidified radioactive wastes which are stored in the radioactive waste repository on the premises. On an annual basis, the power plant produces about 43 tonnes of spent nuclear fuel (360 fuel assemblies). These assemblies are stored in the basins next to reactors for 5 years, on an average, and only then are they put in special containers in the spent fuel repository. Owing to the large proportion of usable material capable of further use, spent fuel is not classified as waste. Decision what to do with the spent fuel is left for the future because at the moment the reprocessing of the spent fuel to recover the usable materials offers poor economic parameters. But this may change.

To provide funds to finance the storage of spent nuclear fuel (if it is not reprocessed), or the storage of the radioactive residue from the reprocessing, and the disposal of all radioactive wastes produced during the operation of the nuclear power plant, ČEZ, a.s., the electricity generator, pays regular contributions to the so-called Nuclear Account in compliance with the Atomic Act and with Government Regulation No. 224/1997.

All parts of the environment around the Dukovany NPP are being continuously monitored. The monitoring is organised by the power plant and independent inspection is the responsibility of the pertinent state supervision bodies. The results of the monitoring clearly show that the operation of the power station does not lead to any adverse impact on the environment.

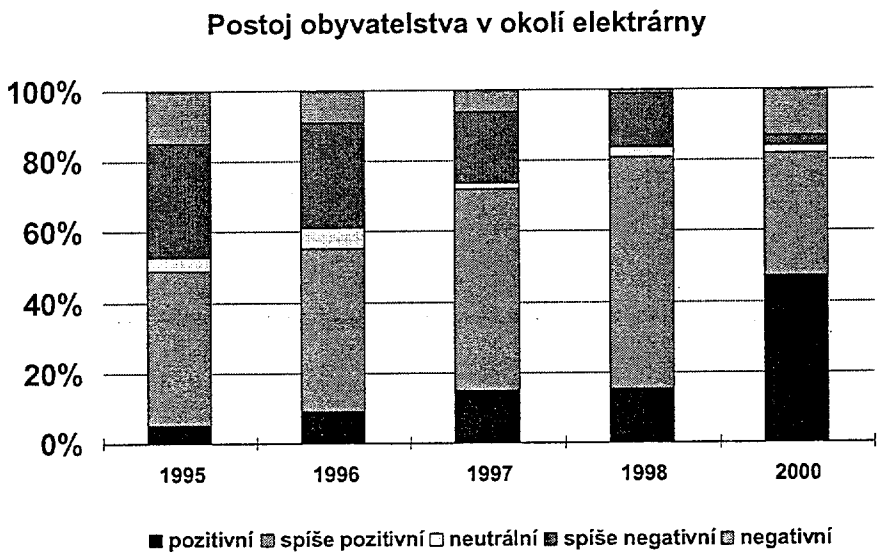
The Dukovany NPP's contribution to the radioactive exposure of the people living in the vicinity of the power plant is below the threshold of measurability by highly sensitive instruments – it completely fades within the normal fluctuation of the values of natural irradiation (the natural background represents an active dose of 2-4 millisievert per person per year, depending on the structure of the bedrock, on weather, altitude and other factors – the variation represents tens of percent, but the Dukovany NPP's contribution remains under a hundredth of a percent of the normal natural background: the "additional" radioactive exposure ascribable to the power plant represents fractions of a microsievert).

Environmental management

The Dukovany NPP is introducing a system of environmental management within the meaning of the ČSN EN ISO 14 000 standard.

3. Acceptability of the operation of the Dukovany NPP

(Attitudes of the population in the vicinity of the NPP)



(positive, rather positive, neutral, rather negative, negative)

In social terms, the Dukovany NPP is a significant stabilising element within the Třebíč region. It not only provides about 1600 jobs for the "core" employees but also creates a number of other jobs for the supplier companies operating in the region (contracts for the Dukovany NPP are of course important for many companies throughout the country). The money paid by the Dukovany NPP to its employees as wages as well as the money earned from contracts with the power plant by employees of the supplier firms represents significant funds supporting the development of trade and services in the region.

The positive social impact of the operation of the Dukovany NPP for the Třebíč region is among the factors favourably influencing the acceptability of the power plant by the people living around the power plant. Other important factors encouraging the Dukovany NPP's positive image in the region include active co-operation with the municipalities and the safe and reliable operation.

Note: The sources for the graphs are as follows: page 5: - information from ČEZ/Dukovany NPP;

Appendix - page 1 - ČEZ/Dukovany NPP, pages 2-3 WANO, page 5 – AISA Agency