

P. Horáček: Environmental view of the Czechoslovak energy sector at the end of the 20th century

The low efficiency of use of the primary energy resources and the fact that the main resource is low quality coal are responsible for the unsustainable load on the environment in many regions of the ČSFR. The atmospheric pollution caused by the transport sector has been relatively low. The basic strategy to limit the negative impacts is energy efficiency increase, introduction of desulphurization and denitrification in large coal-fired power plants, substantial limitation of burning coal in local heating systems and a prevention of a disproportionate development of the road transport system. It is necessary to apply all the tools of the market economy and all other means of a democratic society to achieve these objectives.

K. Prónay: Energetics and „green“ opinions of it

The Slovak „greens“ form the conception of the solution of the problems of energetics in CSFR into 4 main points according to the acuteness of their solution. Abolition or significant reduction of negative impacts of energetics on human environment is priority. Energetical system has to be changed gradually on the base of decrease of absolute energy consumption in industry that will be possible by restructuralization based on rational evaluation of all species of energy and preferention of ecologically acceptable moods of energy production. Ecological education of people and technical intelligence is an unavoidable condition. At the same time together with this has to be introduced a complex of legislative measures and a new fiscal policy.

A. Daňo: On energetical conception of Slovakia

The influence of energetics on human environment leads to unavoidability of radical saving of fuels and energy and to basic change of the approach to our organization of economy. The solution cannot be found inside energetics. The base of energetical conception of Slovakia ought to be rationalization of fuel and energy consumption by change in the structure of industry. Ecologically more acceptable variant of forming of new resources is the utilization of primary hydroenergetical potential. For renewable energy resources, especially in

local conditions new possibilities occur. In further development of nuclear energetics will be necessary to deal with the problem of safety seriously.

J. Kalvoda, J. Demek: Geomorphological specific features of chosen localities of nuclear power plants in CSFR

The authors point at the contribution of geomorphology as a science to complex evaluation of the suitability of chosen localities for nuclear power plants in CSFR in cooperation with other branches of Earth sciences. The article presents geomorphological evaluation of geodynamic processes in the localities Jaslovské Bohunice, Temelín, Tetov and Blahutovice. It stresses that in evaluation of the territories of large engineering works is necessary to set for scientists also the problems seem to be unnecessary or „inconvenient“.

P. Bobula: Influence of combustion of fossile fuels on human environment

One third of the production of electric energy for energetical network in Slovakia is realized by the production in classic thermal power stations, mostly brown coal is combusted. New laws and international agreements aim at the decrease of injurants in air included also into the programme of Slovak energetics. After the year 1995 the share of production of electric energy in Slovakia from atomic power stations ought to be 67 %, from hydro-electric power plants 15 % and from fossile fuels 18 %.

O. Bilík: Approach to reduce of air pollution in CSFR especially of sulphur dioxide

The author presents data about the trend of emissions of basic pollutants in CSFR. The most serious problems of energetics based on combustion of fossile fuels are the emissions of CO₂. Legislative measures and the introduction of new technologies are aimed at the decrease of emissions. One of these new technologies is coal desulphurization before its burning but it is complicated because of the various forms of the occurrence of sulphur in coal. The technology of coal gasification and fluidized bed combustion is quite promising. The author presents a survey of power plant capacity ranged in the program of desulphurization up to the 2000 year.

J. Demek, J. Kalvoda: Criteria of geomorphological evaluation of localities of nuclear power plants

The authors deal with geomorphological criteria precluding or limiting the possibilities of construction of nuclear power plants on certain areas (Tab. 1). They get to the conclusion that the present geomorphology contributes to the knowledge of geodynamical processes in the Earth's crust important from the viewpoint of safety of nuclear power plants. At the same time in interdisciplinary coordination they stress the necessity of a complex approach to evaluation of localities of nuclear power plants.

T. Hrnčiarová, P. Tremboš, L. Miklós: Erosion control of soil as a part of vegetating the agricultural landscape of Slovakia

The aim of the proposal is the maximum preservation of the quality and quantity of soil and water resources, as one of the most decisive conditions for maintenance of productional capacity of the landscape. It may be reached by ecological stability of arrangement and utilization of agricultural land by the means of the proposal of the „ecologically optimum“ spatial arrangement of agricultural plots especially from the viewpoint of protection against accelerated water and wind erosion.

A. Flak: The need of „ecologization“ of preparing of future participants in investment process

Our experts from the field of building industry in universities are specialized in technocratic view of preparation, projection and realization of buildings. Besides the bases of human and economical sciences ought to range to all plans of our building faculties also lessons from different spheres of law and especially of interpretation of legal rules and norms for protection and formation of human environment with the aim to form the ecological mind of school-leavers.

F. Parimucha: Nuclear energy and the human environment

The article brings a short history of nuclear energy utilization in CSFR from the prototype of power station with the output 150 MW_e up to the contemporary

capacity blocks with 440 MW_e. It gives a more detailed analysis of the influence of the crashed and withdrawn nuclear power station A 1. It contains data of the level of contamination and isotope composition of contaminants of underground waters, the bottom and banks of the river Dudváh and the canal Manivier. In the conclusion the author evaluates radiological effects of the production of the nuclear power station A 1.

Z. Kasanická: Why the biological ways of management

Biological management on soil is the most special variant of alternative agriculture. Its base is not to use chemicals on conditions of increase of soil fertility and equilibrium of agroecosystems. Nowadays the situation of the introduction of alternative agriculture is suitable because the Ministry of Agriculture and Food gives subventions for these ways of management. Individual farmers would become the pillar of biological management.

J. Dvořák: Safety of atomic power stations from geological viewpoints in the Czech districts

The authors evaluate our existing and half-finished atomic power stations from

geological point of view. The power stations Dukovany and Temelín are built on one of the most stable geological units of Europe — Moldanubicum. The author gives a critical analysis of the less suitable locality of the planned atomic power station in northern Moravia, by Blahutovice.

J. Lago: The influence of electromagnetic field of overhead lines on human organism

The problem of the influence of electromagnetic field of electrical equipments on living organisms is systematically investigated from the half of the seventieth, when in the world at the first time were built overhead lines of extra high tension 750—1200 kV for the transmission of energy for large distance. Investigation of the effects of electromagnetic field on human organism ought to establish permissible safe values valid for designers of high-tension equipments from the viewpoint of safety of persons appearing near them. The maximum intensity of electric field under the line or in 400 kV switching station reaches 15 kV · m⁻¹. This field induced in human organism currents from 0.5 to 0.23 mA lying in 50 % of human beings below the limit of perceptibility 0.36 mA. The results of investigation confirmed that in the surroundings of existing energetic equipments the human environment there is not damaged by their

electromagnetic field, but rather by poles and the size of forest rides near overhead lines.

M. Matrka, V. Rusek: Chemical carcinogens in the human environment

Besides artificial carcinogenous materials we can find also natural carcinogens in ecological localities. They may be a part of plants, fungi, products of mildews and certain materials may even advance their effect. Establishing of the permissible level of carcinogenous materials in the environment is problematic very much.

J. Haščík, V. Slugeň: Critical assembly SUR-100 in the Slovak Technical University

In the Electrotechnical Faculty of the Slovak Technical University in Bratislava is experimentally installed a nuclear-physical equipment — Critical assembly SUR-100 we have obtained as a present from the Technical University München. The equipment ought to serve for education of operational staff of the nuclear-physical and nuclear-energetical equipment.

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