

CONFERENCE REPORT

Second Polish-American Symposium „*Coal surface mining and power production against the environmental protection requirements*”.

The Second Symposium took place in Książ Castle, near Wałbrzych, between 26 and 28 September, 1978. The Conference was sponsored by Research and Design Center for Surface Mining „Poltegor” — Wrocław, and the United States Environmental Protection Agency. Managers of mines, consulting and research engineers as well as government officials from both sides have participated in the meeting. The American and Polish side has presented 10 papers each, encompassing topics such as environmental aspects of various methods of overburden removal, methods of reclamation in view of the new environmental laws forbidding direct stream discharge of mine drainage, forbidding unrestricted stripping of mountain tops and sides, as well as various wet techniques of desulfurization of coals and large scale air pollution control measures.

In Poland up to 40% of energy is supplied from bituminous and lignite coals mined by surface mining methods. Means of agricultural reclamation of stripped land and of overburden management were presented. Particular emphasis was placed on possibilities of afforestation and agricultural revegetation of toxic and nontoxic exhausted mine pits in Poland and in the United States.

Control techniques against water pollution resulting from coal mining and reprocessing into less polluting forms of fuels were outlined. Interrelations between soil, air and water phases were discussed.

World distribution of uranium, radium-226 and lead-210 was presented with discussion of air transport of these pollutants. It was stressed that current estimates of the emissions of these radioactive pollutants are well below the actual volumes discharged by both natural and man-made pollution sources.

Separate emphasis was placed on emissions of pollutants from the coal residues piles. For example, in United States alone annual emissions of air pollutants from open-burning coal residues are estimated to be $3,9 \times 10^7$ kg of sulphur oxides, $3,4 \times 10^7$ kg of nitrogen oxides and up to $4,5 \times 10^9$ kg of carbon monoxide. Large emissions of polyaromatic hydrocarbons, hydrogen sulphide, ammonia and mercury were also found.

The major problems encountered in the case of coal refuse storage are, beside spontaneous burning, the erosion, the acid drainage and loss of structural stability. The need for proper containment of the refuse pile, cutting the percolation rate, protecting from the wind action and compaction of waste dumps to avoid structural deformation and pile movements were stressed.

The discussion were conducted within the framework of environmental quality requirements and regulations binding in both countries.

The listing of papers follows :

- R. HILL : Overview of the United States Environmental Research Programs Related to Coal Extraction and Conversion through the Year 2000.
- W. WITEK : Projections of the Power Production in Poland to the Year 2000 with Particular Consideration of Lignite Surface Mining and the Connected Main Tasks in the Environmental Protection.
- B. LOY : Present and Future Coal Extraction Technologies in the United States.
- J. MARTIN : Coal Refuse Disposal Practices and Challenges in the United States.
- W. WYSOCKI : Reclamation Practices of Coal Refuse and of Fly Ash Disposal.
- R. WILLIAMS : Legislation and Regulations Controlling Coal Extraction and Conversion in the United States.

- R. KRAUS : Legislation and Regulations Controlling the Surface Mining of Lignite and the Protection of Environment in Poland.
- R. D. HILL : The impacts of Coal Mining on Surface Waters, and Control Measures Therefore.
- H. JANIAK : The Impacts of Lignite Mining on Surface Waters and Control Measures Therefore.
- J. E. HARDAWAY : Coal Mining and Ground Water.
- J. LIBICKI : The Impacts of Lignite Open-Pit Mining and Conversion on Ground Waters and Control Measures Therefore.
- W. R. CURTIS : Successful Revegetation of Coal Mined Lands in the United States.
- K. BAUMAN : Attempts of Agricultural Recultivation of Mined out Toxic Terrains.
- S. MCPHILLIAMY : Environmental Consequences of Coal Mining in Eastern United States.
- J. KUCOWSKI : Selected Problems of the Environmental Protection in the Designing of Coal Fired Power Plants and Power Grids.
- T. THOEM : The Impacts of Coal Extraction and Conversion on Air Quality and Control Measures Therefore.
- L. PINKO : Atmospheric Pollution in the Surroundings of Large Thermal Power Plants and Control Measures.
- S. R. WASSERSUG : EPA New Source Surface Mining Requirements and Application in West Virginia, USA.
- Z. JAWOROWSKI : Global Distribution and Sources of Uranium, Radium-226 and Lead-210.
- The proceedings of the Symposium will be published in English and in Polish in the immediate future

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