

C O N T E N T S

Opening session

Introduction by the Chairman J. LUX, Charbonnages de France, Paris	3
Opening speech J. SIERRA, Director of the directorate 'Coal', Directorate-general 'Energy', Commission of the European Communities	4
Welcoming address J. LAHURE, Secretary of State for Economic Affairs, Grand Duchy of Luxembourg	10
Information technology in a modern mine M.S. SHELTON, British Coal Corporation, United Kingdom	11
Strategy for the introduction of microelectronics in coal mines F.J. RAUHUT, Bergbau AG, Niederrhein (Duisburg), Federal Republic of Germany	24
First technical session : Remote monitoring and control	
Introduction by the Session Chairman J.I. ARTIEDA-BOSQUETS, President of Empresa Nacional Carbonifera del Sur S.A., Madrid, Spain	37
Control and monitoring of coal winning districts by computer-based control centres : experiences and future developments W. OSTERMANN, Bergbau AG Niederrhein, Bergwerk Friedrich Heinrich, Federal Republic of Germany	39
Automation at the coal faces N. CZAUDERNA, Bergbau AG Niederrhein, (Duisburg), Federal Republic of Germany	56
Selby spine belt management and control system D. MOORE and I. BEXON, British Coal Corporation, Selby, United Kingdom	65

Control system for hydraulic coal transport network at Sabero colliery	
J.L. FUENTES-CANTILLANA, Aitemin, Madrid; A. GULLON, Hueleras de Sabero y Anexas, Léon, Spain	79
The PHONESAFE long-distance radio communication system for underground	
J.M. HUN, Lorraine Coalfield, Merlebach; M. NOEL, Centre d'Etudes et Recherches des Charbonnages de France, Verneuil-en-Halatte, France	88
A decentralised system of remote control	
P. LAVIGNE et J. NIJS, Kempense Steenkolenmijnen, Belgium	103
Round Table A : Remote monitoring and control	120
Second technical session : Management information systems : Colliery	
The collection and utilisation of information by computer to assist in the operational management of Shirebrook colliery	
W.T. STEEL and V.P. ALEMAN, British Coal Corporation, United Kingdom	137
Integrated system for monitoring a whole mine (safety, production, etc.) at Gardanne colliery (Provence coalfield)	
J. DARET, Provence coalfield; P. COILLARD, Lorraine coalfield; P.Y. SAINT, Centre d'Etudes et Recherches des Charbonnages de France, Verneuil-en-Halatte, France	154
Data acquisition and information system related to operations and safety at Westerholt colliery	
W. BREER, Bergbau AG Lippe, Bergwerk Westerholt, Federal Republic of Germany	170
The application of expert systems to colliery mining problems	
K.E. BODKIN, British Coal Corporation, United Kingdom	198
Application of expert systems to mine safety inspection	
J. SAMANIEGO BORDIU, F. SILVA CASTANO and D. ALARCON ROJAS, Aitemin, Madrid, Spain	206
Knowledge-based systems for underground operations monitoring	
J. STEUDEL and F. HÜRTGEN, Bergbau-Forschung GmbH, Essen, Federal Republic of Germany	213
Utilization of experts systems for machine fault diagnosis	
J. DEMOULIN, Charbonnages de France; P. VILLENEUVE DE JANTI, CERCHAR, France	222
Round Table B : Management information systems : Colliery	229

Third technical session: Management information systems: Planning and reliability	
Principles of acoustic radar for fault detection P. DELOGNE, Catholic University of Louvain, Belgium	237
In-seam seismics : experience and progress in the United Kingdom P.J. JACKSON, P.M. TAYLOR and D.J. BUCHANAN, Headquarters Technical Dept, British Coal Corporation, United Kingdom	257
In-seam seismics : a tool for the management of deposits P. SCHROETER and F. DOUAY, Technical Dept of Charbonnages de France, France	278
Novel information systems in mine surveying in order to improve productivity and safety in the coal industry H.-J. PALM, Bergbau AG Lippe, Federal Republic of Germany	301
A performance and condition based maintenance system at Bagworth Colliery R.P.H. DEAN, Bagworth Colliery, United Kingdom	311
Round Table C : Management information systems : Planning and reliability	330
 Final session	
Conclusions and outlook E. HORTON, British Coal Corporation, United Kingdom	339
Closing address F.W. KINDERMANN, Commission of the European Communities, Directorate-general for Energy	341
 List of Participants	 343
 Index of Authors	 359