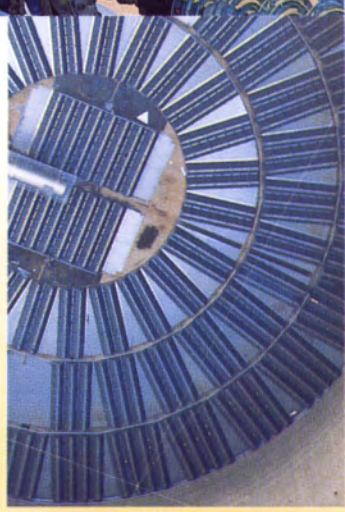
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# PROFILE OF ESKOM

## MISSION

Provide the means by which customers' electricity needs are satisfied in the most cost-effective way subject to resource constraints and the national interest.

## STRATEGY

To develop Eskom as a business that maximises the value of its products and services to South Africa.

## PHILOSOPHY

• Customer focus • Superior performance • Respect

Eskom supplies more than half the total electricity consumed in Africa. At the end of 1993 it had total assets of R44,4 billion, turnover for the year was R13,8 billion and net income was R1,6 billion.

Eskom is an independent, self-financing utility managed on business principles for the benefit of customers. It has no shareholders, is a separate legal entity and is funded entirely from debt and accumulated reserves.

Eskom operates under the Eskom Act of 1987 and the Electricity Act of 1987. Its policies are determined by the Electricity Council, which consists of representatives of customers' interests, organised labour and the government. The Management Board, appointed by the Council, is the executive body responsible for the day-to-day running of Eskom.

Eskom's 25 power stations have a nominal capacity of 39 746 megawatts (MW). The total network comprises 238 964 kilometres (km) of power lines. Electricity is distributed country-wide and exported to neighbouring countries. Eskom imports power from Namibia when necessary.

Eskom produces more than 97% of South Africa's electricity. It supplies most mines and many industries direct whilst 44% of its electricity is sold to local authorities who resell it to end-users. On request from some local authorities and communities, Eskom's direct supply to households and small business is increasing. Eskom's marketing thrust is towards bringing electricity, where appropriate and cost effective, to households and consumers still using other energy sources.

Eskom affords equal opportunities to all its employees. Merit is a decisive factor in advancement and remuneration. Employees are encouraged to develop their potential through training. Efforts are made to uplift disadvantaged individuals to enhance their contribution within the organisation and society at large.

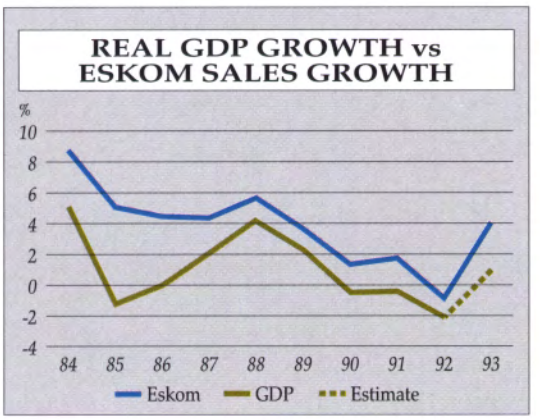
Eskom is committed to being an efficient and effective organisation. It is also making electricity available at the lowest possible price to all in South Africa who want it and can afford it. Eskom supports a regional transmission grid to encourage cooperation and accelerate economic growth in southern Africa.

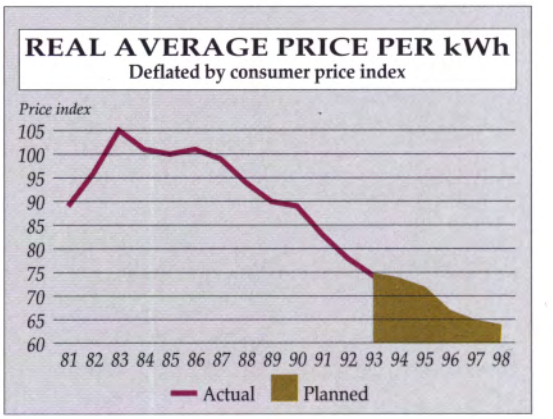
# SALIENT FEATURES

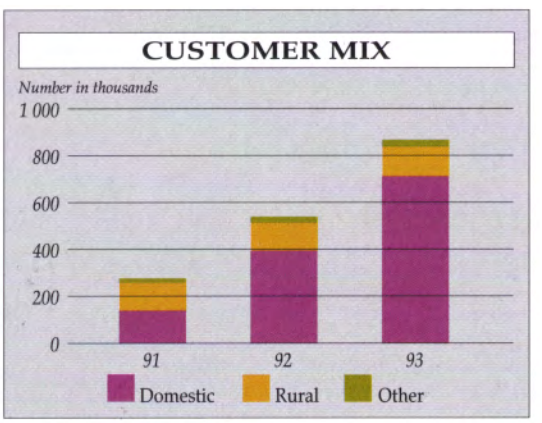
| | 1993 | 1992 | Change 1992 – 93 | Average yearly change 1989 – 93 |
|---|---|---|---|---|
| | | | % | % |
| **FINANCIAL** | | | | |
| Turnover, Rm | **13 793** | 12 649 | 9,0 | 11,1 |
| Net income, Rm | **1 646** | 1 489 | 10,5 | 15,1 |
| Fixed assets in commission, at cost, Rm | **45 623** | 42 688 | 6,9 | 9,2 |
| Works under construction, Rm[1] | **3 552** | 3 115 | 14,0 | – 8,4 |
| Net expenditure on fixed assets, Rm | **3 591** | 3 242 | 10,8 | – 0,5 |
| Net interest-bearing debt, Rm | **28 027** | 27 616 | 1,5 | 4,2 |
| Average price per kWh sold, cents | **9,59** | 9,16 | 4,7 | 8,8 |
| Average total cost per kWh sold, cents | **8,45** | 8,08 | 4,5 | 8,3 |
| **OPERATIONS** | | | | |
| Electricity sold, GWh | **143 800** | 138 126 | 4,1 | 2,1 |
| Coal burnt in power stations, Mt | **75,9** | 71,0 | 6,9 | 3,3 |
| Water consumed by power stations, Mℓ | **228 500** | 226 240 | 1,0 | – 2,8 |
| Peak demand on integrated system, MW | **23 169** | 22 640 | 2,3 | 2,4 |
| | **(22.06.93)** | (08.07.92) | | |
| **ASSETS IN COMMISSION** at 31 December | | | | |
| Nominal capacity, MW | **39 746** | 39 060 | 1,8 | 3,7 |
| Net maximum capacity, MW | **37 636** | 36 846 | 2,1 | 3,6 |
| Power lines (all voltages), km | **238 964** | 233 109 | 2,5 | 3,4 |
| **STAFF EMPLOYED** | | | | |
| at 31 December, number[2] | **40 128** | 42 223 | – 5,0 | – 6,7 |

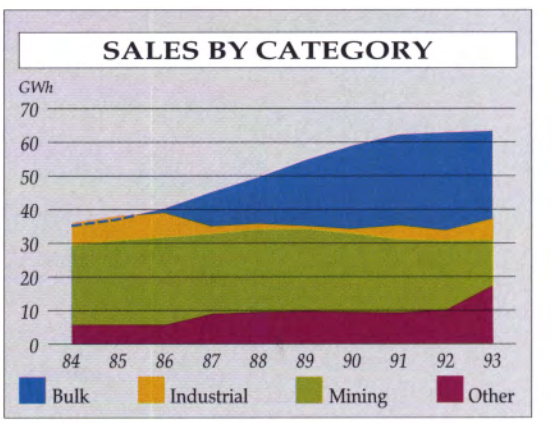
*1. Includes construction materials.*
*2. Excludes employees of subsidiary companies.*

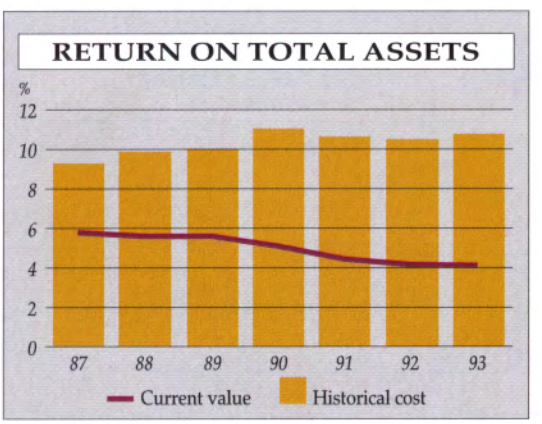
# AT A GLANCE

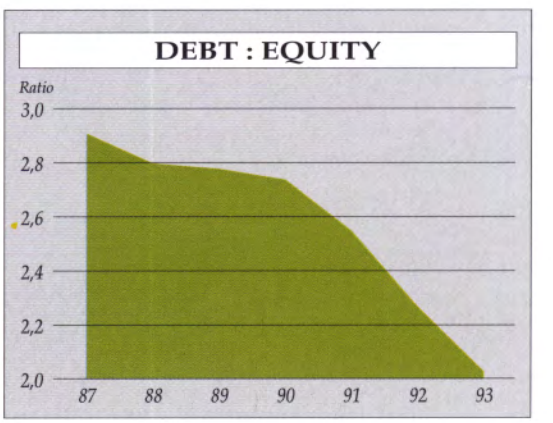

REAL GDP GROWTH vs
ESKOM SALES GROWTH
%
10
8
6
4
2
0
-2
-4
84 85 86 87 88 89 90 91 92 93
Eskom
GDP
Estimate


REAL AVERAGE PRICE PER kWh
Deflated by consumer price index
Price index
105
100
95
90
85
80
75
70
65
60
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98
Actual
Planned

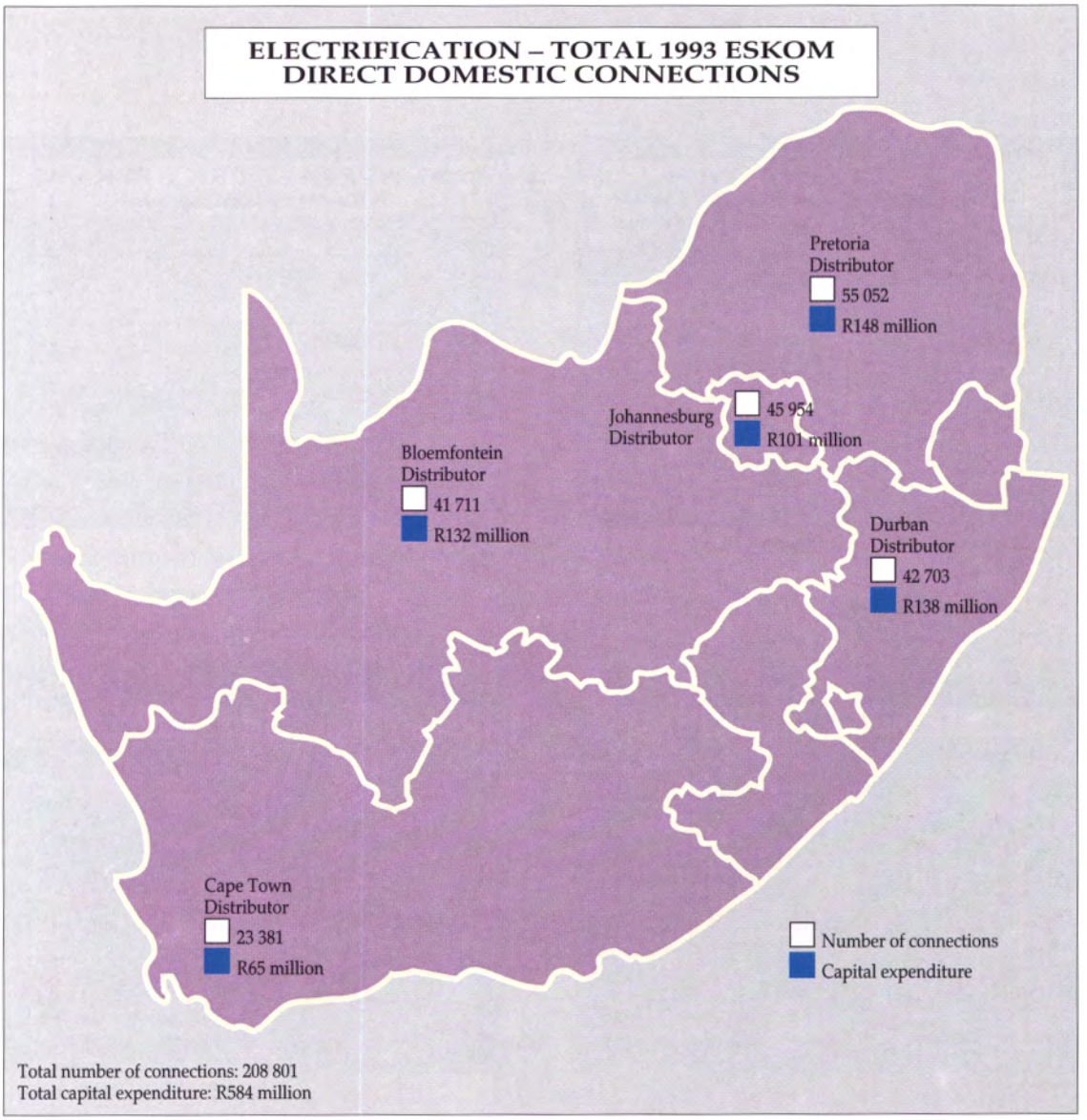

CUSTOMER MIX
Number in thousands
1 000
800
600
400
200
0
91
92
93
Domestic
Rural
Other


SALES BY CATEGORY
GWh
70
60
50
40
30
20
10
0
84 85 86 87 88 89 90 91 92 93
Bulk
Industrial
Mining
Other


RETURN ON TOTAL ASSETS
%
12
10
8
6
4
2
0
87 88 89 90 91 92 93
Current value
Historical cost


DEBT : EQUITY
Ratio
3,0
2,8
2,6
2,4
2,2
2,0
87 88 89 90 91 92 93

# AT A GLANCE - ELECTRIFICATION

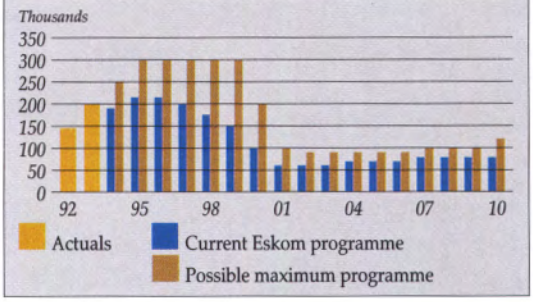



## ELECTRIFICATION PROGRESS

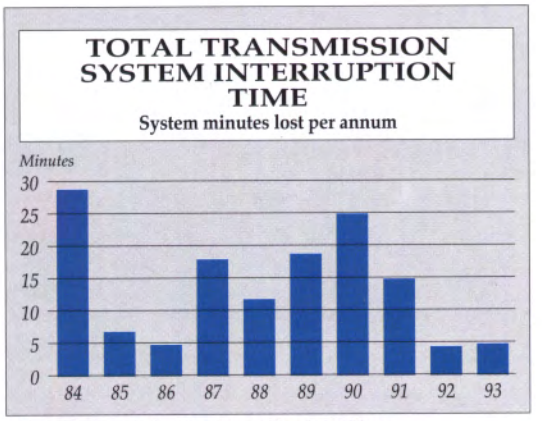
| Number | January 1991 up to December 1992 | 1993 | Inception to date |
|---|---|---|---|
| Direct domestic connections | 176 557 | 208 801 | 385 358 |
| Farm worker connections | 12 698 | 16 074 | 28 772 |
| Incentive indirect connections | 22 622 | 69 756 | 92 378 |
| Total connections | 211 877 | 294 631 | 506 508 |
| Total capital expenditure (Rm) | 472 | 584 | 1 056 |

## ELECTRIFICATION PROGRAMME

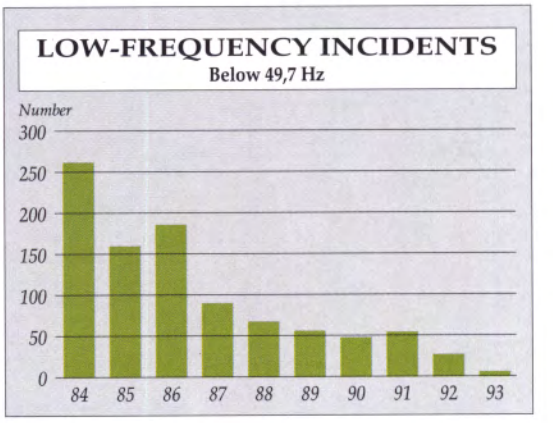
Annual connections

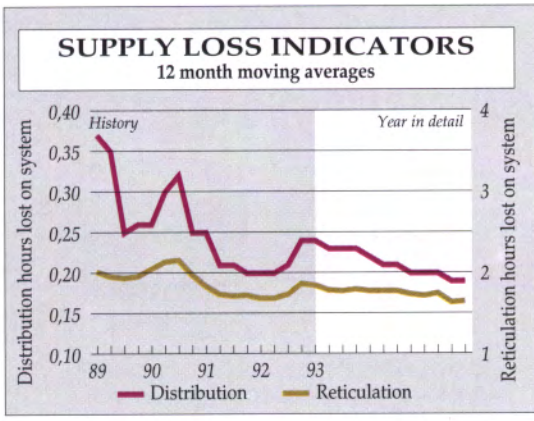


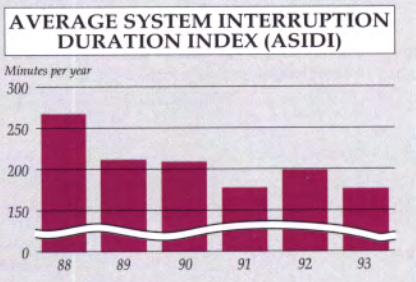
# AT A GLANCE - TRANSMISSION AND DISTRIBUTION




* This graph excludes the effect of load shedding.



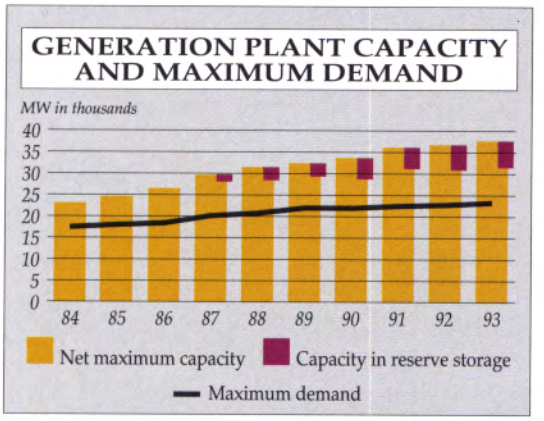



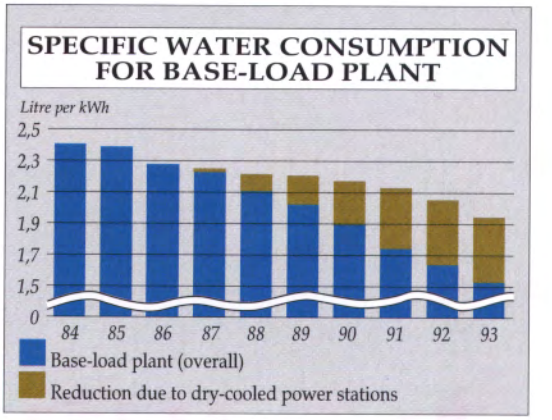

Eskom is adopting the ASIDI indicator to allow for international comparisons. This will replace the suppy loss indicators in future.

# AT A GLANCE - GENERATION

## GENERATION PLANT CAPACITY AND MAXIMUM DEMAND

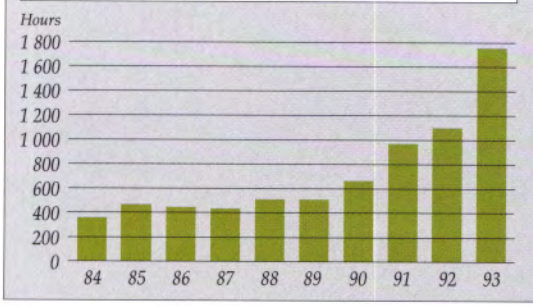



## SPECIFIC WATER CONSUMPTION FOR BASE-LOAD PLANT



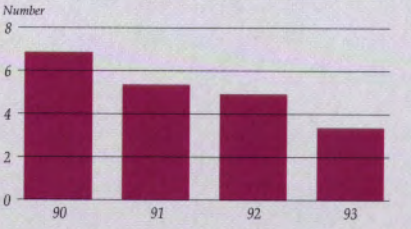

## GENERATION PLANT RELIABILITY

Weighted mean time to trip (WMTTT)



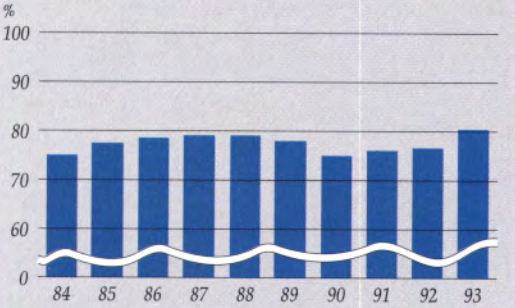

## UNPLANNED AUTOMATIC GRID SEPARATIONS

per 7 000 operating hours per unit

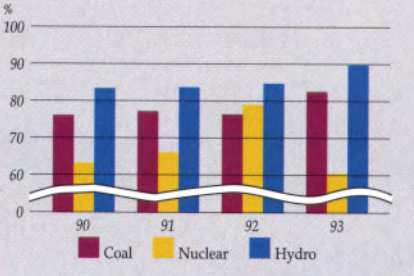



Eskom is adopting the international UNIPEDE indicator. This will replace the WMTTT indicator in future.

## GENERATION PLANT AVAILABILITY



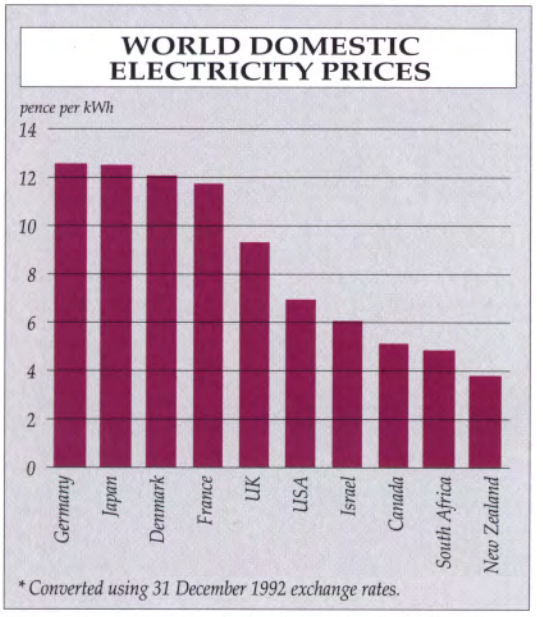

## UNIT CAPABILITY FACTOR



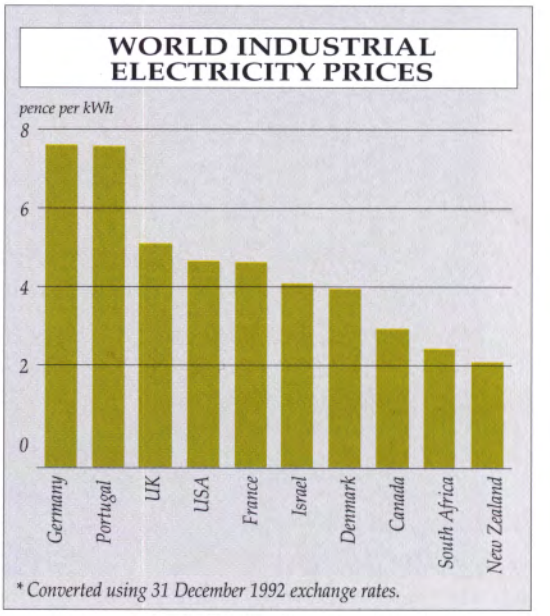

Eskom is adopting the international UNIPEDE indicator. This will replace the generation plant availability indicator in future.

Generation plant availablity and unit capability factor international achievements lie within the 90% zone.

# AT A GLANCE - INTERNATIONAL COMPARISONS




Price per kilowatt-hour*, including local taxes and VAT, from a representative utility in each country for a customer on standard domestic tariff using 3 300 kWh per year, as at 1 January 1993.
*Source : Condensed from Electricity Association Services International Electricity Prices. Issue 20.*



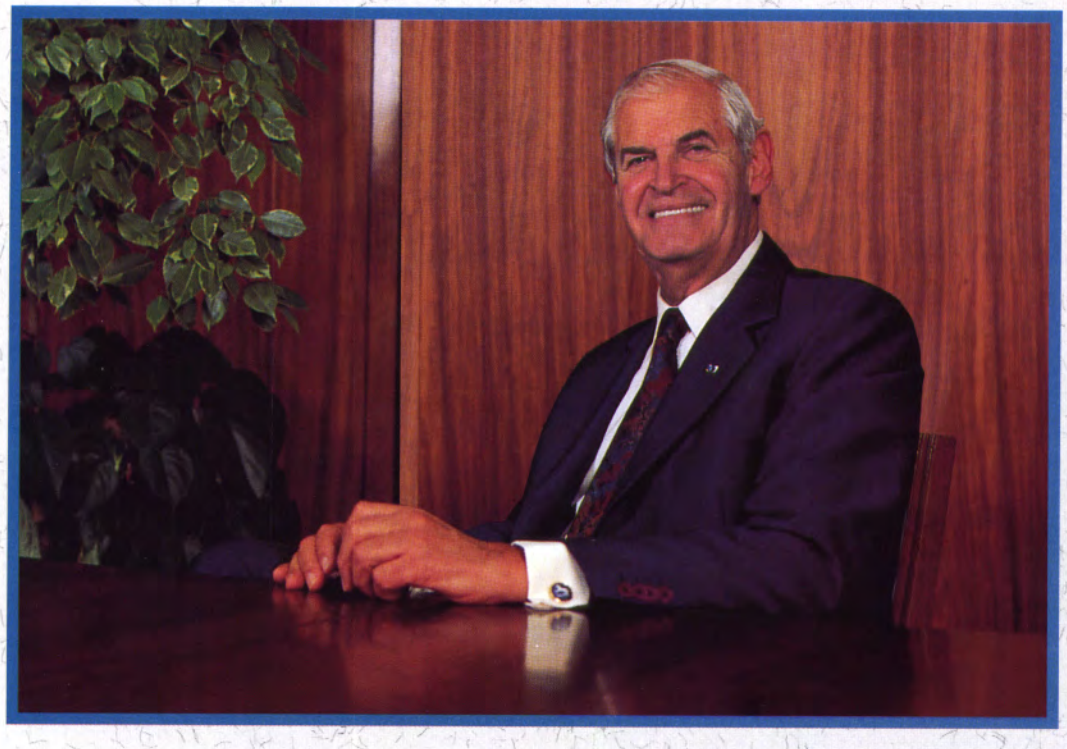

Price per kilowatt-hour*, including local taxes but excluding recoverable VAT, from a representative utility in each country for a typical 2,5 MW, 40% load factor supply, as at 1 January 1993.
*Source : Condensed from Electricity Association Services International Electricity Prices. Issue 20.*

## MAJOR ELECTRICITY UTILITIES IN THE WORLD

| Utility | Country | Sales GWh | Rating by sales | Nominal capacity, MW | Rating by capacity |
|---|---|---|---|---|---|
| EDF | France | 343 800 | 1 | 95 800 | 1 |
| TEPCO[1] | Japan | 230 052 | 2 | 48 386 | 2 |
| ENEL[2] | Italy | 194 060 | 3 | 47 629 | 3 |
| Hydro-Quebec | Canada | 144 553 | 4 | 28 145 | 7 |
| Eskom | South Africa | 138 126 | 5 | 39 060 | 4 |
| Ontario Hydro | Canada | 128 349 | 6 | 32 231 | 6 |
| RWE[3] | Germany | 125 402 | 7 | 26 120 | 8 |
| Kansai Electric Power Co.[1] | Japan | 122 562 | 8 | 34 659 | 5 |
| Korea Electric Power Co. | South Korea | 115 244 | 9 | 24 120 | 10 |
| TVA[4] | USA | 112 402 | 10 | 25 618 | 9 |
| National Power[1] | United Kingdom | 108 600 | 11 | 24 090 | 11 |
| Chubu Electric Power Co.[1] | Japan | 103 239 | 12 | 23 508 | 12 |
| Taipower | Taiwan | 85 290 | 13 | 19 234 | 13 |

All data for the year ended 31 December 1992, except for the year ended as follows:
[1] 31 March 1993 [2] 31 December 1991 [3] 30 June 1992 [4] 30 September 1992
*Source : Tokyo Electric Power Company Statistical Review – September 1993.*

# CHAIRMAN'S STATEMENT



DR J. B. MAREE
*Chairman of the Electricity Council*

"THE LIVES OF A FURTHER THREE MILLION PEOPLE HAVE BEEN CHANGED BECAUSE ELECTRICITY BECAME AVAILABLE TO THEM."

# FINANCIAL OVERVIEW

The past year saw the beginning of a recovery in the South African economy and a return to positive growth. However, considering the lacklustre economic climate which prevailed over much of the period, Eskom had a most satisfactory year. While the gross domestic product rose by 1,1%, electricity sales volumes rebounded in 1993, increasing by 4,1% compared with 1992 sales. This is the largest growth in the past five years and is a positive change following the previous year's volume decline of 0,4%. Sales revenue accordingly increased to R13 793 million in 1993.

Concerted efforts to curb operating costs continued during the year. The fact that costs were contained while the number of new household connections increased can be attributed to rigorous financial discipline, stringent cost control and increased productivity through the efficient and effective management of all Eskom's resources. Although there has been an improvement in payment levels, continuing non-payment by a number of local authorities and communities made it necessary to create additional provisions for arrear debts. Net income nevertheless increased from R1 489 million in 1992 to R1 646 million in 1993.

To account for the effects of inflation and to assist readers in assessing Eskom's real financial performance, current value financial statements have been included in the annual financial statements for the first time. Net income on a current value basis amounted to R359 million (1992: R158 million). This net income is considered appropriate in the light of the current and future business risks to which the organisation is exposed.

The corporation's balance sheet has also strengthened. The net capital expenditure of R4 041 million was entirely funded by internal cash flow. The debt-equity ratio accordingly improved from 1992's 2,27:1 to 2,03:1.

By ensuring that funding requirements were actively managed and appropriately hedged, Eskom was able to reduce the risks associated with the fluctuations in the financial markets and their bottom-line impacts. It was able to borrow modest amounts in Europe and to satisfy the balance of its funding requirements locally without putting pressure on the South African capital markets.

Taking advantage of the prevailing favourable conditions in the South African markets during 1993, Eskom launched the Electrification Participation Note, which is designed to share risk between Eskom and investors and to provide a vehicle for investment in socially responsible projects. Eskom also launched a new bond, the E172, which has been well received and well traded since inception. Continued support by existing overseas investors and a material increase in new investment in Eskom bonds towards the end of last year, demonstrated a new wave of investor interest in South Africa.

Eskom's treasury continues to be conservatively and properly managed. It is gratifying that it received exceptionally favourable comment after a risk audit by a group of independent international consultants

# MARKETING DRIVE

In its ongoing quest for sales growth, Eskom has undertaken a concerted marketing drive and has actively competed for profitable new customers in the industrial,

commercial and agricultural sectors. Focusing on the needs of customers and promoting appropriate products, processes and equipment is an important marketing thrust. An increasing number of customers benefited from Eskom's comprehensive advisory services which are tailored to meet the requirements of particular segments of the market.

At the same time, Eskom is aware of the international trend towards energy conservation. It has embarked on a customer advisory service to promote energy efficiency in the longer term.

## REDUCTION IN THE REAL PRICE OF ELECTRICITY

Price stability and predictability for all customers and stakeholders in Eskom are important advantages resulting from the organisation's 1991 undertaking to reduce the real price of electricity by 20% by 1996. Eskom remains on track in honouring this commitment. The Electricity Council has approved a price increase of 7% for 1994, which is the lowest annual price increase since 1984 and is expected to again be below the consumer price index rate of inflation for the year. This will be the eighth consecutive year that it has been below the national rate of inflation.

The fact that South Africa has the second cheapest electricity in the world is not only a matter of great satisfaction to Eskom, but it also gives South African energy-intensive industries a competitive advantage in international markets.

## NON-PAYMENT

To normalise the electricity supply to households in a number of towns and by so doing encourage a return to payment for the use of electricity, Eskom has taken over the distribution responsibility in a number of these municipalities. It is devoting considerable attention to improving the quality of supply, metering and billing systems with positive effects on payment levels.

In the case of Soweto in particular, facilitated by intense community involvement, a fixed electricity tariff rate as agreed in terms of the Soweto Accord was introduced resulting in improved payment levels. A normal metered tariff is to be implemented in January 1994.

It is hoped that solutions to the non-payment issue will be found in 1994.

## ACCELERATING ACCESS TO ELECTRICITY

The electrification project continues to accelerate and Eskom connected more than 800 new households every working day in 1993, totalling 208 801 direct domestic connections for the year compared with 145 522 in 1992.

Despite violence-related interruptions in some areas during the year, the electrification drive accelerated. Since the launch of the electrification programme in 1991, Eskom has, directly and indirectly, changed the lives of another three million people by making electricity available to their homes.

## MANAGEMENT OF THE ENVIRONMENT

Electricity generation, transmission and distribution inevitably impact on the environment. Eskom is working towards minimising the negative effects of such activities. The organisation is playing its part in overcoming some of the current environmental problems which are high on both national and international agendas.

## GREATER EMPLOYEE PARTICIPATION

Several initiatives to adapt the structures, work environment and culture of Eskom to better reflect political, social and economic changes in South Africa are being successfully pursued. Plans are in place which focus on giving employees a greater participation in those aspects of the business that directly affect them. Through these new processes, Eskom and the trade unions are developing a joint vision so as to achieve continuing business efficiency to ensure Eskom's long-term viability.

## RELATIONS WITH SOUTHERN AFRICA

During the year a memorandum of understanding between the Botswana, Zimbabwe and South African governments was concluded approving the construction of a new 416 km high-voltage line. This interconnection, planned for completion during 1995, will provide transmission capacity of 500 megawatt (MW) and will improve the reliability of supply in the short term and provide opportunity for the sharing of power in the region in the longer term.

## THE ROAD AHEAD - CREATING OUR FUTURE

As South Africa creates a new non-racial, democratic future, there is a primary need for stability and prosperity in the region as a whole. Once the political process is complete, attention will shift to economic growth, which is essential for long-term prosperity.

Long-term prospects for economic development depend on a range of interwoven factors – political stability, better education, provision of basic infrastructure and services, improved relations between business and labour, higher productivity, the return of foreign investment, an export-led trade policy and value-added manufacturing.

World markets are re-opening, bringing both opportunities and challenges. If South Africa is to be competitive on world markets, its mines and industries will need cheap electricity. A competitive electricity price should also attract offshore industries to the country.

Future economic growth and job creation will also be dependent on the development of the informal sector of the economy, which will be boosted by the availability of electricity. However, if the bulk of households, schools and clinics in South Africa are without electricity, it is unlikely we will be able to achieve the productivity levels required for us to be internationally competitive.

Electrification should be seen as a national priority. It is not a task that Eskom alone can undertake, but is the responsibility of all those involved in the distribution of electricity.

## ELECTRICITY DISTRIBUTION

It is against this background that the National Electrification Forum (NELF), comprising all electricity stakeholders, was formed in order to rationalise the distribution of electricity. Substantial progress was made during 1993. Six working groups investigated all aspects of electrification and electricity supply in South Africa and, through regular debate with other development bodies, arrived at consensus on a number of aspects such as the need for a national regulator, an electrification development body or fund and general pricing principles. Progress is closely related to constitutional development and political realities, especially at local government level.

## OUTLOOK

Despite a decade of economic stagnation, the economy - especially the industrial infrastructure on which mining and manufacturing depend - remains inherently robust. Severe constraints have made entrepreneurs tough-minded and resourceful. I am therefore confident that South Africa will continue to participate effectively in world markets and build a strong economy.

South Africa has a great opportunity to attract new investment and international participation in the economy if it pursues sound political and economic policies in line with mainstream world thinking.

It is my firm belief that South Africa will make a successful political transition, that it will follow sound economic policies and that it is entering a period of prosperity and hope.

Electricity is one of the pillars on which economic growth can be built. Eskom is very conscious that it is a national asset and, as a result, must be run efficiently. Its technical, managerial and financial skills have made it a world-class electricity utility run on business lines. Eskom pursues progressive employment practices and its spare generation capacity ensures that future economic growth will not be constrained by a shortage of electricity.

We at Eskom are excited about the unfolding democratic South Africa and we intend to play our part in making the country an economic success. When such prosperity is achieved, Eskom wants to be counted among those that made it possible. We will direct all our efforts to that end.

## MANAGEMENT BOARD

Dr Ian McRae retires at the end of February 1994. He started with the organisation 47 years ago as an apprentice and rose to be Chief Executive, a position he has held for the past nine years. By virtue of his dedication, hard work and loyalty he has made an immense contribution to the organisation. He has been a caring leader, respected within the organisation, in South Africa and internationally for his managerial and technical abilities. He will particularly be remembered for his belief in the importance of electricity cooperation in southern Africa as a basis for regional growth. He will undoubtedly continue to participate in the building of our economy, and our thanks and good wishes go with him.

He is being succeeded by Mr Allen Morgan who brings to this position valuable experience in the areas of customer service and national electrification. I am confident that he will be a strong leader, who will take Eskom to new heights of effectiveness in the pursuit of its goals.

Three executive directors, Mr Mick Davis, Mr Paul Semark and Mr Johan van den Bergh, decided to take up private sector positions. We thank them for the contributions each one of them has made to the increased efficiency of the organisation and we wish them well in their new positions.

Eskom is fortunate that it has the depth of management in the organisation to be able to bring to the Board very able new talent. Mr Piet Faling, Dr Willem Kok and Mr Hank Pienaar will be in charge of Transmission, Finance and Services respectively. Because of the importance attached to the electrification drive, a new portfolio of Electrification and Industry Restructuring was created and Mr Jan de Beer was appointed to the Board to take responsibility for this important task.

To ease the workload of the executive directors and to allow the participation of a larger number of managers in broader management of the organisation, a Management Review Committee was instituted to which twelve senior general managers were appointed. The inputs of this committee are of significance and value in the shaping of the organisation during this period of change.

## ELECTRICITY COUNCIL

The three-year appointment of the previous Electricity Council terminated at the end of May 1993. The terms of office of Mr G.P. Croeser, Dr J.W.L. de Villiers, Prof. C.R. Dlamini, Dr D. Konar, Mr F.J. Malan, Mr A.A. Sealey, Prof. H.C. Viljoen, Mr R.C. Webb and Prof. J.L. Weyers came to an end. We are grateful for the inputs and guidance of each one of them during their period of office.

It was felt that the new Council should reflect the changes taking place in South Africa and be more representative of Eskom's stakeholders. I therefore welcome the appointment of Dr B.L. Fanaroff, Mr S. Immelman, Dr E. Kuzwayo, Mrs N. Majija, Mr G. Mantashe, Mr G. Maude, Mr M.D. Mofokeng, Mr C.J. Pretorius and Mr C.G. van Veijeren. The new Council is operating well and the organisation is benefiting from the inputs of the wider representation.

In October Mr Jan Loubser passed away. He served as representative of the Association of Municipal Electricity Undertakings and he will be missed by us. This vacancy has been filled by Mr H.R. Whitehead.

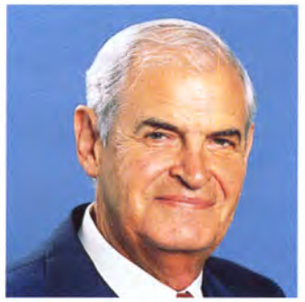
## ACKNOWLEDGEMENTS

I wish to express my appreciation to Minister Dawie de Villiers for his interest in and involvement with Eskom in this time of change. I wish to extend my thanks to the members of the Electricity Council, the Management Board, the Management Review Committee and all members of staff for their dedication and support during this period of transition and adjustment.

JOHN MAREE

3 MARCH 1994

# ELECTRICITY COUNCIL



**1. DR J. B. MAREE OMSG SSAS (69)**[b e]
*Chairman*
*D.Com. (Honoris causa) (Stell.), B.Com. (Witwatersrand).*
Chairman of Nedcor, Nedperm Bank Ltd, UAL Merchant Bank and Denel (Pty) Ltd. Director of Barlow Rand Ltd, the Development Bank of Southern Africa and SA Mutual Life Assurance Society. Member of the State President's Economic Advisory Council and its Executive Committee.
Appointed to the Electricity Council in 1985.



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**2. G. P. CROESER (56)**[a]
*B.Com. (Stell.).*
Director general of the Department of Finance. Deputy governor for South Africa to the International Monetary Fund. Chairman of Local Authorities Loan Fund. Member of State President's Economic Advisory Council.
Representing the Department of Finance.
Appointed to the Electricity Council in 1989.

**3. A. B. DICKMAN (63)**[a]
*B.Com. (Hons.) (Witwatersrand). FIBSA.*
Honorary professor of Economics at theWits Business School and economic consultant. Director of Anglo American Gold Investment Company Limited and UAL Merchant Bank Limited.
Representing South African Chamber of Business.
Appointed to the Electricity Council in 1985.

**4. DR B. L. FANAROFF (46)**[a]
*Ph.D. (Cambridge).*
National secretary of National Union of Metal Workers of South Africa.
Representing organised labour.
Appointed to the Electricity Council in 1993.

**5. S. IMMELMAN (55)**[c]
*B.Com. (Cape Town).*
President of Cape Province Municipal Association. Chairman of Cape Amalgamated Pension Fund. Member of Electricity Control Board.
Representing United Municipal Executive.
Appointed to the Electricity Council in 1993.

**6. DR E. KUZWAYO (79)**[b e]
*Ph.D. (Honoris causa) (Witwatersrand), Higher Primary Teacher's Certificate (1935), Higher Diploma in Social Work Practice (Witwatersrand). CNA Literary Award (1986).*
Representing consumers.
Appointed to the Electricity Council in 1993.

**7. PROF. I. J. LAMBRECHTS (51)**[a d]
*D.Com. (Stell.), M.B.A. (Stell.).*
Professor of Business Economics at the University of Stellenbosch. Chairman of the Subcommittee for Energy of the Afrikaanse Handelsinstituut.
Representing Afrikaanse Handelsinstituut.
Appointed to the Electricity Council in 1985.

**8. B. J. LESSING (57)**[c]
*Pr. Eng., B.Sc., B.Eng. (Stell.). FCIT, FSPE.*
Deputy managing director of Transnet Limited.
Representing Transnet.
Appointed to the Electricity Council in 1988.

**9. N. MAJIJA (59)**[b e]
*Teaching Diploma (St Matthew's College).*
Member of South African National Civics Organisation (SANCO) Committee (Transkei Region) and of Transkei Rural Development Forum.
Representing consumers.
Appointed to the Electricity Council in 1993.

**10. G. MANTASHE (38)**[d]
*Advanced diploma in Accounting.*
Assistant general secretary of the National Union of Mineworkers.
Representing organised labour.
Appointed to the Electricity Council in 1993.

**11. G. MAUDE (54)**[b]
*Pr. Eng., B.Sc. (Mining) (Leeds, UK).*
Chairman and managing director of Gengold Limited. Executive director of Gencor Limited. Chairman of 10 gold mines. Director of 14 listed companies and of the World Gold Council.
Representing the Chamber of Mines.
Appointed to the Electricity Council in 1993.

**12. DR I. C. McRAE OMSG (64)** [abcde]
*Pr. Eng., D.Sc. (Honoris causa) (Witwatersrand), B.Sc. (Eng.) (Mech.) (Witwatersrand).*
Fellow of the College of Engineers of the SPE. Chief executive of Eskom and chairman of the Management Board.
President of the World Association of Nuclear Operators.
Appointed to the Electricity Council in 1985.

**13. M. D. MOFOKENG (33)**[d]
*B.Admin. (UNIN).*
Member of the National Executive Committee of SANCO and general secretary of SANCO (Southern Transvaal). Trustee of the Consumer Protection Unit, Southern Transvaal Community Trust and Palm Springs Community Trust.
Representing SANCO.
Appointed to the Electricity Council in 1993.

**14. D.B. MOSTERT (56)**[a]
*B.Sc. (Eng.) (Mech.) (Stell.), M.B.A. (PUCHE).*
Group chief executive of Dorbyl Limited. Director of the Rembrandt Group and Metkor Group.
Representing the Steel and Engineering Industries Federation of South Africa.
Appointed to the Electricity Council in 1990.

**15. A. S. NKONYENI (58)**[b]
*B.Com. (Cape Town).*
President of National African Federated Chamber of Commerce and Industry. Executive chairman of the NGA Group. Vice-chairman of The African Bank Ltd. Member of Policy Board for Financial Services and Regulations. Director of listed and private companies.
Representing black business.
Appointed to the Electricity Council in 1991.

**16. C. J. PRETORIUS (56)**
General secretary of Eskom Employees Association. President of Federation of South African Trade Unions.
Representing organised labour.
Appointed to the Electricity Council in 1993.

**17. DR V. E. SOLOMON (65)**
*(Alternate member to G.P. Croeser)*
*Ph.D. (Rhodes), B.Com. (Hons.) (RAU), B.A. (Hons.) (Unisa).*
Chief director of Monetary Fund: Financial Planning.
Representing the Department of Finance.
Appointed to the Electricity Council as alternate member in 1991.

**18. C. G. VAN VEIJEREN (59)**[e]
*B.Sc. (Agric.) (Pret.).*
Chairman of Cooperative Council of South African Agricultural Union (SAAU). Member of the Economic Advisory Council of the State President. Director of South African Co-operative Citrus Exchange, Citrus Board Outspan International and The Central Timber Co-operative Ltd.
Representing SAAU.
Appointed to the Electricity Council in 1993.

**19. DR G. P. N. VENTER (50)**[d]
*D.Sc. (Pret.).*
Deputy director general of Department of Mineral and Energy Affairs. Deputy chairman of the National Air Pollution Advisory Committee of Minister of Health. Director of the Atomic Energy Corporation,
CEF (Pty) Ltd, Mossgas (Pty) Ltd and SFF Association.
Representing the Department of Mineral and Energy Affairs.
Appointed to the Electricity Council in 1992.

**20. J. A. LOUBSER**
*(Deceased in 1993)*
Appointed to the Electricity Council in 1990.

a on Audit and Financial Committee
b on Personnel Committee
c on Tender Committee
d on Tariffs and Marketing Committee
e on Community Fund Committee

# ORGANISATIONAL STRUCTURE

## ELECTRICITY COUNCIL

## MANAGEMENT BOARD

### CHIEF EXECUTIVE AND CHAIRMAN OF THE MANAGEMENT BOARD



DR I.C. McRAE

### OFFICE OF THE CHIEF EXECUTIVE

PUBLIC AFFAIRS
Communication services
International relations
Social responsibilities

AUDIT SERVICES

CONFIDENTIAL INVESTIGATIONS

ESKOM INTERNATIONAL (LONDON OFFICE)

### CHIEF EXECUTIVE DESIGNATE



A.J. MORGAN

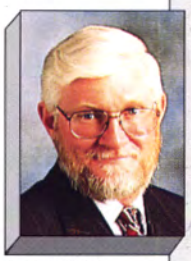
### GENERATION

POWER STATION OPERATIONS

FUEL AND WATER MANAGEMENT

GENERATION TECHNOLOGY

PROJECT MANAGEMENT



B. T. CROOKES

### FINANCE

TREASURY

FINANCIAL PLANNING

CORPORATE FINANCE

INVESTOR RELATIONS (FRANKFURT OFFICE)

CORPORATE RISK SERVICES

ESKOM FINANCE COMPANY



DR W.J. KOK

### HUMAN RESOURCES

HUMAN RESOURCES FUNCTIONAL RELATIONSHIPS

CENTRALISED HUMAN RESOURCES SERVICES

STRATEGIC HUMAN RESOURCES INITIATIVES

HUMAN RESOURCES DIRECTIVES, POLICIES AND CONSULTING



DR G.F. LINDEQUE

### TRANSMISSION

TRANSMISSION SYSTEM OPERATIONS

POWER SYSTEM PLANNING

NATIONAL PROTECTION, TELECOMMUNICATION, METERING AND CONTROL

TRANSMISSION ENGINEERING

TRANSMISSION OPERATING AND MAINTENANCE



P.A. FALING

### SERVICES

INFORMATION TECHNOLOGY

CORPORATE INFORMATION TECHNOLOGY CONSULTANT

CORPORATE INFORMATION MANAGEMENT

CONSULTING SERVICES

BUSINESS SERVICES

GROUP FINANCIAL SERVICES

LEGAL SERVICES

COMMERCIAL



H.J. PIENAAR

### ELECTRIFICATION AND INDUSTRY RESTRUCTURING

ELECTRIFICATION

CORPORATE STRATEGY

INDUSTRY RESTRUCTURING



J.A. DE BEER

### DISTRIBUTION

MARKETING

ELECTRIFICATION

PRICING

CUSTOMER MANAGEMENT

SALES AND CUSTOMER SERVICE
Five Distributors



L. J. MESSERSCHMIDT

### TECHNOLOGY

TECHNOLOGY INVESTIGATIONS

RESEARCH

PRODUCTS AND SYSTEMS MANAGEMENT

NUCLEAR SAFETY

CORPORATE TECHNICAL AUDIT

CORPORATE TECHNOLOGY STRATEGY AND POLICY



A.J. HAM

# MANAGEMENT BOARD

**DR I.C. McRAE OMSG (64)**
*Chairman*
*Pr. Eng., D.Sc. (Honoris causa) (Witwatersrand), B.Sc. (Eng.) (Mech.) (Witwatersrand).*
Fellow of the College of Engineers of the SPE.
Chief executive of Eskom.
Joined Eskom in 1947.
Appointed to the Management Board in 1985.
Retires on 28 February 1994.

**B.T. CROOKES (44)**
*Pr. Eng., B. Com. (Hons.) (Unisa), N.Dip. T. (Eng.) (Mech.).*
Executive director: Generation. (Previously executive director: Transmission.)
Joined Eskom in 1969.
Appointed to the Management Board in 1991.

**J.A. DE BEER (43)**
*Pr. Eng., B.Sc. (Eng.) (Civ.) (Pret.), M.B.L. (Unisa).*
Executive director: Electrification and Industry Restructuring.
Joined Eskom in 1978.
Appointed to the Management Board in 1993.

**P.A. FALING (45)**
*Pr. Eng., B.Sc. (Eng.) (Mech.) (Pret.).*
Executive director: Transmission.
Joined Eskom in 1981.
Appointed to the Management Board in 1993.

**A.J. HAM (56)**
*Pr. Eng., B.Sc. (Eng.) (Mech.) (Natal).*
Executive director: Technology.
Joined Eskom in 1966.
Appointed to the Management Board in 1987.

**DR W.J. KOK (43)**
*D. Com. (RAU).*
Executive director: Finance.
Seconded to Eskom in 1988; joined permanent staff in 1989.
Appointed to the Management Board in 1993.

**DR G.F. LINDEQUE (52)**
*D. Phil. (PUCHE).*
Executive director: Human Resources.
Joined Eskom in 1975.
Appointed to the Management Board in 1987.

**L.J. MESSERSCHMIDT (49)**
*Pr. Eng., B.Sc. (Eng.) (Mech.) (Pret.), M.B.L. (Unisa).*
Executive director: Distribution. (Previously executive director: Marketing.)
Joined Eskom in 1967.
Appointed to the Management Board in 1990.

**A.J. MORGAN (46)**
*Pr. Eng., B.Sc., B.Eng. (Elec.) (Stell.).*
Chief executive designate. (Previously executive director: Sales and Customer Service.)
Joined Eskom in 1971.
Appointed to the Management Board in 1992.
Assumes office on 1 March 1994.

**H.J. PIENAAR (43)**
*B.Compt. (Hons.) (Unisa), CA(SA), FCMA.*
Executive director: Services.
Joined Eskom in 1988.
Appointed to the Management Board in 1993.

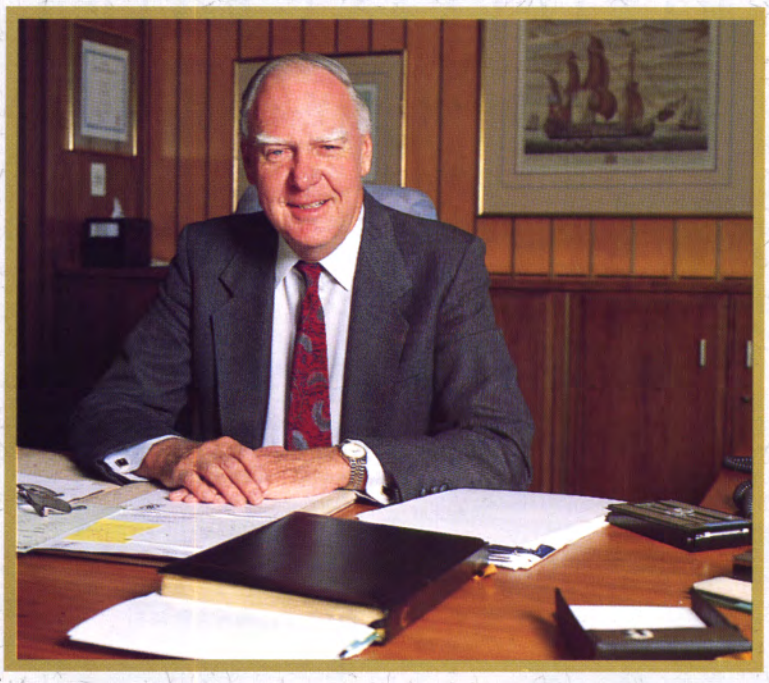
*Members retired/resigned during 1993:*

**M.L. DAVIS (36)**
*B.Com. (Hons.) (Rhodes), CA(SA).*
Previously executive director: Finance and Services.
Joined Eskom in 1986.
Appointed to the Management Board in 1988.
Resigned on 31 December 1993.

**P.M. SEMARK (49)**
*Pr. Eng., B.Sc. (Eng.) (Mech.) (Cape Town), B.A. (Unisa).*
Previously executive director: Corporate Affairs.
Joined Eskom in 1972.
Appointed to the Management Board in 1987.
Retired on 31 August 1993.

**J.P. VAN DEN BERGH (47)**
*Pr. Eng., B.Sc. (Eng.) (Mech.) (Pret.), B.Com. (Unisa).*
Previously executive director: Generation.
Joined Eskom in 1970.
Appointed to the Management Board in 1988.
Resigned on 31 December 1993.

# CHIEF EXECUTIVE'S REPORT



DR I. C. McRAE

*Chief Executive of Eskom and Chairman of the Management Board*

"AFTER MORE THAN FORTY REWARDING YEARS, I LEAVE, KNOWING THAT THE ORGANISATION'S FOUNDATIONS ARE STRONG AND THAT THE LEADERSHIP IS WELL EQUIPPED TO TAKE ESKOM INTO THE FUTURE, WHERE IT WILL PLAY A ROLE IN CREATING A BETTER LIFE FOR ALL SOUTH AFRICANS."

# FINANCIAL PERFORMANCE

Eskom's financial performance in 1993 underlines the continuing strength of the organisation as a healthy, stable electricity utility, performing among the best in the industry around the world. I am pleased to report that electricity sales have increased significantly despite minimal growth in average gross domestic product in 1993. Eskom's financial position has remained strong and electricity prices continued to decline in real terms.

Electricity sales volume increased by 4,1% to 143 800 gigawatt-hours (GWh) in 1993 in comparison with the previous year's decline of 0,4%. While this is encouraging it is unlikely to be fully sustained, because a significant part of the growth may not be in the future sales base. Export sales to Namibia and Zimbabwe increased as a result of the prolonged drought which affected their generation capabilities. Eskom also replaced the generation requirements of a few major bulk customers, and of some industrial customers who experienced problems with their self-generating capabilities.

Incentives granted to these customers, together with the effect of flat tariffs for a significant number of domestic customers taken over from local authorities, meant that the increase in the average price per kilowatt-hour sold was below the 1993 tariff increase. Consequently turnover increased to R13 793 million, an increase of 9,0% over that of 1992.

Operating expenditure, after expenditure on electrification and local authority networks taken over and provision for arrear debts, increased by 10,1% to R9 000 million. Operating expenditure per kilowatt-hour sold increased by 5,7%. This indicates the continued emphasis on stringent cost control and improving efficiency. Additional provisions for arrear debts of R248 million (1992: R283 million) were made, owing to continuing non-payment by certain local authorities. Prior provisions for arrear debts amounting to R81 million (1992: R204 million) were reversed, following the take-over of electricity networks of some local authorities in lieu of debt.

Net interest and finance charges amounted to R3 147 million which represents an increase of 5,4% compared to 1992. This low increase is mainly due to the improvement in the debt-equity ratio.

Net income accordingly increased by 10,5% to R1 646 million and accumulated reserves increased to R13 837 million.

Net expenditure on fixed assets increased from R3 242 million in 1992 to R3 591 million primarily as a result of the resumption of construction activities at Majuba Power Station, the completion of construction of the last generating unit which was placed into commercial operation at Kendal Power Station and R584 million capital expenditure incurred in the electrification programme. Adequate funds were generated from operating activities to finance net capital expenditure. Total assets amounted to R44 397 million (1992: R42 455 million) and the financial position has strengthened as planned, with the debt-equity ratio improving to 2,03:1 from 1992's 2,27:1.

The year was characterised by extremely high volatility in the local capital market due to levels of unrest, economic uncertainty and the lifting of sanctions, and the turnover in the capital market was markedly higher than previous years. Against the background of such uncertainty, the Frankfurt office continued to meet the information requirements of Eskom's foreign investors in a most efficient manner.

The launch of the Electrification Participation Note (EPN) was well received. The

first tranche of R600 million was placed successfully with institutional investors. The EPN has been designed to share risks between Eskom and investors. It features a fixed coupon of 6% per annum and a variable element, consisting of a payment equivalent to a proportional share of 30% of turnover generated by the electrification programme. It is considered an appropriate funding mechanism, given the relatively low affordability levels of end-users. Investors will initially receive a low return which will gradually build up over the life of the investment. This return will be affected by affordability levels, consumption patterns, tariffs and the general level of economic activity in the country.

Eskom also launched a new bond, the E172 with a maturity date of 1 September 2001 and a coupon of 8%, to complement existing medium-dated bonds. The total authorised nominal value is R4,5 billion with R700 million being issued on the first day. The bond has been well received and well traded since inception.

## FUNDING PLAN

The major portion of the funding requirement was raised in the local capital market and the 1993 and 1994 funding plans are summarised below:

| | 1993 Actual Rm | 1994 Planned Rm |
|---|---|---|
| Local funding | 2 497 | 1 800 |
| Investments realised | 780 | — |
| Foreign capital market | 657 | 500 |
| Foreign project finance | 202 | 100 |
| | 4 136 | 2 400 |

It is envisaged that the R500 million to be raised in the foreign capital market during 1994 will be by way of a dedicated electrification bond denominated in US dollars.

## FINANCIAL POLICY

Eskom, being a self-funding utility, applies the financial policy of recovering the real cost of supplying electricity to customers in each year and earning a real return on assets. This ensures that financial viability is maintained. The annual price increase is determined by the cost of supply, future requirements for expansion and the need, if any, to adjust the financial position. The strategy also ensures that price changes are gradual, predictable and stable and that price levels over the next few years are reduced in real terms and thereafter maintained. The preparation of current value financial statements demonstrates Eskom's use of current value accounting techniques to achieve this policy, which is important considering the long-term nature and asset intensity of the business.

Net operating income on a current value basis amounted to R3 186 million (1992: R3 073 million). The current value of net assets amounted to R75 475 million (1992: R71 637 million). This resulted in a real return on assets of 4,11% (1992: 4,15%) which approximates Eskom's expected long-term growth rate, taking cognisance of its business risks and stated objective of improving the financial structure.

Net income on a current value basis amounted to R359 million (1992: R158 million) indicating that the 1992 and 1993 tariffs maintained the net asset base of the business for the benefit of existing and future customers.

## RELIABLE BUSINESS PARTNER

The cost of electricity has a fundamental and pervasive impact on South Africa's economic competitiveness. Eskom continues to assist industry in this regard by supplying high-quality electricity at the lowest possible price. Reliable and affordably priced electricity is now one of South Africa's international competitive strengths.

Eskom is acutely aware that it needs to be alert to its customers' electricity needs in order to fulfil its responsibilities and aims to be the energy provider of choice from the standpoint of both service and customer care. The main focus is developing and maintaining programmes which ensure superior service in the areas of specific customer needs and supply reliability. This will be done by employing new technologies, developing end-use electrotechnologies, replacing outdated methods and by being more flexible and responsive.

## OPERATING EXCELLENCE

The performance of the distribution network, measured by means of a supply loss indicator, showed a 20,8% improvement in 1993. This was achieved by identifying inherent weaknesses in the system, upgrading outmoded substations and instituting a pre-emptive maintenance programme. This performance trend came from a much more focused approach. However, there are still pockets within networks where performance is not yet up to standard.

## POWER SYSTEM PERFORMANCE

Eskom continues to strive for increased technical efficiency and effectiveness. The generating system has achieved good results and all key performance targets were exceeded in 1993. Availability in excess of 82% was achieved for the coal-fired base-load plant in line with efforts to reach world standards.

Resource management strategy aims to make the most cost-effective use of all fuel and water resources as well as to optimise utilisation of existing plant, to manage supply and demand-side options better and obtain an improved load profile by encouraging a shift of energy usage to off-peak periods. Key initiatives include integrated electricity planning and a variety of tariffs and pricing options based upon detailed load research and the analysis of end-user requirements. The initiatives, started in 1987, have already achieved annual demand savings of 500 MW.

To customers, reliability means that electricity outages should not occur. Preventative maintenance, which includes live-line techniques and efficient repair, helps to ensure that outages are kept to a minimum - and are of short duration when they do occur. The duration of interruptions to customers was reduced despite the many distribution system interruptions caused by ongoing copper thefts. Maintaining the health of the power system remains a high priority. Eskom will continue to improve customer service and quality of supply commitments and it will apply agreed standards in electricity supply contracts.

In the past year, significant gains have been made in reducing the overall cost of

providing electricity, the ultimate measure of efficiency. Adequate maintenance levels will ensure that future reliability of the power system will not be compromised.

## CONSTRUCTION OF MAJUBA

A solution has been found to the problem caused by geological difficulties which threatened the economic viability of the station's coal supply. Coal will now be transported to the site from other sources. Negotiations are in progress to give effect to this. Once the arrangements for coal transport have been satisfactorily concluded the programme for the completion of Majuba will be finalised, having regard to Eskom's long-term capacity planning. Eskom's ability to meet demand will not be affected.

## ELECTRIFICATION

In areas such as Soweto and Alexandra, where Eskom has taken over the supply of electricity, considerable success has been achieved in getting electricity supply back to normal by upgrading the networks and working closely with customers in respect of payments.

Community involvement has been intense and is being confirmed for the longer term by the appointment of electricity representatives. These representatives will be "employed" by the customers and will be trained to carry out first-line maintenance, meter reading, bill delivery and liaison with Eskom.

The news was not all good in 1993. Access to some areas, particularly on the Witwatersrand and in Natal, was hindered by violence and the non-conclusion of take-over agreements. Violence and unrest in other areas were delaying factors, but improved communication between Eskom and some of the communities assisted in dealing with problems and getting the job done. Local forums, involving communities in the electricity supply process, have proved to be effective in dealing with electrification constraints, community needs and expectations.

Public response to electrification continued to be positive. The original target for 1993 was 158 100 but at half-year it was decided to increase this to 209 000. By year-end Eskom had achieved 208 801 direct domestic connections. Constant monitoring of aspects of the electrification project has confirmed that the work done fully satisfies the community for which it was developed from a cost, technical and aesthetic point of view. Eskom aims to complete one million new connections by the end of 1998.

Electrification goes hand in hand with the development of community economic activity. In 1993, Eskom facilitated the establishment of 233 small businesses in newly electrified areas and 760 permanent jobs were created as a result. The principle of using local contractors, wherever possible, worked well with 80% of service connections being done by local contractors.

## ELECTRICITY INDUSTRY RATIONALISATION

Given the limitations of the existing electricity distribution industry structure, it is doubtful that, in the long term, the industry will be able to eliminate the backlog of domestic electrical connections in the race against increasing demand. This crucial issue

1 & 2.

Interior and exterior views of a small business in Soweto, one of many such businesses that have benefited from the electrification project.

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In order to assist residents a number of new paypoint offices and information centres have been opened in various townships at places which are easily accessible.



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is being pursued by the National Electrification Forum (NELF), established in 1992 to develop workable strategies for electrification and to accelerate the electrification process.

One of the strategies involves the rationalisation of the electricity distribution industry, presently fragmented into some 450 distributors of electricity in the form of local authorities and municipal suppliers.

Eskom believes a normalised electricity sector is in the interests of all. The industry needs to be well positioned to serve the future electricity needs of the country. It must be well managed, able to attract skilled staff, business-like and sensitive to the needs of all stakeholders. Eskom is therefore actively participating in the research, analysis and debates at all levels of NELF. The urban, regional and global environmental impacts of electrification were synthesised in a report to NELF.

## COOPERATION WITH UTILITIES IN AFRICA

Further progress towards the establishment of a southern African power grid has been made with the signing of an inter-utility agreement by Eskom, Botswana Power Corporation (BPC) and the Zimbabwe Electricity Supply Authority (ZESA) in respect of the supply of electricity via Botswana to Zimbabwe. The interconnection of the established Eskom and ZESA networks will initially enable electricity to be exported to Zimbabwe. At a later stage the same link could be used for electrical power to be imported into South Africa. The construction of a line connecting Matimba Power Station to Bulawayo will be a dual project between Eskom and ZESA and should be commissioned in the second half of 1995.

Bulk supply agreements with utilities in Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe incorporate the principles of independent action, underpinned by coordinated planning of expansion and cooperation for the benefit of the entire region. An inter-utility agreement was also signed with Kenya.

Progress on the re-establishment of the power lines connecting the Cahora Bassa hydroelectric scheme in northern Mozambique to South Africa has been encouraging. Peace in Mozambique has greatly facilitated the project, as has the fact that funding has been obtained. It is anticipated that work in the field will start in the second quarter of 1994. This link also provides an important component of the southern African grid as Cahora Bassa will eventually be linked to Zimbabwe. This project is still at an early stage of negotiation but should be completed by late 1997.

## RESPONSIBLE ENVIRONMENTAL MANAGEMENT

As part of responsible and sustainable environmental management, continued efforts are being made to meet and, where possible, exceed prescribed practices and legal requirements. Environmental auditing has become an important tool in this regard. About R100 million per annum has been committed for the period 1993 to 1998 to further enhance environmental performance. The installation of bag filters at Duvha Power Station is a particularly good example of efforts in this regard.

## OPPORTUNITIES FOR ALL

Eskom has for a number of years been actively involved in the equalisation of

1 & 2.

Retrofitting of bag filters at Duvha Power Station is part of Eskom's policy to reduce particulate emissions at power stations. Eskom is constantly aware of its environmental responsibilities.

3.

Maintenance on a turbine at Kendal Power Station. A policy of regular planned maintenance and overhaul of all plant helps to ensure key plant performance targets are met.

4.

Research continues into the best methods for supplying areas too remote from the electricity grid to allow economically viable supply. Solar panels of various types are investigated for suitability at Eskom's technology research and investigations division.

5.

An Eskom development, Petit, is used worldwide as a cost-effective technique for monitoring the historical temperature experienced in boiler headers and pipe-works. It assists in determining the remaining life of components.

6.

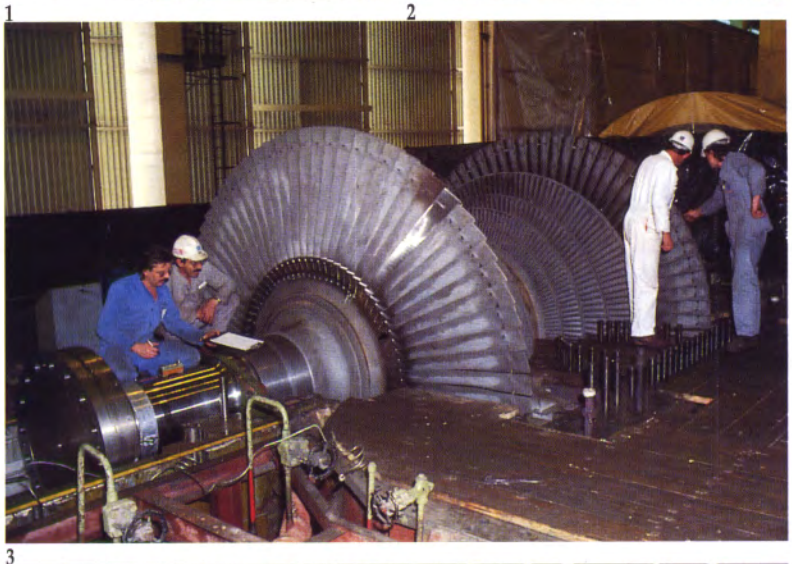
Cross-section through a Petit couple after service showing the gold core and copper surround and diffusion between the two.



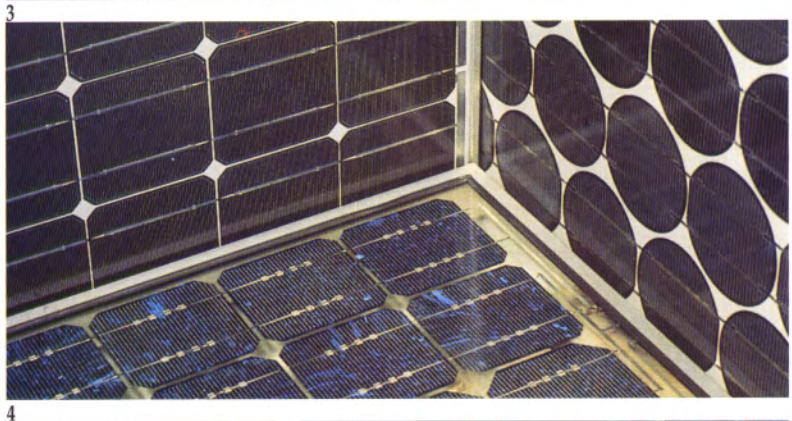
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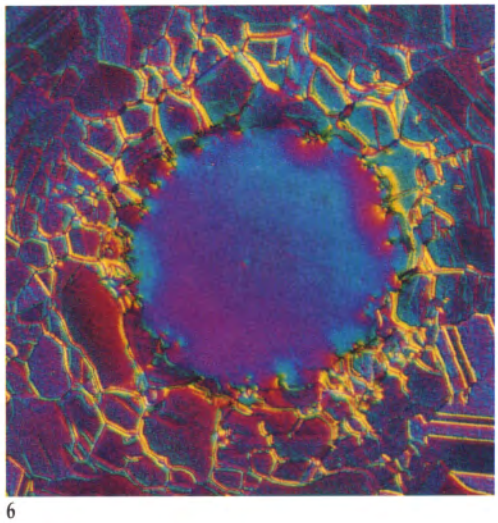
3



4



5



6

opportunities for all its employees. The organisation is committed to an affirmative action programme aimed at transforming the demographic profile of the organisation to more closely reflect the community in which it conducts its business. Stakeholders legitimately expect it and the market demands it. Affirmative action is seen as a business imperative. Significant progress has been made in this regard, but there is still a long way to go. Token appointments will not be made. However, because of its sensitive nature, affirmative action will be managed fairly and in a consultative way. Eskom needs to ensure that, as far as possible, employee aspirations and concerns are addressed.

The non-adversarial relationship between Eskom and the trade unions, developed during 1992 to create opportunities for trade unions to meaningfully influence management decisions, is continuing.

To address the disturbing backlog in even basic education Eskom has made literacy, numeracy and other skills training a strategic priority for the next four years. Eskom also focuses on community development programmes, particularly education, with spending in excess of R20 million in 1993. An important contribution has been the electrification of 221 schools and the building of more than 140 classrooms. In total, Eskom's community development initiatives have benefited more than 600 000 people.

## CHALLENGING TIMES

Our country and our industry face many challenges in these changing times. I expect Eskom to be successful in this environment of change because we have positioned ourselves well to face the future and satisfy our stakeholders. We have a keen understanding of what lies ahead and have identified key priorities. We know what is expected of us in terms of price and reliability of our product as well as our role in the economy. Our managers understand the new business environment, have an entrepreneurial spirit to meet its demands, and employees are prepared and motivated to work together. I am confident that the organisation's commitment to operational excellence will pay off in increased customer satisfaction, productivity and business success.

## ACKNOWLEDGEMENTS

I wish to extend a sincere thank you to the Electricity Council and in particular the chairman, Dr John Maree, for their astute guidance and support. My sincere appreciation to Management Board and the newly formed Management Review Committee. Particular thanks to staff for their hard work and professional dedication, in the case of many field staff often under very difficult and sometimes dangerous circumstances. My congratulations to Allen Morgan as he takes over as Chief Executive. He brings with him many years of successful management experience and outstanding leadership in the electricity utility field.

IAN MCRAE

3 MARCH 1994

1.
Dr Ian McRae hands over as Chief Executive to Allen Morgan. Pictured here against an electrification project in Kwanobuhle.

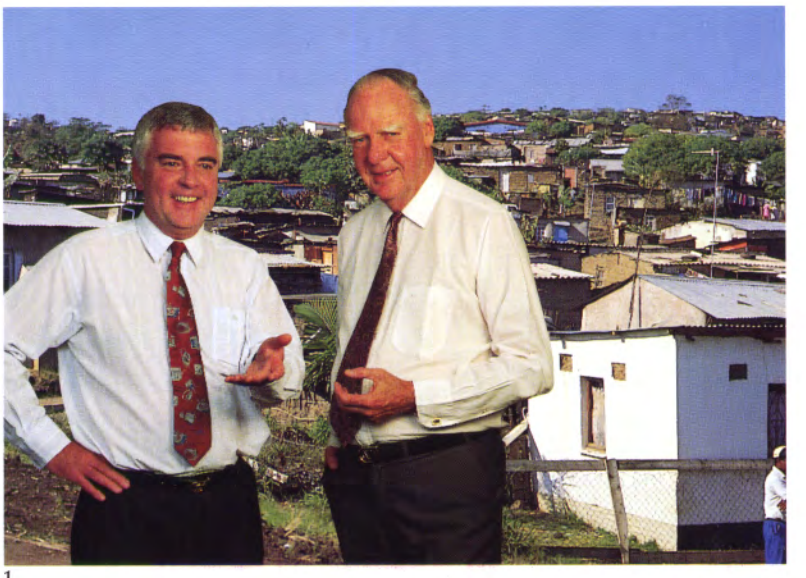
2.
Clinics in many areas are able to offer better service thanks to electricity and improved technology.

3.
Spray-painting at a local trailer manufacturer. Many small businesses have taken advantage of end-user electrotechnologies and allied services supplied by Eskom.

4.
Many kinds of agricultural activity benefit from increased electricity supply in rural areas.

5.
Piglets are kept warm by means of infra-red heating.

6.
Customers in newly electrified areas take advantage of the electricity dispensers, which help them to budget for electricity consumption.



1



2



3



4



5



6

# COMBINED OPERATIONAL REPORT

## CUSTOMERS AND GROWTH

Eskom supplied electricity to 872 509 customers, distributors and neighbouring utilities by the end of the year, 330 643 more than in 1992. This rapid growth in the customer base over the past two years is a result of the national electrification project and the take-over of supplies from other supply authorities. Current trends indicate that Eskom will be supplying electricity directly to one million domestic customers by 1995.

Electricity sales to newly connected domestic customers were below expectations at an average of 75 kilowatt-hours (kWh) per month against an anticipated 120 kWh. These low sales can be attributed to the bleak economic conditions which prevailed in South Africa during 1993 and low appliance usage because some new customers have not changed completely to electricity from other energy sources. Eskom is addressing these issues and has embarked on joint ventures with manufacturers to promote the use of small appliances in the domestic sector.

Energy-efficient end-use technologies such as electric vehicles, minerals processing and toxic waste destruction are being researched for longer-term applications.

## MARKETING AND BRANDING

Programmes have been developed in Eskom's various market sectors to encourage economic growth and attract energy-intensive industrial investment. In particular, the industrial and agricultural markets show wide scope for conversion to electricity-powered processes. Eskom actively promotes new electrical process technologies to these sectors. A number of regional electrotechnology centres, called ElektroRoute centres, have been established where sales advisors demonstrate electricity applications and processes according to customers' specific requirements.

A branding campaign differentiates Eskom's services from those of other energy suppliers. Branding also assists Eskom in marketing its product and services to the end-customer with the cooperation of distributors such as local authorities. Following the success of the Agrelek and Industrelek brands which promote the application of electrotechnologies in the agricultural and industrial sectors, ElektroWise was launched in 1993. This programme serves newly electrified households and is designed to encourage the acquisition of appliances and the safe and effective use of electricity, ensuring that customers quickly derive benefits from electricity.

Eskom has intensified its marketing and branding efforts during the year.

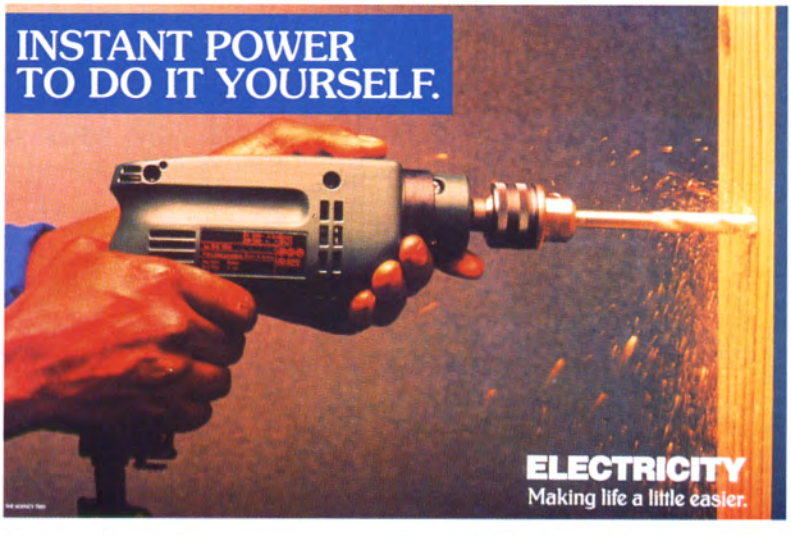


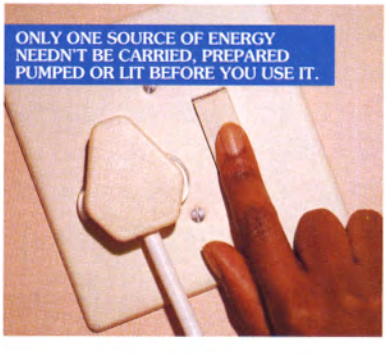








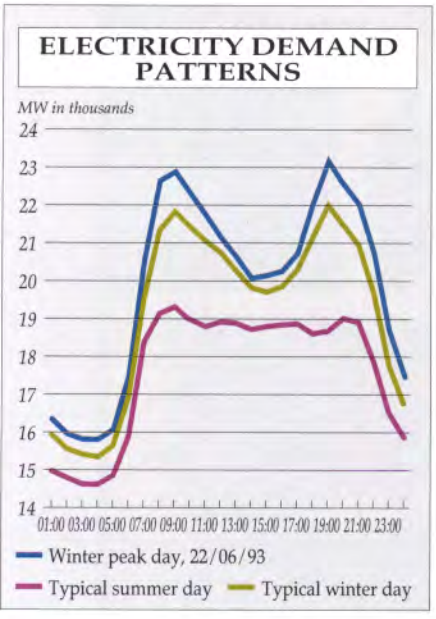






ELEKTRO WISE
ESKOM

INDUSTRELEK AGRELEK




Sector-targeted marketing programmes added sales in excess of 800 GWh per annum, 0,6% of total Eskom sales.

Eskom is committed to ensuring public safety when working with or around electric power facilities. Eskom and its Distributors have teamed up with a number of electricity industry stakeholders and government bodies under the ElektroSafe banner to distribute educational videos and booklets. The education programmes have been well received and hopefully will in the future assist in reducing the number of contact incidents involving the public.

## MANAGING DEMAND

The demand for electricity from the main transmission system reached a new record level of 23 169 MW during the evening peak of 22 June 1993. This was 2,3% above the previous record set in 1992. This increase is an indication of the load shift from industry and mining towards the domestic sector as it occurred as an evening peak as opposed to previous Friday morning peaks.

The growth in net energy sent out on the power system for the year was 3,9%. The integrated system load factor increased more than one percentage point to 75,1%.

Over the next 10 years, energy growth on the Eskom system is expected to average 2,8% annually, while peak loads are projected to grow at an average 2,6% per year. A number of demand-side management strategies have been introduced. Load research is applied to predict the impact of demand changes and plays an important role in tariff design and demand-side management.

These strategies aim at a uniform load pattern which will delay the installation of new generating capacity. They also play an important role in supporting industry by keeping tariff increases to a minimum.

The strategies include time-of-use pricing options and customer incentive schemes to simultaneously shape the demand for electricity and also increase the demand while Eskom has surplus generating capacity. During 1993 a further 199 customers benefited by using time-of-use pricing options, bringing to 441 the number of customers purchasing electricity on this basis.

The impact of time-of-use pricing is already evident on the Eskom system demand profile. This has reduced growth in system peak demand to only 2,3% compared to a 4,1% increase in the demand for electrical energy, notwithstanding the impact of electrification.

Eskom currently achieves an additional 7% in sales as a result of customised pricing agreements with large industrial customers

1.

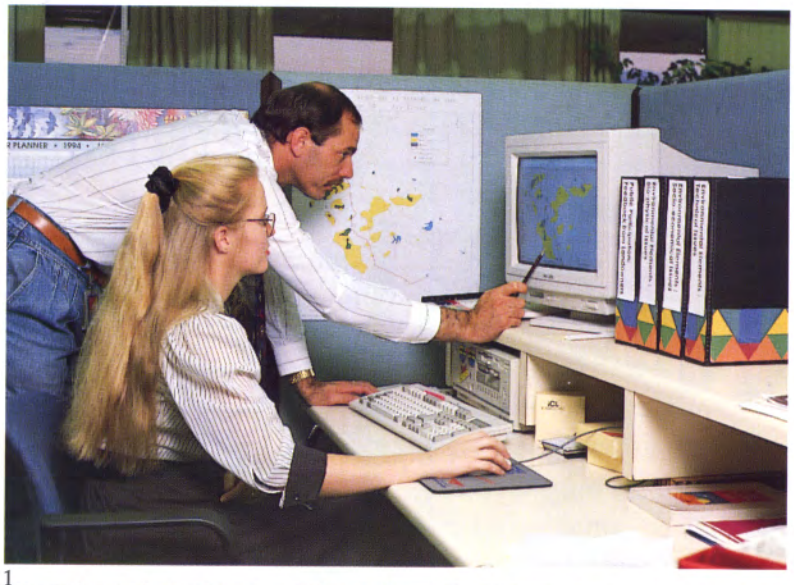
Extensive environmental impact assessment studies are undertaken before commencing new power lines. Staff working on a computer-generated image showing alternative routes for the proposed line connecting Estcourt to Pietermaritzburg through an ecologically sensitive area.

2.

The consolidation of two computer rooms while simultaneously replacing the mainframe infrastructure necessitated temporary arrangements to ensure continuous uninterrupted operations. The project was completed in six months without adversely affecting system availability.

3.

Sugar-cane fires cause pollution as well as trips on power lines in Natal. Concentrated efforts in conjunction with customers are helping to reduce the problems.



1



2



3

and municipalities with their own generating capacity, which contributed R318 million to Eskom's net income.

## ELECTRIFICATION PROGRESS

In 1993 Eskom made 208 801 (1992: 145 522) new direct domestic connections. In addition, 16 074 farm worker houses and 69 756 connections in municipal areas of supply were made through Eskom's incentive scheme, which facilitated connections by other distributors, at a cost of R28 million.

Encouraging progress is being made in the development of new technologies and the application of appropriate technology that has the capacity to reduce electrification costs substantially without compromising safety standards.

Long-term demand-side management technologies, such as low-cost housing design and insulation, are being developed for parallel implementation with the electrification programme.

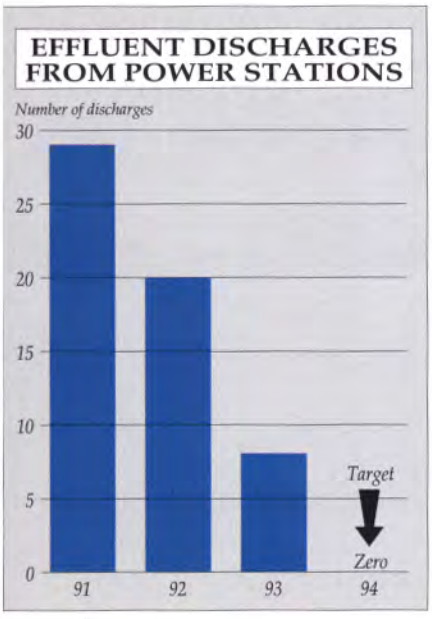
Ageing studies on electricity dispensers, coupled with field-failure data, have resulted in safer and more reliable systems. The electrification programme has been supported by the publication of NRS specifications, which contributed to the growth of the South African manufacturing industry through greater standardisation.

One of the greatest environmental threats facing South Africa is air pollution and the resultant health impact in non-electrified townships. Research has indicated how successful electrification can be in improving this situation. The current electrification programme is likely to result in an annual net emission reduction of 1,5 million tons of carbon dioxide by 1998 due to increased national energy efficiency.

## NATIONAL ELECTRIFICATION FORUM

During the year the deliberations of the National Electrification Forum (NELF) gained momentum. One of the challenges facing the various working groups of NELF is to determine the status quo of various technical issues, model development requirements, and then to prioritise these requirements.

Several research studies undertaken by Eskom have been presented to NELF. These include an evaluation of water heating systems for non-electrified communities and the impact of electrification on load profiles, an assessment of the insulation requirements for low-cost and informal dwellings and quantification of the environmental impacts of electrification within an integrated environmental management framework. Studies into the social, cultural and economic impacts of electrification have also been initiated.




# TECHNOLOGY AND THE ENVIRONMENT

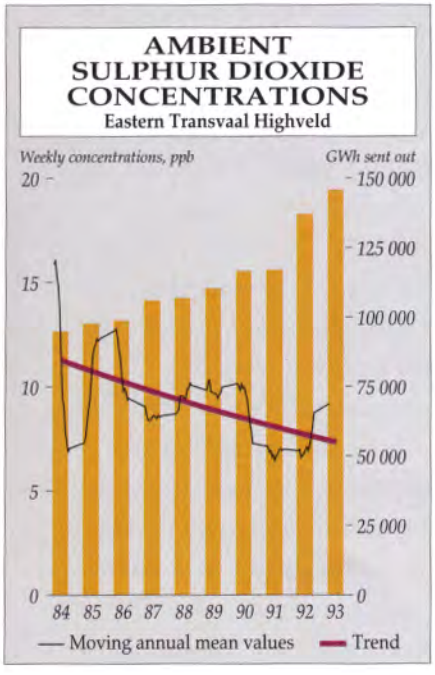
Eskom is acutely aware of its responsibility to meet customer needs in a timely and efficient manner while remaining sensitive to its direct and indirect impact on the environment. Encouraging environmental awareness among employees and customers remains a priority.

The increased utilisation of existing assets to avoid the need for new development makes sound commercial and environmental sense. This is pursued through the application of new technologies to improve the operational flexibility and efficiency of the power supply system as well as through integrated electricity planning. In addition, electricity pricing and incentive schemes are used as tools to encourage energy conservation, thereby reducing the environmental impact of South Africa's growing demand for electricity.

Close international links have been established for joint research programmes with organisations in Europe, North America and Australia. Research into environmental impacts is also being undertaken in collaboration with various local universities and research organisations.

All operational power stations have committed themselves to improving the control of emissions and effluents, using new technologies or enhancing existing air-cleaning methods and equipment to combat water pollution.

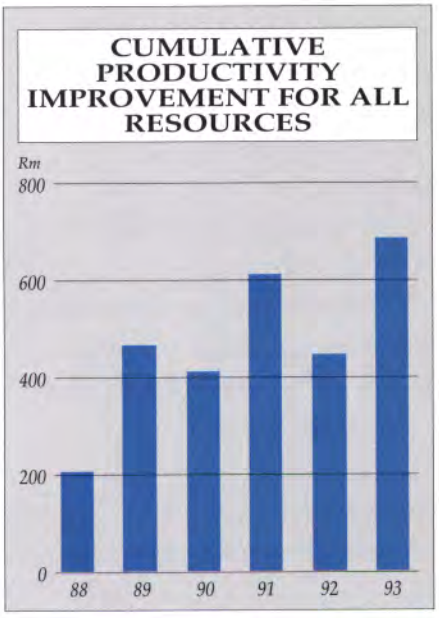
In 1993, in pursuance of this policy, Eskom reduced particulate stack emissions by successfully retrofitting fabric filters. These filters were fitted on Unit 1 at Duvha Power Station, with Units 2 and 3 to follow, at an overall cost of R110 million. Over the long term Eskom's emissions policy, coupled with Department of National Health and Population Development initiatives, has resulted in improved air quality in the power generation region.




# CORPORATE EFFICIENCY

Eskom is committed to improving the efficiency and effectiveness of its operations. Key strategies are aimed at improving productivity by managing costs and risks. The ongoing re-engineering of processes by employees has paid off in more efficient operations and additional cost savings to the organisation, which have been passed on to customers. During 1993 the organisation achieved a productivity saving of R237 million. Since 1988 the financial impact of Eskom's productivity improvements has been a saving of R684 million calculated according to the methodology of the National Productivity Institute.

The decrease in real terms in the average cost per kilowatt-




hour sold during 1993 is a result of effective cost control efforts. This was achieved despite additional cost which was incurred by re-allocating generating capability away from sensitive water supply schemes as a result of the effects of the prolonged drought. The rescheduling and replanning of maintenance and coal production gave rise to the extra costs. The situation stabilised in the second quarter and by year-end all lost ground in terms of excessive costs had been regained.

Research and development plays an important role in enhancing corporate efficiency. During 1993 this resulted in eight rand of expenditure being saved for every rand spent on research.

Eskom recognises that future productivity improvements will be dependent on continuously revising workflows and on maintaining best management practices. Access to information to facilitate better decision making and customer service by all levels of staff is key to the success of these efforts. Eskom has upgraded its total computer mainframe infrastructure to ensure that information systems are supported by appropriate technology.

Through the establishment of national purchasing contracts Eskom achieved a weighted price increase of 2,1% on core business purchases of R357 million, thereby contributing significantly to the efficiency drive. It also increased its support of small black business through the placement of purchase contracts amounting to R11 million (1992: R2 million).

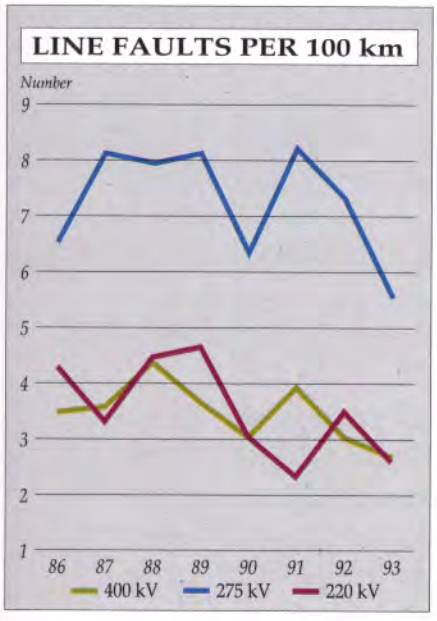
## EFFECTIVENESS OF SUPPLY

The reliability of electrical supplies to customers continued to improve in 1993. The total transmission system interruption time was well within target for the second consecutive year.

Attention is being paid to critical issues affecting the quality of supply to customers by examining factors other than outright loss of supply such as voltage dips caused by faults related to pollution and sugar-cane fires. Customers have been consulted in determining appropriate corrective measures.

The focus on maintaining the health of the transmission system to meet the needs of customers remains a high priority. Encouraging progress has been made by working with our customers in the sugar-cane growing areas to reduce interruptions caused by sugar-cane burning and veld fires. We are also negotiating for the acquisition of cane-free servitudes in an attempt to further reduce these interruptions. The transmission lines which will serve the new aluminium smelter at Richards Bay will be the first having such servitudes.

Notwithstanding the problems encountered with sugar-cane




burning and bush fires, the policy of preventative maintenance, adequate monitoring of substation plant and rapid repair and restoration of supplies has resulted in continued improvement in the power system performance.

Research into insulator pollution is ongoing. Tripping due to physical pollution has been of major concern. To address this problem an extensive insulator changing project was undertaken in the most vulnerable areas, particularly in Natal. This has markedly improved line performance and reduced the tripping rate on lines in these areas.

The long-term health of the power system is assured by ongoing technical audits. These have resulted in systematic refurbishment of ageing equipment.

Planning studies are regularly undertaken to investigate the possible strengthening of the power system. For instance, one such study was made for the Western Cape. All feasible options are being carefully evaluated to obtain the best technical, economic and environmentally sound solution.

Major transmission line projects are under way to supply the Alusaf Hillside smelter in Natal. A comprehensive environmental impact study has been conducted for this line and a new optimised design, using significantly less steel, will be used.

The further reduction in the number of low-frequency incidents from 27 in 1992 to six for 1993 is an excellent result, which can be attributed to fewer generator trips and improved primary and secondary frequency control.

The performance of the distribution network, which is measured by means of a supply loss indicator, showed steady improvement in 1993. There has been an overall 20,8% improvement in the quality of supply to customers compared to 1992, achieved at 95% of budgeted cost.

Also benefiting customers is a new computer-based network control and data acquisition system which is under development. This will facilitate improvements in network planning and more effective management of the distribution network; fault location will also be greatly simplified. The system can be scaled to suit the needs of the electricity distributors and grow as the electricity supply networks increase in size.

## GENERATION PERFORMANCE

The coal-fired base-load power stations achieved a plant availability of 82,6% in 1993. This is a 7,5% improvement compared with 1992, due to substantial improvements in high-level planning and maintenance practices. Kriel Power

## COMBINED OPERATIONAL REPORT

*continued*

Station set a system record by having all six generating units running continuously for over 46 days. This resulted in Kriel recording an average availability of 99,3% for the months of June and July. A number of other stations also bettered their previous performance records. All-time Eskom records for generation plant reliability were reached arising from an improvement of 28% in the number of unit trips in relation to 1992.

Kendal Power Station's final unit was synchronised on 16 September 1993, adding 686 MW nominal capacity to the system, which now stands at 39 746 MW.

As part of ensuring the integrity and performance of Eskom's technical assets, a number of maintenance management audits were completed at various coal-fired power stations. The method used allows for comparison with similar plant internationally and is providing useful pointers for continuous improvement.

With effect from 1994, Eskom will switch to the European based International Union of Producers and Distributors of Electrical Energy (UNIPEDE) system of plant performance indicators to enable direct comparison with other participating utilities internationally. Eskom is actively cooperating in the development of this system which is still in its infancy and will continue to evolve over the next few years.

Three international peer reviews to look at general overhaul and start-up of boiler/turbine units were successfully undertaken at Lethabo and Duvha power stations. These have proved highly beneficial and Eskom was congratulated on the management and control of these major activities. Opportunities were identified to bring Eskom in line with international practices.

Research developments in coal combustion, material integrity and computational fluid dynamics considerably enhanced plant reliability and safety.

Utilities have a common approach in assessing the combustion behaviour of coal by looking at the volatile content and calorific value. Eskom has proved this to be misleading for South African coals. Tests have shown conclusively that some high-volatility coals are more difficult to burn out than low-volatility coals. The result of this research has initiated an international rethink in the combustion characteristics of southern hemisphere coals.

## NUCLEAR GENERATION

Eskom remains fully committed to operating Koeberg Power Station in line with world safety standards. During 1993 the International Atomic Energy Agency assessed Eskom's responses and actions to the findings of the Operational

Safety Assessment Review Team (OSART) which visited Koeberg in November 1991. The review found Eskom to be in line with those of other post-OSART reviews. The radioactive discharges from Koeberg and the exposure of workers to radiation remained well below the limits set by the Council for Nuclear Safety.

## HYDROELECTRIC AND GAS TURBINE PLANT

As a result of the drought, Vanderkloof Power Station was unable to generate and Hendrik Verwoerd Power Station generated power to meet extreme emergency requirements only. The hydroelectric and gas turbine plant however continued to fulfil their role of systems security by supplying peak demand power and maintaining voltage stabilisation. The transfer of water to the Sterkfontein Dam via the Drakensberg Pumped Storage Scheme made a vital contribution to maintaining water supplies to the metropolitan areas of Pretoria, Johannesburg and Vereeniging during the drought.

## COAL AND WATER SUPPLIES

Prices to final customers are to a large extent determined by the production costs of coal burnt in power stations. Eskom's coal suppliers have made exceptional efforts to control costs and to improve productivity. Coupled with Eskom's thrust to instil budget discipline at all levels of accountability, these have resulted in coal purchase and coal burn costs once again being contained at levels well below the current rate of inflation. This has had a positive effect on Eskom's efforts to reduce the real price of electricity to customers.

Three major coal supply agreements were renegotiated during 1993. The negotiations were directed at refining the existing fixed price agreement at Grootegeluk Colliery and introducing the concept to both Optimum and Duvha collieries. In the latter case the single-product colliery was converted to a multi-product operation by incorporating the activities of the three collieries into one agreement.

It was agreed with Randcoal to close the Majuba Colliery permanently due to technical problems and the resultant potential high coal costs. Randcoal will supply coal to Majuba for the first three generating units subject to the finalisation of the coal supply arrangements. The options relating to the supply of coal to the second phase are still being evaluated.

Eskom has always accepted the need for contingency plans to deal with the effects of drought on its vital water supplies. Close

collaboration with the Department of Water Affairs and Forestry ensures regular dynamic reviews of risk profiles and, where necessary, the construction of facilities to manage identified risks. A pipeline connecting the Usutu and Komati catchments was completed in 1993. This timeous action restored water supplies despite the severe drought.

## EDUCATION, TRAINING AND DEVELOPMENT

A major challenge facing Eskom is to ensure that the management of its human resources is aligned with and relevant within a democratic South Africa. The successful development and deployment of employees is vital to optimised business performance and the growing of a strong healthy economy. Significant achievements were recorded in the areas of education, training and development, social harmonisation and industrial relations in Eskom during 1993.

In conjunction with tertiary education institutions, experiential technical bridging training and education support programmes are being provided for disadvantaged students. These have proved successful, with a number of students being offered permanent positions. Eskom has undertaken to review any imbalances in training and development provided for employees to ensure upgrading of staff, particularly in the lower job categories.

In the area of education, training and development, Eskom invested more than R300 million in 1993. This was about 12,5% of direct manpower costs. Eskom's investment in terms of education facilities and equipment amounts to some R450 million. In addition, Eskom has 2 158 bursars and full-time trainees and nearly two thousand employees participating in further studies.

## INDUSTRIAL RELATIONS

During 1992, Eskom and the trade unions embarked on a new process to establish a mutually beneficial relationship. This is designed to result in Eskom further enhancing its position as a top-performing, viable electricity utility serving the immediate and long-term needs and aspirations of all South Africans, and playing a key role in the stimulation of economic growth in southern Africa.

The above vision unfolded as the parties explored new roles as business partners. This culminated in the creation of opportunities for the trade unions to influence management decisions meaningfully through relevant participative structures and processes. Trade unions now have representation on the Electricity

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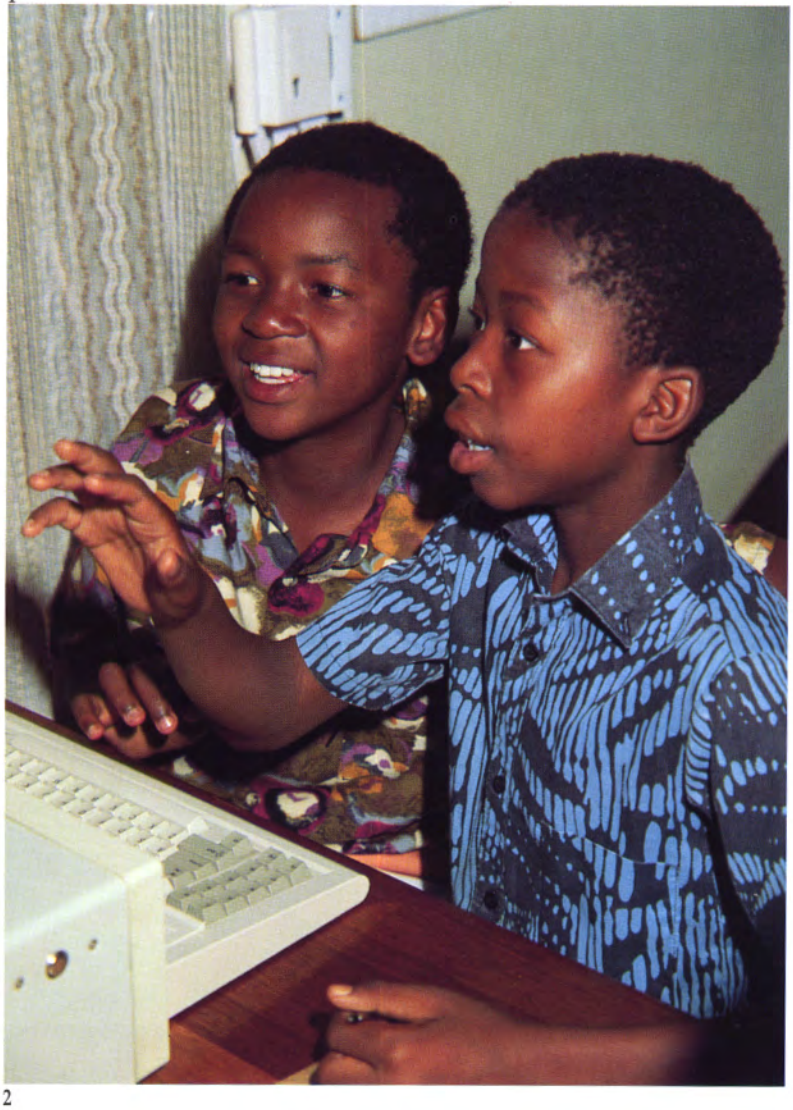
Social investment programmes concentrate on electrification of schools as well as teacher and student assistance programmes, with special emphasis on science, mathematics and technology. Here high school pupils watch a science demonstration.

2.

Looking after present and future customers makes good business sense. Two youngsters on a technical bridging course prepare to enter the technology and computer age.



1



2

## COMBINED OPERATIONAL REPORT

*continued*

Council and other participative structures. In addition, Eskom and the trade unions have developed principles to facilitate the sharing of information. Twenty full-time shop stewards were elected in 1993 and principles to regulate industrial action have been finalised. Agreements on organisational change and various rights and obligations have been concluded.

As a result a consultative culture, where parties are jointly attempting to solve problems, is developing within the organisation.

# SEVEN YEAR FINANCIAL REVIEW

| 31 December | **1993** | 1992 | 1991 | 1990 | 1989 | 1988 | 1987 |
|---|---|---|---|---|---|---|---|
| | **Rm** | Rm | Rm | Rm | Rm | Rm | Rm |
| **Financial position** | | | | | | | |
| Reserves | **13 837** | 12 191 | 10 702 | 9 700 | 8 855 | 8 127 | 7 311 |
| Net interest-bearing debt | **28 027** | 27 616 | 27 266 | 26 590 | 24 630 | 22 779 | 21 304 |
| Total assets | **44 397** | 42 455 | 40 245 | 38 717 | 36 092 | 33 385 | 30 472 |
| Net assets | **42 260** | 40 115 | 38 231 | 36 521 | 33 687 | 31 083 | 28 770 |
| **Operations** | | | | | | | |
| Turnover | **13 793** | 12 649 | 11 726 | 10 736 | 9 271 | 8 159 | 7 046 |
| Operating expenditure* | **9 000** | 8 173 | 7 450 | 6 461 | 5 644 | 4 858 | 4 207 |
| Net interest and finance charges | **3 147** | 2 987 | 3 240 | 3 302 | 2 899 | 2 485 | 2 137 |
| Net income | **1 646** | 1 489 | 1 002 | 845 | 728 | 816 | 702 |
| **Cash flow** | | | | | | | |
| Cash from operating activities | **6 819** | 6 625 | 5 825 | 5 892 | 5 106 | 4 913 | 4 090 |
| Net financing charges* | **(2 642)** | (2 288) | (2 854) | (2 835) | (2 884) | (2 372) | (2 379) |
| Net cash from operating activities | **4 177** | 4 337 | 2 971 | 3 057 | 2 222 | 2 541 | 1 711 |
| Net capital expenditure | **(4 041)** | (4 041) | (3 335) | (3 662) | (3 993) | (3 969) | (3 301) |
| Net cash generated/(utilised) | **136** | 296 | (364) | (605) | (1 771) | (1 428) | (1 590) |
| Debt raised* | **2 582** | 3 316 | 2 903 | 5 457 | 5 137 | 3 569 | 3 518 |
| Debt repaid | **(3 701)** | (1 748) | (2 158) | (3 502) | (1 635) | (801) | (1 871) |
| Decrease/(increase) in investments* | **983** | (1 864) | (381) | (1 350) | (1 731) | (1 340) | (57) |
| Net cash (repaid)/raised | **(136)** | (296) | 364 | 605 | 1 771 | 1 428 | 1 590 |
| **Ratios** | | | | | | | |
| **Profitability and asset management** | | | | | | | |
| Net asset turn | **0,33** | 0,32 | 0,31 | 0,29 | 0,28 | 0,26 | 0,24 |
| Return on total assets, % | **10,80** | 10,54 | 10,62 | 11,04 | 10,05 | 9,89 | 9,32 |
| **Gearing** | | | | | | | |
| Debt:equity | **2,03** | 2,27 | 2,55 | 2,74 | 2,78 | 2,80 | 2,91 |
| Interest cover | **1,52** | 1,50 | 1,32 | 1,29 | 1,25 | 1,33 | 1,33 |
| **Value created per employee, R'000** | **230** | 205 | 171 | 150 | 129 | 105 | 87 |

**Definitions of ratios**

**Net asset turn**
Turnover divided by net assets

**Return on total assets**
Net operating income expressed as a percentage of total assets

**Debt:equity**
Net interest-bearing debt divided by reserves

**Interest cover**
Net operating income divided by net interest and finance charges

**Value created per employee**
Value created divided by number of employees at 31 December

* Comparative figures have been restated or regrouped where necessary.

# VALUE ADDED STATEMENT

*for the year ended 31 December*

Value added is the value created by Eskom through the generation, transmission, distribution and selling of electrical energy.
Value created from the sale of electricity is the excess of turnover over the costs of generation, transmission and distribution, comprising primary energy, materials and services.
The value added statement shows the total value created and how it was distributed to meet certain obligations, reward those responsible for its creation, and the portion retained for the continued operation and expansion of Eskom.

| | **1993** | | 1992 | |
|---|---|---|---|---|
| | **Rm** | % | Rm | % |
| **Value created** | | | | |
| Turnover | **13 793** | | 12 649 | |
| Less: Cost of primary energy, materials and services | **4 554** | | 4 007 | |
| | **9 239** | **100** | 8 642 | 100 |
| **Value distributed** | | | | |
| To remunerate employees for their services* | **2 562** | **28** | 2 404 | 28 |
| To providers of finance for monies borrowed | **3 147** | **34** | 2 987 | 34 |
| | **5 709** | **62** | 5 391 | 62 |
| **Value retained** | | | | |
| To maintain and develop operations | **3 530** | **38** | 3 251 | 38 |
| | **9 239** | **100** | 8 642 | 100 |

* Excluding capitalised manpower costs amounting to R278 million (1992: R229 million).

Value created increased by 7% over 1992. Similarly, value distributed to employees increased by 7% over 1992.
The relative amounts of value distributed and retained has remained unchanged.
The value retained in the business for the replacement of assets remained at 38% of value created, which is in line with the policy of strengthening Eskom's financial position for the benefit of existing and future customers.

# PRODUCTIVITY STATEMENT

*for the year ended 31 December*

Productivity statements provide key insights into business performance by analysing the change in net income between two accounting periods in terms of the impact of productivity, inflation (price recovery) and growth.
Productivity improvement occurs through the more effective use of all operating and capital resources which include coal, employees and assets. Price recovery is the difference between electricity price increases and inflationary changes in the prices of Eskom's resources. Growth represents the change in net income when resource quantities and prices change at the same rate as electricity sales volumes and prices, and is not directly related to productivity or price recovery.
Broadly speaking, productivity improvement creates additional wealth and thereby drives long-term business performance. Price recovery, on the other hand, indicates how wealth is distributed to the organisation's stakeholders, which include customers, employees and investors.

| | **1993** | 1992 |
|---|---|---|
| | **Rm** | Rm |
| Net income for the year | **1 646** | 1 489 |
| Net income for the previous year | **1 489** | 1 002 |
| Change in net income | **157** | 487 |
| Attributable to: | | |
| Wealth reinvested in the business | **11** | 343 |
| Productivity improvement/(deterioration) | **237** | (162) |
| Price (under)/over recovery | **(226)** | 505 |
| Growth | **146** | 144 |
| | **157** | 487 |

Eskom's productivity performance is strongly influenced by the level of unit sales. During this year of high sales growth, notable improvements in employee productivity, maintenance and operations were recorded, creating additional wealth of R237 million. The benefits of productivity improvements were passed on to customers by Eskom absorbing a R226 million price under recovery. The balance of wealth created was reinvested in the business.
The organisation's stakeholders have derived benefits from cumulative productivity improvements of R684 million over the last six years.

# ANNUAL FINANCIAL STATEMENTS

*for the year ended 31 December 1993*

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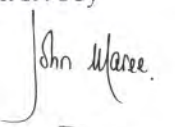

## CURRENCY OF FINANCIAL STATEMENTS

The financial statements are expressed in South African rand (R).
The following are approximate values of R1,00 at 31 December for selected currencies.

| | **1993** | 1992 |
|---|---|---|
| French franc | **1,73** | 1,80 |
| German mark | **0,51** | 0,53 |
| Pound sterling | **0,20** | 0,22 |
| Swiss franc | **0,44** | 0,48 |
| US dollar | **0,29** | 0,33 |

# RESPONSIBILITY FOR THE ANNUAL FINANCIAL STATEMENTS

The Management Board of Eskom is responsible for the preparation, integrity and objectivity of the annual financial statements and other information included in this annual report.
Eskom maintains a system of internal accounting and administrative controls focused on critical risk areas which are identified by management. This system, which includes monitoring by a staff of internal auditors, is designed to provide assurance, at appropriate cost, that assets are safeguarded and that transactions are executed and recorded in accordance with Eskom's policies and procedures. It is further supported by the careful selection of competent financial managers, the establishment of organisational structures which provide an appropriate delegation of authority and division of responsibilities and the communication of policies and standards of business conduct throughout Eskom.
External auditors independently review and report on Eskom's annual financial statements and underlying financial controls.
The Electricity Council has appointed certain of its members to an audit and financial committee. This committee meets at least twice a year with management, the internal auditors and the external auditors to review the activities of each in discharging their responsibilities. Both the internal and external auditors have unrestricted access to the Audit and Financial Committee to discuss the results of their examinations and the adequacy of Eskom's internal accounting controls.
The annual financial statements for the year ended 31 December 1993, set out on pages 46 to 62, which have been prepared by the Management Board, were approved by the Electricity Council and signed on its behalf on 3 March 1994 by



Dr J.B. Maree
*Chairman of the Electricity Council*

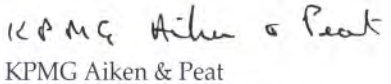


Dr I.C. McRae
*Member of the Electricity Council, Chief Executive of Eskom and Chairman of the Management Board*

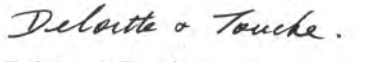
# REPORT OF THE INDEPENDENT AUDITORS

To the Minister for Public Enterprises

We have audited the annual financial statements set out on pages 46 to 59.
We conducted our audit in accordance with generally accepted auditing standards. These standards require that we plan and perform the audit to obtain reasonable assurance that, in all material respects, fair presentation is achieved in the financial statements. Our audit included an evaluation of the appropriateness of the accounting policies, an examination, on a test basis, of evidence supporting the amounts and disclosures included in the financial statements, an assessment of the reasonableness of significant estimates and a consideration of the appropriateness of the overall financial statement presentation. We consider that our audit procedures were appropriate in the circumstances to express our audit opinion presented below.
In our opinion the historical cost financial statements fairly present the financial position of Eskom at 31 December 1993 and the results of its operations and cash flow information for the year then ended in conformity with generally accepted accounting practice as required by the Eskom Act of 1987.
We have examined the current value financial statements set out on pages 60 to 62. In our opinion these statements have been properly prepared on the basis set out in the notes thereto.



KPMG Aiken & Peat
*Chartered Accountants (SA)*
*Auditors*



Deloitte & Touche
*Chartered Accountants (SA)*
*Auditors*

Johannesburg
3 March 1994

# ACCOUNTING POLICIES

## BASIS OF PREPARATION

In terms of the Eskom Act, and as determined by the Electricity Council, the financial statements are prepared in accordance with the applicable requirements of the Companies Act and conform, in all material respects, with South African generally accepted accounting practice and with international accounting standards.
The financial statements are prepared on the historical cost basis, except for financial instruments and investments held for trading purposes, which are stated at fair value (market value or, where not listed, at valuation).
The following principal accounting policies are consistent, in all material respects, with those applied during the previous year. Where necessary, comparative figures are regrouped or restated.

## NUCLEAR WASTE MANAGEMENT PROVISION

A provision for nuclear waste management is maintained for the decommissioning of nuclear plant and the management of spent nuclear fuel assemblies and radio-active waste. The annual charge to the income statement is based on the latest available waste management cost information and is included in operating expenditure.

## DECOMMISSIONING OF PLANT OTHER THAN NUCLEAR PLANT

Provision is made for the costs of decommissioning other plant if it is expected that such costs will exceed the net proceeds from the disposal of associated land and the salvage value of the plant.

## INTEREST-BEARING DEBT

Local registered stock and other debt issued for non-trading purposes is recorded at the consideration received and adjusted for amortised discount or premium. The discount or premium is amortised over the period of the debt using the yield to redemption method, where applicable.
Local registered stock and other debt issued or held for trading purposes is stated at fair value and the resultant profits and losses are included in interest and finance charges.

## INVESTMENTS

Non-trading investments included in net interest-bearing debt are stated at cost which is adjusted for amortised discount on the yield to redemption method, where applicable. Profits and losses are recognised on realisation and included in interest and finance charges.
Trading investments are stated at fair value and the resultant profits and losses are included in interest and finance charges.
Unlisted investments included in non-current assets are stated at cost less amounts provided for diminution in value.

## DERIVATIVE FINANCIAL INSTRUMENTS

The premiums received or paid on derivative financial instruments designated as hedges are amortised over the lives of the instruments. Profits and losses on these instruments are deferred and recognised on the same basis as the hedged transactions.
Derivative financial instruments held for trading purposes are stated at fair value and the resultant profits and losses are included in interest and finance charges.

## FOREIGN CURRENCIES

Transactions in foreign currencies are recorded at the spot rate on transaction date or at the spot rate specified in the related forward exchange contract.
Monetary assets, liabilities and commitments in foreign currencies are translated at the forward rates of the underlying forward exchange contracts or at the rates of exchange ruling at year-end. The unamortised forward exchange contract costs are included in foreign debt.
Forward exchange contract costs are recognised over the periods of the related contracts. These costs, as well as profits and losses on foreign currency transactions, are included in interest and finance charges.

## FIXED ASSETS AND DEPRECIATION

Fixed assets are stated at cost of acquisition or construction, less depreciation thereon.
Land is not depreciated. Rights are fully depreciated on acquisition.
Other fixed assets in commission are depreciated on the straight-line basis over their estimated useful lives.
Plant at mothballed power stations is not being depreciated.
Works under construction are stated at cost, which includes all costs necessarily incurred to bring plant to the condition and location essential for its intended use. Costs include overheads and net interest, which is capitalised at the average cost of capital employed.
Construction materials are stated at weighted average cost.
The cost of renewal and maintenance of assets is expensed as incurred.
Where the life of an asset is extended, such costs are capitalised and depreciated over the adjusted useful life of the asset.

## LEASED ASSETS

Assets subject to finance lease agreements are capitalised at their cash cost equivalents and the corresponding liabilities are recognised. The assets are depreciated on the straight-line basis over their estimated useful lives. Lease finance charges are included in interest and finance charges as they become due.

## FUTURE FUEL SUPPLIES

Certain long-term supply contracts require advance payments or loans to suppliers. These advances, together with interest capitalised thereon, are deferred and amortised against the cost of coal on the basis of quantities of coal purchased.

## NUCLEAR FUEL

Nuclear fuel consists of raw materials, fuel elements in the process of fabrication, fabricated fuel elements and fuel in reactors.
Nuclear fuel is valued at cost on the first-in-first-out basis and includes net interest, which is capitalised during the fabrication period at the average cost of capital employed.
The charge to operating expenditure is based on estimated fuel consumption.

## COAL AND STORES

Coal and stores are valued at weighted average cost. Provision for obsolescence is made where appropriate.

## TURNOVER

Turnover comprises electricity revenue and excludes value added tax. Revenue is recognised at the time customers are invoiced.

## RESEARCH AND DEVELOPMENT

Research and development costs are charged to operating expenditure when incurred.

## RETIREMENT BENEFITS

Eskom provides retirement benefits for all its employees through the Eskom Pension and Provident Fund. Contributions to the Fund are based on a percentage of salaries and are expensed in the period in which they are incurred. Gratuities paid to retiring employees are expensed in the period in which they are paid.

## CONSOLIDATION

Investments in subsidiary companies and associate companies are not consolidated or equity accounted as their assets and operating results are not material in relation to Eskom's assets and operating results.

# BALANCE SHEET

| At 31 December | Notes | 1993 | 1992 |
|---|---|---|---|
| | | Rm | Rm |
| **CAPITAL EMPLOYED** | | | |
| **Reserves** | | 13 837 | 12 191 |
| Accumulated reserves | | 13 837 | 11 985 |
| Insurance reserve | 1 | — | 206 |
| **Nuclear waste management provision** | 2 | 396 | 308 |
| **Net interest-bearing debt** | 3 | 28 027 | 27 616 |
| Long term | | 24 946 | 24 438 |
| Short term | | 3 081 | 3 178 |
| **Capital employed** | | 42 260 | 40 115 |
| **EMPLOYMENT OF CAPITAL** | | | |
| **Fixed assets** | 4 | 38 605 | 36 895 |
| **Non-current assets** | 5 | 3 762 | 3 501 |
| **Current assets** | | 2 030 | 2 059 |
| Coal and stores | 6 | 731 | 851 |
| Debtors | 7 | 1 299 | 1 208 |
| **Total assets** | | 44 397 | 42 455 |
| **Interest-free liabilities** | | 2 137 | 2 340 |
| Creditors | | 1 659 | 1 820 |
| Net interest accrued | 8 | 478 | 520 |
| **Net assets** | | 42 260 | 40 115 |

# INCOME STATEMENT

| For the year ended 31 December | Notes | 1993 | 1992 |
|---|---|---|---|
| | | **Rm** | Rm |
| **Turnover** | | **13 793** | 12 649 |
| **Operating expenditure** | 12 | **9 000** | 8 173 |
| **Net operating income** | | **4 793** | 4 476 |
| **Net interest and finance charges** | 13 | **3 147** | 2 987 |
| **Net income** | | **1 646** | 1 489 |
| **Transfer from/(to) insurance reserve** | | **206** | (92) |
| **Retained income for the year** | | **1 852** | 1 397 |
| **Accumulated reserves at beginning of the year** | | **11 985** | 10 588 |
| **Accumulated reserves at end of the year** | | **13 837** | 11 985 |

# CASH FLOW STATEMENT

| For the year ended 31 December | Notes | 1993 | 1992 |
|---|---|---|---|
| | | **Rm** | Rm |
| **CASH FROM OPERATING ACTIVITIES AND CASH UTILISED IN CAPITAL EXPENDITURE ACTIVITIES** | | | |
| **Cash from operating activities** | 15 | **6 819** | 6 625 |
| **Net financing charges** | 16 | **(2 642)** | (2 288) |
| **Net cash from operating activities** | | **4 177** | 4 337 |
| **Net capital expenditure** | 17 | **(4 041)** | (4 041) |
| **Net cash generated** | | **136** | 296 |
| **CASH EFFECTS OF FUNDING ACTIVITIES** | | | |
| **Debt raised** | 18 | **2 582** | 3 316 |
| **Debt repaid** | 19 | **(3 701)** | (1 748) |
| **Decrease/(increase) in investments** | | **983** | (1 864) |
| **Net cash utilised** | | **(136)** | (296) |

# NOTES TO THE FINANCIAL STATEMENTS

| For the year ended 31 December | 1993 | 1992 |
|---|---|---|
| | Rm | Rm |

## Notes to the balance sheet

**1. Insurance reserve**

| | | |
|---|---|---|
| Balance at beginning of the year | **206** | 114 |
| Transfer (to)/from income statement | **(206)** | 92 |
| Balance at end of the year | **—** | 206 |

The insurance reserve was held to provide for abnormal losses not covered externally. As from 1 January 1993 the insurance risks and related activities were assumed by a subsidiary company, Escap Limited. Consequently an insurance reserve is no longer required although Eskom has underwritten the solvency margin of this company. (Refer Note 10.2.)

**2. Nuclear waste management provision**

| | | |
|---|---|---|
| Balance at beginning of the year | **308** | 263 |
| Provided during the year | **88** | 45 |
| | **396** | 308 |
| Expenditure incurred | **—** | — |
| Balance at end of the year | **396** | 308 |

**3. Net interest-bearing debt**

Eskom's funding is managed in a single pool consisting of debt and investments. Funds received from swap cash flows and prefunding activities are invested, pending their use for repayment of debt and for funding of operating and capital expenditure.

Net interest-bearing debt consists of:

| | | |
|---|---|---|
| Interest-bearing debt | **33 507** | 33 987 |
| Local registered stock | **21 301** | 20 636 |
| Other local debt | | |
| Commercial paper bills | **4 196** | 4 034 |
| Other | **560** | 118 |
| Foreign debt | | |
| Bonds and loans | **4 678** | 6 063 |
| Project finance | **2 772** | 3 136 |
| Less: Investments | **5 480** | 6 371 |
| Capital market investments | **2 224** | 2 672 |
| Deposits and money market assets | | |
| Negotiable certificates of deposit | **1 787** | 1 911 |
| Bills and bankers' acceptances | **345** | 217 |
| Fixed and other deposits | **720** | 731 |
| Money on call | **263** | 2 |
| Cash and bank | **141** | 838 |
| Net interest-bearing debt | **28 027** | 27 616 |
| *The fair value of investments is* | ***5 860*** | *6 431* |

| For the year ended 31 December | 1993 | 1992 |
|---|---|---|
| | **Rm** | Rm |

**3. Net interest-bearing debt** *(continued)*

3.1 The maturity structure of net interest-bearing debt is as follows:

| | Local | Foreign | Less: Investments | Net | Net |
|---|---|---|---|---|---|
| Long term | **20 429** | **6 318** | **1 801** | **24 946** | 24 438 |
| After 1 year within 5 years | **4 935** | **4 903** | **373** | **9 465** | 8 973 |
| After 5 years within 10 years | **1 503** | **1 395** | **312** | **2 586** | 4 642 |
| After 10 years | **13 991** | **20** | **1 116** | **12 895** | 10 823 |
| Short term | **5 628** | **1 132** | **3 679** | **3 081** | 3 178 |
| | **26 057** | **7 450** | **5 480** | **28 027** | 27 616 |

The weighted average maturity period of net interest-bearing debt is 10,1 years (1992: 9,7 years).

| | | |
|---|---|---|
| Short-term debt includes credits and short-term loans of a revolving nature amounting to | **4 526** | 4 211 |

3.2 The nominal value of local registered stock is:

| | | |
|---|---|---|
| Authorised | **69 749** | 59 999 |
| Issued | **25 318** | 24 598 |

(Refer Schedule 1.)

3.3 The rand equivalent of foreign debt by major currency is:

| | | |
|---|---|---|
| US dollar | **4 372** | 5 191 |
| German mark | **2 467** | 3 259 |
| Other | **611** | 749 |
| | **7 450** | 9 199 |

All significant foreign currency exposures were appropriately hedged at 31 December 1993.

3.4 Interest-bearing debt and interest thereon are secured by a first claim against revenue and assets.

3.5 Foreign debt is guaranteed by the government of the Republic of South Africa.

3.6 The average annual rate of net interest and finance charges on net interest-bearing debt amounted to 13,0% (1992: 13,3%).

| For the year ended 31 December | Cost | Accumulated depreciation | Book value |
|---|---|---|---|
| | Rm | Rm | Rm |
| **4. Fixed assets** | | | |
| **1993** | | | |
| Land and rights | **333** | **84** | **249** |
| Buildings and facilities | **2 146** | **779** | **1 367** |
| Plant – Generation | **29 174** | **7 638** | **21 536** |
| – Transmission | **4 938** | **1 403** | **3 535** |
| – Distribution | **7 437** | **1 717** | **5 720** |
| Test and telecommunication equipment | **415** | **264** | **151** |
| Equipment and vehicles | **1 107** | **708** | **399** |
| Leased equipment | **73** | **13** | **60** |
| Total in commission | **45 623** | **12 606** | **33 017** |
| Plant at mothballed power stations | **2 559** | **523** | **2 036** |
| Works under construction | **3 409** | **—** | **3 409** |
| Construction materials | **143** | **—** | **143** |
| | **51 734** | **13 129** | **38 605** |
| 1992 | | | |
| Land and rights | 321 | 76 | 245 |
| Buildings and facilities | 2 096 | 712 | 1 384 |
| Plant – Generation | 27 987 | 6 522 | 21 465 |
| – Transmission | 4 767 | 1 209 | 3 558 |
| – Distribution | 6 114 | 1 452 | 4 662 |
| Test and telecommunication equipment | 346 | 226 | 120 |
| Equipment and vehicles | 945 | 636 | 309 |
| Leased equipment | 112 | 109 | 3 |
| Total in commission | 42 688 | 10 942 | 31 746 |
| Plant at mothballed power stations | 2 557 | 523 | 2 034 |
| Works under construction | 2 935 | — | 2 935 |
| Construction materials | 180 | — | 180 |
| | 48 360 | 11 465 | 36 895 |

| | **1993** | 1992 |
|---|---|---|
| | **Rm** | Rm |
| **5. Non-current assets** | | |
| Future fuel supplies | **1 782** | 1 613 |
| Nuclear fuel | **902** | 886 |
| In reactors | **364** | 247 |
| Fuel assemblies in process and in stock | **538** | 639 |
| Unlisted investments (Refer Schedule 2.) | **979** | 871 |
| Other | **99** | 131 |
| | **3 762** | 3 501 |

| For the year ended 31 December | 1993 | 1992 |
|---|---|---|
| | **Rm** | Rm |
| **6. Coal and stores** | | |
| Coal | **211** | 296 |
| Maintenance and consumable stores | **520** | 555 |
| | **731** | 851 |
| **7. Debtors** | | |
| Trade debtors | **1 054** | 918 |
| Other | **245** | 290 |
| | **1 299** | 1 208 |
| **8. Net interest accrued** | | |
| Interest payable | **633** | 691 |
| Interest receivable | **(155)** | (171) |
| | **478** | 520 |
| **9. Commitments** | | |
| 9.1 Capital expenditure | | |
| Estimated capital expenditure | **6 554** | 7 814 |
| Contracted | **3 098** | 4 249 |
| Approved, not contracted | **3 456** | 3 565 |
| This expenditure will be financed from debt and internally generated funds and is expected to be incurred as follows: | | |
| within one year | **2 303** | 2 202 |
| thereafter | **4 251** | 5 612 |
| 9.2 Derivative financial instruments | | |
| Option contracts, commodity futures contracts, interest rate swaps and interest rate caps have been entered into. No material losses are anticipated as a result of these transactions. | | |
| 9.3 Undrawn financing facility | | |
| Payable to Alusaf Limited: | **150** | 270 |
| within one year | **150** | 120 |
| thereafter | **—** | 150 |

| For the year ended 31 December | 1993 | 1992 |
|---|---|---|
| | **Rm** | Rm |

## 10. Contingent liabilities

| | | | |
|---|---|---|---|
| 10.1 | In terms of the shareholders' agreement, signed between the members of an associate company, Eskom Finance Company (Proprietary) Limited, Eskom has guaranteed the amounts due by the associate to its other members, amounting to | **623** | 503 |
| 10.2 | Eskom has underwritten the solvency margin of its subsidiary company, Escap Limited, in accordance with the requirements of the Insurance Act. There was no solvency shortfall at year-end. | | |
| 10.3 | Eskom has indemnified the Eskom Pension and Provident Fund against any loss resulting from the negligence, dishonesty or fraud of the Fund's officers or trustees. | | |

## 11. Retirement benefits

The Eskom Pension and Provident Fund, a defined benefit fund, is registered in terms of the Pension Funds Act, 1956 (as amended).
The Fund is actuarially valued at intervals of not more than three years. The last valuation was performed at 31 December 1991 when the consulting actuaries reported that the Fund was in a sound financial position. No events have had a significant effect on the Fund's position since this valuation.
Any deficit will be funded by the payment of actuarially determined lump sums or by future contributions.

| For the year ended 31 December | **1993** | 1992 |
|---|---|---|
| | **Rm** | Rm |
| **Notes to the income statement** | | |
| **12. Operating expenditure** | | |
| Operating expenditure includes: | | |
| Audit fees | **3** | 2 |
| Depreciation | **1 884** | 1 762 |
| Rights | **8** | 7 |
| Buildings and facilities | **78** | 85 |
| Plant | **1 616** | 1 498 |
| Test and telecommunication equipment | **47** | 40 |
| Equipment and vehicles | **127** | 120 |
| Leased equipment | **8** | 12 |
| Managerial, technical and other fees | **27** | 27 |
| Net provision for arrear debts | **167** | 79 |
| Provision for arrear debts | **248** | 283 |
| Reversal of prior provisions | **(81)** | (204) |
| Nuclear waste management charge | **88** | 45 |
| Profit on disposal of fixed assets | **(3)** | (10) |
| **13. Net interest and finance charges** | | |
| Interest paid and discount amortised | **4 485** | 4 491 |
| Local registered stock | **3 128** | 3 030 |
| Other local debt | **446** | 379 |
| Foreign debt | **911** | 1 082 |
| Interest received and discount amortised | **(1 035)** | (1 006) |
| | **3 450** | 3 485 |
| Amounts capitalised | **(303)** | (498) |
| | **3 147** | 2 987 |
| Interest received includes amounts from: | | |
| Subsidiary company | **17** | 17 |
| Associate company | **101** | 115 |

**14. Taxation**

In terms of Section 24 of the Eskom Act, Eskom is exempt from South African normal taxation on income.

| For the year ended 31 December | 1993 | 1992 |
|---|---|---|
| | Rm | Rm |

## Notes to the cash flow statement

| | | |
|---|---|---|
| **15. Cash from operating activities** | | |
| Net operating income | **4 793** | 4 476 |
| Non-cash items | **2 158** | 1 994 |
| Depreciation | **1 884** | 1 762 |
| Fuel amortisation – nuclear fuel | **105** | 130 |
| – coal | **84** | 67 |
| Profit on disposal of fixed assets | **(3)** | (10) |
| Nuclear waste management provision | **88** | 45 |
| | **6 951** | 6 470 |
| Cash (applied to)/released from working capital | **(132)** | 155 |
| Coal and stores | **120** | 70 |
| Debtors | **(91)** | (188) |
| Creditors | **(161)** | 273 |
| | **6 819** | 6 625 |
| **16. Net financing charges** | | |
| Net interest and finance charges | **(3 147)** | (2 987) |
| Non-cash items | **505** | 699 |
| Net interest accrued | **(42)** | 53 |
| Net discount amortised | **499** | 560 |
| Other | **48** | 86 |
| | **(2 642)** | (2 288) |
| **17. Net capital expenditure** | | |
| Expenditure on land, buildings and plant | **(3 494)** | (3 346) |
| Expenditure on equipment and vehicles | **(158)** | (87) |
| | **(3 652)** | (3 433) |
| Proceeds from disposals | **61** | 191 |
| Net expenditure on fixed assets | **(3 591)** | (3 242) |
| Expenditure on future fuel supplies | **(253)** | (249) |
| Expenditure on nuclear fuel | **(121)** | (160) |
| Unlisted investments | **(108)** | (434) |
| Other | **32** | 44 |
| | **(4 041)** | (4 041) |
| **18. Debt raised** | | |
| Local registered stock | **1 248** | 1 811 |
| Other local debt | **473** | 661 |
| Foreign debt | **861** | 844 |
| | **2 582** | 3 316 |
| **19. Debt repaid** | | |
| Local registered stock | **(765)** | (741) |
| Other local debt | **(295)** | — |
| Foreign debt | **(2 641)** | (1 007) |
| | **(3 701)** | (1 748) |

# SCHEDULE 1
# LOCAL REGISTERED STOCK

At 31 December

| Loan | Authorised nominal value 1993 Rm | Coupon rate % | Capital repayment dates | Interest payment dates | Issued nominal value 1993 Rm | Issued nominal value 1992 Rm |
|---|---|---|---|---|---|---|
| 70 | — | 6,5 | 1993 | Mar/Sep | — | 8 |
| 71 | — | 6,875 | 1993 | Mar/Sep | — | 51 |
| 75 | — | 6,5 | 1993 | Apr/Oct | — | 14 |
| 76 | — | 6,875 | 1993 | Apr/Oct | — | 41 |
| 78 | 20 | 6,5 | 1994 | Apr/Oct | **17** | 18 |
| 79 | 30 | 6,875 | 1994 | Apr/Oct | **22** | 24 |
| 81 | 10 | 6,5 | 1994 | Apr/Oct | **7** | 9 |
| 82 | 25 | 6,875 | 1994 | Apr/Oct | **16** | 23 |
| 83 | 18 | 7,5 | 1995 | Apr/Oct | **16** | 17 |
| 84 | 3 | 7 | 1995 | Apr/Oct | **2** | 3 |
| 85 | 35 | 8,75 | 1995 | May/Nov | **21** | 21 |
| 86 | 10 | 8,5 | 1995 | May/Nov | **6** | 7 |
| 87 | 45 | 9,25 | 1996 | Jan/Jul | **24** | 20 |
| 88 | 10 | 8,75 | 1996 | Jan/Jul | **5** | 5 |
| 89 | 20 | 9,25 | 1996 | Jun/Dec | **8** | 8 |
| 90 | 30 | 9,25 | 1996 | Jun/Dec | **15** | 15 |
| 91 | 10 | 8,75 | 1996 | Jun/Dec | **2** | 2 |
| 92 | 20 | 9,25 | 1997 | Jun/Dec | **11** | 12 |
| 93 | 22 | 9,125 | 1997 | May/Nov | **11** | 10 |
| 94 | 5 | 8,75 | 1997 | May/Nov | **2** | 2 |
| 95 | 25 | 8,5 | 1997 | Jun/Dec | **5** | 5 |
| 96 | 28 | 8,25 | 1997 | May/Nov | **13** | 12 |
| 97 | 7 | 8 | 1997 | May/Nov | **5** | 5 |
| 98 | 45 | 8,25 | 1997 | May/Nov | **35** | 34 |
| 99 | 30 | 8,25 | 1998 | Jun/Dec | **22** | 19 |
| 100 | 20 | 8,375 | 1998 | Jun/Dec | **17** | 17 |
| 101 | 5 | 8 | 1998 | Jun/Dec | **3** | 3 |
| 103 | 24 | 8 | 1998 | Feb/Aug | **22** | 19 |
| 104 | 6 | 7,625 | 1998 | Feb/Aug | **4** | 5 |
| 106 | 45 | 8 | 1998 | Jun/Dec | **37** | 23 |
| 107 | 27 | 9 | 1999 | Feb/Aug | **23** | 22 |
| 108 | 3 | 8,5 | 1999 | Feb/Aug | — | — |
| 110 | 30 | 9,5 | 1999 | Jan/Jul | **27** | 23 |
| 111 | 9 | 10,75 | 2000 | Jan/Jul | **4** | 4 |
| 112 | 29 | 10,75 | 2000 | Jan/Jul | **17** | 18 |
| 113 | 40 | 10,75 | 2000 | Feb/Aug | **34** | 34 |
| 114 | 25 | 10,75 | 2000 | Jun/Dec | **17** | 18 |
| 115 | 5 | 10,25 | 2000 | Jun/Dec | **4** | 3 |
| 116 | 30 | 10,75 | 2000 | Feb/Aug | **20** | 21 |
| C/fwd | 746 | | | | **494** | 595 |

| Loan | Authorised nominal value 1993 Rm | Coupon rate % | Capital repayment dates | Interest payment dates | Issued nominal value 1993 Rm | Issued nominal value 1992 Rm |
|---|---|---|---|---|---|---|
| B/fwd | 746 | | | | **494** | 595 |
| 118 | 55 | 11 | 2000 | Apr/Oct | **49** | 50 |
| 119 | 6 | 10,75 | 1995 | Apr/Oct | **3** | 2 |
| 121 | 40 | 11,4 | 2001 | Mar/Sep | **31** | 33 |
| 122 | 2 | 11,1 | 1996 | Mar/Sep | **1** | 1 |
| 123 | 40 | 12,75 | 1996 | May/Nov | **36** | 37 |
| 126 | 40 | 12,5 | 2001 | Jun/Dec | **34** | 34 |
| 127 | 150 | 12,6 | 1999 | Mar/Sep | **125** | 122 |
| 131 | 250 | 11,15 | 2002 | Apr/Oct | **12** | 12 |
| 132 | 250 | 11,75 | 2002 | Apr/Oct | **51** | 48 |
| 134 | 170 | 10,75 | 2003 | May/Nov | **9** | 10 |
| 135 | 270 | 11,3 | 2003 | May/Nov | **26** | 29 |
| 138 | 150 | 9,7 | 2003 | Feb/Aug | **7** | 8 |
| 139 | 340 | 10,25 | 2003 | Feb/Aug | **14** | 14 |
| 141 | 130 | 8,65 | 2004 | Mar/Sep | **11** | 10 |
| 142 | 350 | 9,15 | 2004 | Mar/Sep | **132** | 65 |
| 144 | 130 | 9,05 | 2005 | Feb/Aug | **10** | 10 |
| 145 | 270 | 9,55 | 2005 | Feb/Aug | **130** | 41 |
| 148 | 100 | 9,05 | 2005 | Jun/Dec | **5** | 3 |
| 149 | 230 | 9,55 | 2005 | Jun/Dec | **12** | 6 |
| 151 | 275 | 10,95 | 2004 | May/Nov | **6** | 4 |
| 152 | — | 12,8 | 1993 | Apr/Oct | — | 68 |
| 153 | 400 | 12,95 | 2006 | Apr/Oct | **304** | 357 |
| 154 | 220 | 10 | 2007 | May/Nov | **155** | 165 |
| 155 | 170 | 13,2 | 2007 | May/Nov | **157** | 165 |
| 157 | 415 | 14,25 | 2008 | May/Nov | **382** | 402 |
| 158 | 2 000 | 9,25 | 1994 | Mar/Sep | **1 128** | 1 768 |
| 159 | 325 | 12 | 2008 | Mar/Sep | **224** | 307 |
| 160 | 350 | 11 | 2009 | May/Nov | **208** | 214 |
| 163 | 125 | 10,5 | 2004 | Jun/Dec | **95** | 99 |
| 165 | 2 000 | 11 | 1995 | Feb/Aug | **627** | 832 |
| 166 | — | 11 | 1993 | Apr/Oct | — | 833 |
| 167 | 5 000 | 12 | 1996 | May/Nov | **1 577** | 1 742 |
| 168 | 20 000 | 11 | 2008 | Jun/Dec | **13 815** | 12 973 |
| 169 | 3 000 | 15 | 1998 | Apr/Oct | **2 471** | 2 759 |
| 170 | 20 000 | 13,5 | 2020 | Feb/Aug | **1 323** | 642 |
| 171 | 6 500 | — | 2002 | — | **254** | 138 |
| 172 | 4 500 | 8 | 2001 | Mar/Sep | **791** | — |
| EPN1 | 750 | 6 | 2008 | May/Nov | **609** | — |
| | 69 749 | | | | **25 318** | 24 598 |

# SCHEDULE 2
# UNLISTED INVESTMENTS

At 31 December

The following unlisted investments are included in non-current assets. (Refer Note 5.)

| Name | Nature of operation | Issued/ stated capital R | Effective holding 1993 % | Effective holding 1992 % | Investment 1993 Rm | Investment 1992 Rm | Indebtedness 1993 Rm | Indebtedness 1992 Rm |
|---|---|---|---|---|---|---|---|---|
| **SUBSIDIARY COMPANIES** | | | | | | | | |
| Escap Ltd | Insurance | 29 500 000 | **100** | — | **30** | — | — | — |
| Rotek Industries (Pty) Ltd | Maintenance and service | 4 000 | **100** | 100 | — | — | **167** | 154 |
| | | | | | **30** | — | **167** | 154 |
| **ASSOCIATE COMPANIES** | | | | | | | | |
| Eskom Finance Company (Pty) Ltd | Finance (employee housing loans) | 4 000 | **20** | 20 | — | — | **628** | 678 |
| Gezicor (Pty) Ltd | Electricity reticulation | 1 000 | **50** | 50 | — | — | — | 4 |
| Kescor (Pty) Ltd | Electricity reticulation | 1 000 | **50** | 50 | — | — | — | 3 |
| Kwanobuhle Electricity Supply Company (Pty) Ltd | Electricity reticulation | 40 000 | **50** | 50 | **2** | 2 | — | — |
| Phambili Nombane (Pty) Ltd | Electricity reticulation | 3 000 000 | **33** | — | **1** | — | — | — |
| | | | | | **3** | 2 | **628** | 685 |
| **OTHER** | | | | | | | | |
| Alusaf Ltd – loan | | | | | — | — | **150** | 30 |
| Small Business Development Corporation Ltd – 500 000 ordinary "A" shares | | | | | **1** | — | — | — |
| | | | | | **1** | — | **150** | 30 |
| | | | | | **34** | 2 | **945** | 869 |
| Indebtedness | | | | | **945** | 869 | | |
| | | | | | **979** | 871 | | |

# CURRENT VALUE BALANCE SHEET

| At 31 December | Notes | 1993 | 1992 |
|---|---|---|---|
| | | Rm | Rm |
| **CAPITAL EMPLOYED** | | | |
| **Accumulated reserves** | | 7 194 | 6 629 |
| **Revaluation reserve** | 2 | 40 238 | 36 938 |
| **Insurance reserve** | | — | 206 |
| | | 47 432 | 43 773 |
| **Nuclear waste management provision** | | 396 | 308 |
| **Net interest-bearing debt** | | 27 647 | 27 556 |
| **Capital employed** | | 75 475 | 71 637 |
| **EMPLOYMENT OF CAPITAL** | | | |
| **Fixed assets** | | 70 127 | 66 839 |
| **Non-current assets** | | 5 442 | 5 061 |
| **Current assets** | | 2 043 | 2 077 |
| Coal and stores | | 744 | 869 |
| Debtors | | 1 299 | 1 208 |
| **Total assets** | | 77 612 | 73 977 |
| **Interest-free liabilities** | | 2 137 | 2 340 |
| **Net assets** | | 75 475 | 71 637 |

# CURRENT VALUE INCOME STATEMENT

| For the year ended 31 December | Notes | 1993 | 1992 |
|---|---|---|---|
| | | Rm | Rm |
| **Turnover** | | 13 793 | 12 649 |
| **Operating expenditure** | | 10 607 | 9 576 |
| **Net operating income** | | 3 186 | 3 073 |
| **Net interest and finance charges** | | 2 827 | 2 915 |
| **Net income** | 3 | 359 | 158 |
| **Transfer from/(to) insurance reserve** | | 206 | (92) |
| **Retained income for the year** | | 565 | 66 |
| **Accumulated reserves at beginning of the year** | | 6 629 | 6 563 |
| **Accumulated reserves at end of the year** | | 7 194 | 6 629 |
| **RATIOS**[1] | | | |
| Real return on total assets, % | | 4,11 | 4,15 |
| Debt:equity | | 0,58 | 0,63 |
| Interest cover | | 1,13 | 1,05 |
| Financial gearing adjustment, % | | 36,41 | 38,57 |

*1. Calculated on the basis described in the seven year financial review on page 41.*

# NOTES TO THE CURRENT VALUE FINANCIAL STATEMENTS

## 1. BASIS OF PREPARATION

Historical cost accounting practices reflect financial results of prices and costs in effect at the time the underlying transactions occurred. This approach does not account for the fact that the purchasing power of money diminishes during periods of inflation. In an attempt to eliminate the effects of changing prices on assets and income, and to ensure that funds needed to maintain the operating capacity are preserved, historical costs have been restated by the preparation of current value financial statements based on guideline AC201 issued by The South African Institute of Chartered Accountants, which also complies with the International Accounting Standard IAS15.

The current value financial statements include the following:

### 1.1 Revaluation reserve

Differences arising on the revaluation of non-monetary assets are taken to a revaluation reserve, taking into account the financial gearing adjustment.

### 1.2 Non-monetary assets

The current values of fixed assets, future fuel supplies, and maintenance and consumable stores are stated using the relevant year's production price index (PPI).

Nuclear fuel and coal are stated at replacement value.

Unlisted investments are stated at book value.

### 1.3 Monetary assets

Monetary assets are stated at book value, which approximates net present value.

### 1.4 Net monetary liabilities

Monetary liabilities are stated at book value, which approximates net present value.

Investments included in net interest-bearing debt are stated at fair value.

### 1.5 Income statement inflation adjustments

Current value depreciation/amortisation is calculated on the current values of the relevant non-monetary assets on the same basis as for historical cost purposes.

The depreciation adjustment is the difference between the current value depreciation charge and the historical cost depreciation charge.

The cost of sales adjustment is the difference between the current value and the historical cost of consumption of coal and maintenance and consumable stores.

The financial gearing adjustment represents the proportion of the depreciation and cost of sales adjustments attributed to the level of net finance provided by net outside sources of capital at year-end.

Differences arising on the revaluation of investments are included in interest and finance charges.

# NOTES TO THE CURRENT VALUE FINANCIAL STATEMENTS *continued*

| For the year ended 31 December | **1993** | 1992 |
|---|---|---|
| | **Rm** | Rm |
| **2. REVALUATION RESERVE** | | |
| Balance at beginning of the year | **36 938** | 32 912 |
| Net revaluation to maintain operating capacity | **3 300** | 4 026 |
| Fixed assets revaluation | **3 974** | 4 624 |
| Non-current assets revaluation | **209** | 239 |
| Other revaluation | **37** | 44 |
| Financial gearing adjustment | **(920)** | (881) |
| Balance at end of the year | **40 238** | 36 938 |
| **3. NET INCOME RECONCILIATION** | | |
| Current value net income | **359** | 158 |
| Inflation adjustments | **1 287** | 1 331 |
| Depreciation | **2 396** | 2 164 |
| Cost of sales | **131** | 120 |
| Financial gearing adjustment | **(920)** | (881) |
| Investments | **(320)** | (72) |
| Historical cost net income | **1 646** | 1 489 |

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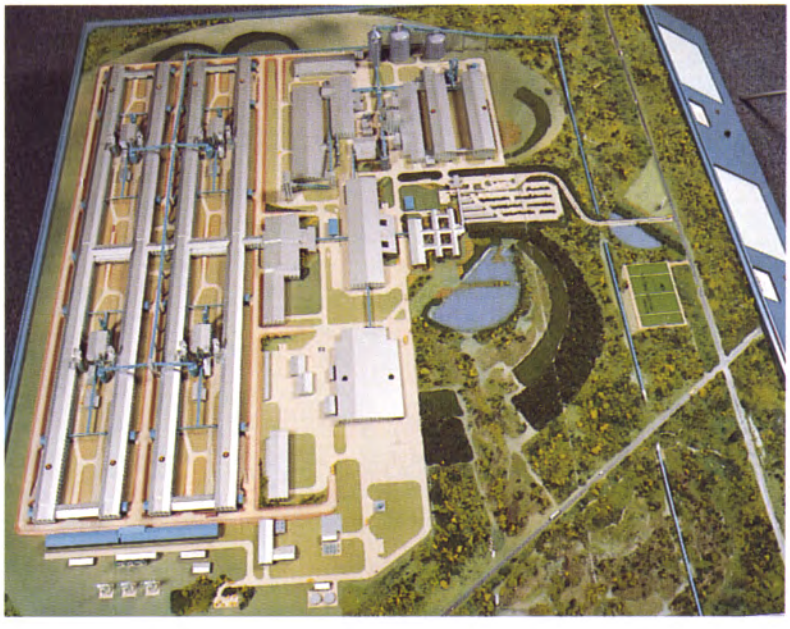
TABLE 8 : 68
Analysis of registered holders of Eskom local registered stock









Customer care is a priority for all consumers; repair and maintenance teams in Sandton residential area near Johannesburg. Durban Corporation purchases bulk supplies of electricity for redistribution. Traction forms 2% of electricity sales. Incoming conveyors transport coal from New Vaal Colliery to Lethabo Power Station. A model of the new Alusaf refinery at Hillside in Natal that will benefit from customised pricing agreements with Eskom.

# TABLES

## 1. Statistical overview

| | **1993** | 1992 | 1991 | 1990 | 1989 | 1988 | 1987 | 1986 | 1985 | 1984 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sales** | | | | | | | | | | |
| Total sold, GWh[1] | **143 800** | 138 126 | 138 687 | 136 168 | 134 347 | 129 493 | 122 524 | 117 353 | 112 306 | 106 904 |
| Growth in GWh sales, percent | **4,1** | – 0,4 | 1,8 | 1,4 | 3,7 | 5,7 | 4,4 | 4,5 | 5,1 | 8,8 |
| **Electricity output** | | | | | | | | | | |
| Total electricity production in South Africa, GWh[2] | **155 812** | 149 427 | 148 919 | 147 069 | 146 162 | 140 802 | 134 751 | 130 056 | 126 206 | 120 835 |
| Eskom electricity production as percentage of South African total | **97,9** | 97,9 | 98,0 | 97,5 | 96,7 | 97,0 | 96,1 | 95,1 | 94,5 | 94,3 |
| Total electricity for Eskom system (Eskom stations and purchased), GWh[3] | **154 361** | 148 556 | 148 934 | 146 320 | 143 548 | 139 197 | 132 774 | 126 766 | 122 494 | 117 086 |
| Total produced by Eskom stations, GWh | **154 260** | 148 207 | 148 671 | 146 047 | 143 204 | 138 837 | 132 507 | 126 511 | 121 987 | 116 581 |
| Subtotal from coal-fired stations, GWh | **145 514** | 136 830 | 135 743 | 134 744 | 128 304 | 123 777 | 122 947 | 114 298 | 113 941 | 110 094 |
| Subtotal from hydroelectric stations, GWh | **146** | 752 | 1 980 | 1 010 | 2 759 | 3 162 | 1 617 | 1 623 | 624 | 560 |
| Subtotal from pumped storage stations, GWh | **1 345** | 1 333 | 1 804 | 1 841 | 1 039 | 1 403 | 1 774 | 1 785 | 2 107 | 1 994 |
| Subtotal from diesel and gas turbine stations, GWh | **—** | 4 | — | 3 | 3 | 2 | 2 | 2 | — | 8 |
| Subtotal from nuclear power station, GWh | **7 255** | 9 288 | 9 144 | 8 449 | 11 099 | 10 493 | 6 167 | 8 803 | 5 315 | 3 925 |
| Total purchased for Eskom system, GWh | **101** | 349 | 263 | 273 | 344 | 360 | 267 | 255 | 507 | 505 |
| Total consumed by Eskom, GWh[4] | **1 898** | 2 295 | 2 933 | 2 953 | 2 265 | 2 567 | 3 229 | 3 018 | 3 265 | 3 188 |
| Total available for distribution, GWh[1] | **152 463** | 146 261 | 146 001 | 143 367 | 141 283 | 136 630 | 129 545 | 123 748 | 119 229 | 113 898 |
| **Plant performance** | | | | | | | | | | |
| Total power station nominal capacity, MW | **39 746** | 39 060 | 38 396 | 35 673 | 34 141 | 33 176 | 31 261 | 28 086 | 25 716 | 24 514 |
| Total power station net maximum capacity, MW | **37 636** | 36 846 | 36 228 | 33 843 | 32 403 | 31 465 | 29 618 | 26 682 | 24 359 | 23 168 |
| Peak demand on integrated Eskom system, MW | **23 169** | 22 640 | 22 342 | 21 863 | 21 871 | 20 589 | 20 001 | 18 278 | 17 852 | 17 296 |
| Average station availability (unit capability factor), percent[5] | **80,5 (81,7)** | 76,7 | 76,1 | 75,0 | 78,1 | 79,1 | 79,2 | 78,5 | 77,5 | 74,9 |
| Generation load factor (after excess capacity management), percent[6] | **46,8 (56,4)** | 46,9 (54,6) | 49,8 (58,5) | 50,5 (57,3) | 51,1 | 52,3 | 54,3 | 55,5 | 58,0 | 58,1 |
| Integrated Eskom system load factor, percent | **75,1** | 73,5 | 74,6 | 74,9 | 73,7 | 75,5 | 73,9 | 77,3 | 76,2 | 75,0 |
| Coal burnt, thousands of tons | **75 926,4** | 71 037,9 | 70 523,2 | 70 861,2 | 67 529,3 | 64 489,6 | 65 787,0 | 58 915,9 | 59 488,6 | 58 703,6 |
| Coal consumption, kg/kWh net | **0,522** | 0,519 | 0,520 | 0,526 | 0,523 | 0,521 | 0,535 | 0,515 | 0,522 | 0,533 |
| Average heat rate of coal-fired stations, MJ/kWh net | **10,47** | 10,54 | 10,49 | 10,66 | 10,72 | 10,71 | 11,00 | 10,95 | 11,26 | 11,45 |
| Average gross calorific value of coal (as received), MJ/kg | **19,74** | 20,25 | 20,21 | 20,26 | 20,20 | 20,44 | 20,48 | 21,19 | 21,52 | 21,38 |
| Overall thermal efficiency, percent | **34,4** | 34,2 | 34,3 | 33,7 | 33,6 | 33,6 | 32,7 | 32,9 | 32,0 | 31,4 |
| Average cost of coal burnt, R/ton | **28,48** | 27,47 | 25,70 | 23,91 | 20,9 | 18,67 | 17,11 | 14,87 | 13,25 | 12,55 |
| Average cost of coal burnt, c/kWh | **1,4860** | 1,4263 | 1,3354 | 1,2575 | 1,1023 | 0,9727 | 0,9155 | 0,7665 | 0,6916 | 0,6692 |
| **Employees** | | | | | | | | | | |
| Total number at 31 December[7] | **40 128** | 42 223 | 46 637 | 50 000 | 51 554 | 56 726 | 56 830 | 60 800 | 66 000 | 64 560 |
| GWh sold per employee | **3,584** | 3,271 | 2,974 | 2,723 | 2,606 | 2,283 | 2,156 | 1,930 | 1,702 | 1,656 |
| **Sales to other countries in southern Africa, GWh** | | | | | | | | | | |
| Botswana | **120,6** | 100,4 | 105,8 | 84,2 | 57,8 | 53,4 | 77,5 | 232,3 | 222,4 | 185,7 |
| Lesotho | **281,2** | 240,6 | 205,7 | 192,3 | 181,9 | 170,9 | 156,2 | 134,6 | 123,7 | 116,8 |
| Mozambique | **509,8** | 435,5 | 383,3 | 321,6 | 307,1 | 340,4 | 329,2 | 303,8 | 227,8 | 283,5 |
| Namibia | **999,0** | 457,5 | 822,7 | 586,3 | 556,6 | 452,9 | 613,6 | 411,1 | 223,8 | 186,9 |
| Swaziland | **529,3** | 567,0 | 356,6 | 409,5 | 274,0 | 290,3 | 253,5 | 277,1 | 227,2 | 250,2 |
| Zimbabwe | **149,5** | 13,8 | 6,2 | 13,2 | 14,6 | 16,5 | 16,5 | 15,6 | 11,5 | 12,5 |
| | **2 589,4** | 1 814,8 | 1 880,3 | 1 607,1 | 1 392,0 | 1 324,4 | 1 446,5 | 1 374,5 | 1 036,4 | 1 035,6 |

*1. Difference between electricity available for distribution and electricity sold is due to transmission losses. 2. Electricity production by Eskom and by some industries and municipalities which generate all or part of their electricity requirements. 3. Includes Eskom electricity produced and delivered to neighbouring countries. 4. In respect of pumped storage facilities and synchronous condenser mode of operation. See Table 2, Note 6. 5. Capacity hours available x 100/total capacity hours in year. 6. kWh produced x 100/(average net maximum capacity x hours in year). 7. Excludes employees of subsidiary companies.*

**2. Power stations in commission at 31 December 1993**

| Name of station | Location | Number and capacity of generator sets MW | Total nominal capacity MW | Total net maximum capacity MW[1] | Generators in reserve storage Number | Generators in reserve storage Total rating MW |
|---|---|---|---|---|---|---|
| **Coal-fired stations** | | | | | | |
| Arnot[2] | Middelburg, Tvl | 6 x 350 | 2 100 | 1 955 | 3 | 990 |
| Camden[3] | Ermelo | 8 x 200 | 1 600 | 1 520 | 8 | 1 520 |
| Duvha[2] | Witbank | 6 x 600 | 3 600 | 3 450 | — | — |
| Grootvlei[3] | Balfour | 6 x 200 | 1 200 | 1 130 | 6 | 1 130 |
| Hendrina[2] | Hendrina | 10 x 200 | 2 000 | 1 900 | — | — |
| Highveld[3] | Sasolburg | 8 x 60 | 480 | 412 | 8 | 412 |
| Ingagane[3] | Newcastle | 5 x 100 | 500 | 465 | 5 | 465 |
| Kendal[2, 7] | Witbank | 6 x 686 | 4 116 | 3 840 | — | — |
| Komati[3] | Middelburg, Tvl | 5 x 100; 4 x 125 | 1 000 | 891 | 9 | 891 |
| Kriel[2] | Bethal | 6 x 500 | 3 000 | 2 850 | — | — |
| Lethabo[2] | Sasolburg | 6 x 618 | 3 708 | 3 558 | — | — |
| Matimba[2, 7] | Ellisras | 6 x 665 | 3 990 | 3 690 | — | — |
| Matla[2] | Bethal | 6 x 600 | 3 600 | 3 450 | — | — |
| Salt River[4] | Cape Town | 4 x 30; 2 x 60 | 240 | 228 | 4 | 114 |
| Taaibos[3] | Sasolburg | 8 x 60 | 480 | 440 | 8 | 440 |
| Tutuka[2] | Standerton | 6 x 609 | 3 654 | 3 510 | — | — |
| Wilge[4] | Witbank | 2 x 30; 3 x 60 | 240 | 199 | 2 | 78 |
| Subtotal coal-fired stations (17) | | | 35 508 | 33 488 | 53 | 6 040 |
| **Gas turbine and diesel stations[4]** | | | | | | |
| Acacia | Cape Town | 3 x 57 | 171 | 171 | — | — |
| Port Rex | East London | 3 x 57 | 171 | 171 | — | — |
| Paratus | Walvis Bay | 4 x 6,4 | 26 | 26 | — | — |
| Subtotal gas turbine and diesel stations (3) | | | 368 | 368 | — | — |
| **Hydroelectric stations[5]** | | | | | | |
| Hendrik Verwoerd | Norvalspont | 4 x 80 | 320 | 320 | — | — |
| Vanderkloof | Petrusville | 2 x 110 | 220 | 220 | — | — |
| Subtotal hydroelectric stations (2) | | | 540 | 540 | — | — |
| **Pumped storage schemes[6]** | | | | | | |
| Drakensberg | Bergville | 4 x 250 | 1 000 | 1 000 | — | — |
| Palmiet | Grabouw | 2 x 200 | 400 | 400 | — | — |
| Subtotal pumped storage schemes (2) | | | 1 400 | 1 400 | — | — |
| **Nuclear power station** | | | | | | |
| Koeberg | Cape Town | 2 x 965 | 1 930 | 1 840 | — | — |
| **Total in service, 25 Eskom stations** | | | 39 746 | 37 636 | 53 | 6 040 |

*1. Difference between nominal and net maximum capacity reflects auxiliary power consumption and reduced capacity caused by age of plant and/or low coal quality. 2. Base-load station. 3. Mothballed. 4. Stations used for peaking or emergency supplies. 5. Use restricted to peaking and emergencies and availability of water in Hendrik Verwoerd and P.K. le Roux dams. 6. Pumped storage facilities are net users of electricity and are used for peaking. Water is pumped during off-peak periods to generate electricity during peak periods. 7. Dry-cooled unit specifications are based on design back-pressure and ambient air temperature.*

**3. Generating set taken into service during 1993**

| | Total nominal capacity, MW | Total net max. capacity, MW |
|---|---|---|
| Kendal, set 6 | 686 | 640 |
| **Total** | 686 | 640 |

**4. Generating sets on order at 31 December 1993**

| Name, type and location of power station | Number and nominal capacity of sets MW | Net max. capacity of sets MW | Total nominal capacity of station MW | Total net max. capacity of station MW | Number of sets in service (on order) | Total nominal capacity of sets on order | Total net max. capacity of sets on order | Year of completion first (last) set |
|---|---|---|---|---|---|---|---|---|
| Majuba, coal fired | 3 x 657 | 3 x 612 | | | | | | |
| Volksrust | 3 x 711 | 3 x 667 | 4 104 | 3 837 | 0 (6) | 4 104 | 3 837 | 1996 (2001) |
| **Total generating sets on order** | | | | | | 4 104 | 3 837 | |

*Dates on which sets on order will be taken into commercial service may change, depending on growth in electricity demand.*

**5. Transmission and distribution equipment in service at 31 December**

| | | **1993** | 1992 | Change |
|---|---|---|---|---|
| **Main transmission system, km** | 765 kV | **1 153**[1] | 871 | 282 |
| | 533 kV DC (monopolar) | **1 031** | 1 030 | 1 |
| | 400 kV | **13 848** | 13 782 | 66 |
| | 275 kV | **7 167** | 7 199 | (32) |
| | 220 kV | **1 186** | 1 243 | (57) |
| | 132 kV | **371**[2] | 491 | (120) |
| **Total** | | **24 756** | 24 616 | 140 |
| **Distribution lines, km** | 165 – 132 kV | **17 102** | 16 910 | 192 |
| | 88 – 33 kV | **20 953** | 21 099 | – 146 |
| **Total** | | **38 055** | 38 009 | 46 |
| **Reticulation lines, km** | Total 22 kV and lower | **176 153** | 170 484 | 5 669 |
| **Total all lines, km** | | **238 964** | 233 109 | 5 855 |
| **Cables, km** | 165 – 132 kV | **53** | 56 | (3) |
| | 88 – 33 kV | **278** | 313 | (35) |
| | 22 kV and lower | **5 510** | 4 740 | 770 |
| **Total all cables, km** | | **5 841** | 5 109 | 732 |
| **Transformers** | Transmission capacity, MVA | **105 540** | Not quoted | |
| | Distribution and reticulation capacity, MVA | **61 873** | Not quoted | |
| **Total capacity, MVA** | | **167 413** | 164 865 | 2 548 |
| | Transmission, number | **383** | Not quoted | |
| | Distribution and reticulation, number | **149 214** | Not quoted | |
| **Total, number** | | **149 597** | 141 407 | 8 190 |

*1. 765 kV construction line presently operating at 400 kV, added to 765 kV line category. 2. 132 kV circuits re-allocated to Distribution and circuit voltage change.*

**6. Sales of electricity to categories of customers**

| Category | Number of customers 1993 | 1992 | % Change 92 – 93 | GWh sold 1993 | 1992 | % Change 92 – 93 |
|---|---|---|---|---|---|---|
| Bulk | **742** | 718 | 3,3 | **63 591** | 62 417 | 1,9 |
| Domestic and street lighting | **715 219** | 397 562 | 79,9 | **2 778** | 1 604 | 73,2 |
| Commercial | **26 535** | 17 918 | 48,1 | **493** | 379 | 30,1 |
| Industrial | **2 957** | 2 682 | 10,3 | **36 546** | 34 034 | 7,4 |
| Mining | **632** | 583 | 8,4 | **30 998** | 30 840 | 0,5 |
| Rural/farming | **126 113** | 122 097 | 3,3 | **4 070** | 4 038 | 0,8 |
| Traction | **41** | 36 | 13,9 | **3 365** | 3 568 | – 5,7 |
| International* | **4** | 4 | — | **1 565** | 776 | 101,7 |
| Own usage | **266** | 266 | — | **394** | 470 | – 16,2 |
| | **872 509** | 541 866 | 61,0 | **143 800** | 138 126 | 4,1 |

** International category comprises four main customers in Botswana, Mozambique, Namibia and Zimbabwe.*

**7. Turnover per category of customer**

| Category | Turnover Rm 1993 | 1992 | % Change 92 – 93 | Average price c/kWh sold 1993 | 1992 | % Change 92 – 93 |
|---|---|---|---|---|---|---|
| Bulk | **6 035** | 5 607 | 7,6 | **9,490** | 8,983 | 5,6 |
| Domestic and street lighting | **353** | 245 | 44,1 | **12,707** | 15,274 | – 16,8 |
| Commercial | **81** | 59 | 37,3 | **16,430** | 15,567 | 5,5 |
| Industrial | **2 998** | 2 782 | 7,8 | **8,203** | 8,174 | 0,4 |
| Mining | **2 951** | 2 711 | 8,9 | **9,520** | 8,791 | 8,3 |
| Rural/farming | **754** | 692 | 9,0 | **18,526** | 17,137 | 8,1 |
| Traction | **461** | 444 | 3,8 | **13,700** | 12,444 | 10,1 |
| International | **120** | 67 | 79,1 | **7,668** | 8,634 | – 11,2 |
| Own usage | **40** | 42 | – 4,8 | **10,152** | 8,936 | 13,6 |
| | **13 793** | 12 649 | 9,0 | **9,592** | 9,158 | 4,7* |

** Official price increase 8%, actual 4,7%, due to incidence of discounts and incentives, and flat tariffs in Domestic.*

**8. Analysis of registered holders of Eskom local registered stock at 31 December**

| | % of issued nominal value 1993 | 1992 |
|---|---|---|
| Insurance companies, pension and provident funds | **9** | 15 |
| Corporate bodies | **8** | 9 |
| Nominee companies | **60** | 52 |
| Private individuals | **23** | 24 |
| | **100** | 100 |