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PRETORIA, 15 JUNIE
JUNE 1990

No. 12517

PROKLAMASIES

van die

Staatspresident van die Republiek van Suid-Afrika

No. 94, 1990

- (1) WYSIGING VAN PROKLAMASIE No. 350 VAN 1966 KRAGTENS ARTIKEL 33 VAN DIE WET OP GROEPSGEBIEDE, 1966; EN
- (2) PROKLAMERING VAN 'N GEKLEURDE GROEPSGEBIED KRAGTENS ARTIKEL 23 VAN GENOEMDE WET, TE KAKAMAS, DISTRIK GORDONIA, PROVINSIE DIE KAAP DIE GOEIE HOOP.

Kragtens—

A. artikel 33 van die Wet op Groepsgebiede, 1966 (Wet No. 36 van 1966), wysig ek hierby Proklamasie No. 350 van 1966 deur paragraaf B daarna in te trek; en

B. artikel 23 van die genoemde Wet verklaar ek hiermee dat die gebied omskryf in die Bylae van hierdie Proklamasie, vanaf die datum van hierdie Proklamasie, 'n groepsgebied is vir okkupasie en grondbesit deur lede van die Gekleurde groep.

Gegee onder my Hand en die Seël van die Republiek van Suid-Afrika te Kaapstad, op hede die Vyfde dag van Mei Eenduiseid Negehonderd-en-negentig.

F. W. DE KLERK,
Staatspresident.

Op las van die Staatspresident-in-Kabinet:

H. J. KRIEL,
Minister van die Kabinet.

BYLAE

Gebiede DG/K en K

Begin by Baken Bn.C in Meetstuk E.1126/89; daarvan suidooswaarts in 'n reeks reguit lyne deur Bakens Bn.43, Nur.2, Nur.3, P.1, P.2, P.3, P.4, E, P.5, Prok, Ext.1, Sch.2, Sch.1, Cut en Sny, almal bakens in genoemde Meetstuk E. 1126/89, tot by genoemde Baken Bn.C, die beginpunt.

952—A

PROCLAMATIONS

by the

State President of the Republic of South Africa

No. 94, 1990

- (1) AMENDMENT OF PROCLAMATION No. 350 OF 1966 UNDER SECTION 33 OF THE GROUP AREAS ACT, 1966; AND
- (2) PROCLAMATION OF A COLOURED GROUP AREA UNDER SECTION 23 OF THE SAID ACT AT KAKAMAS, DISTRICT OF GORDONIA, PROVINCE OF THE CAPE OF GOOD HOPE

Under—

A. section 33 of the Group Areas Act, 1966 (Act No. 36 of 1966), I hereby amend Proclamation No. 350 of 1966 by withdrawing paragraph B thereof; and

B. section 23 of the said Act, I hereby declare that the area defined in the Schedule hereto shall, as from the date of publication of this Proclamation, be an area for occupation and ownership by members of the Coloured group.

Given under my Hand and the Seal of the Republic of South Africa at Cape Town this Fifth day of May, One thousand Nine hundred and Ninety.

F. W. DE KLERK,
State President.

By Order of the State President-in-Cabinet:

H. J. KRIEL,
Minister of the Cabinet.

SCHEDULE

Areas DG/K and K

Beginning at Beacon Bn.C in Survey Record E. 1126/89; thence south-eastwards in a series of straight lines through beacons Bn.43, Nur.2, Nur.3, P.1, P.2, P.3, P.4, E, P.5, Prok, Ext.1, Sch.2, Sch.1, Cut and Sny, all beacons in the said Survey Record E. 1126/89, to the said Beacon Bn.C, the point of beginning.

12517—1

No. 99, 1990**AANSTELLING VAN LEDE VAN 'N SPESIALE HOF KRAGTENS DIE WET OP SKADELIKE SAKEPRAKTYKE, 1988 (WET No. 71 VAN 1988)**

Kragtens die bevoegdheid my verleen by artikel 13 (3) van die Wet op Skadelike Sakepraktyke, 1988 (Wet No. 71 van 1988), stel ek hiermee dr. David Johannes Mouton en mnr. John Melville Pels aan as lede van die spesiale hof wat ek by Proklamasie No. 72 van 1990 op 12 April 1990 in *Staatskoerant* No. 12417 ingestel het.

Gegee onder my Hand en die Seël van die Republiek van Suid-Afrika te Kaapstad, op hede die Eerste dag van Junie Eenduisend Negehonderd-en-negentig.

F. W. DE KLERK,

Staatspresident

Op las van die Staatspresident-in-Kabinet:

K. D. S. DURR,

Minister van die Kabinet.

GOEWERMENSKENNISGEWINGS**ADMINISTRASIE:
VOLKSRAAD****DEPARTEMENT VAN PLAASLIKE BESTUUR,
BEHUISING EN WERKE**

No. 1310

15 Junie 1990

**INSTELLING VAN DIE VAALOEWER
PLAASLIKE GEBIEDSKOMITEE**

Ek, Abraham Adriaan Venter, Minister van Begroting en Plaaslike Bestuur, Administrasie: Volksraad, handelende kragtens artikel 21 (1) van die Ordonnansie op die Transvaalse Raad vir die Ontwikkeling van Buitestedelike Gebiede, 1943, gelees met regulasies 4 en 7 van die Regulasies vir Plaaslike Gebiedskomitees afgekondig by Administrateurskennisgewing No. 8 van 1945—

(a) stel hierby met ingang van 15 Junie 1990 'n plaaslike gebiedskomitee in wat bekend staan as die Vaaloewer Plaaslike Gebiedskomitee vir die gebied soos omskryf in Bylae 1 hiervan;

(b) bepaal hierby dat bedoelde plaaslike gebiedskomitee uit sewe lede bestaan;

(c) benoem hierby die lede van bedoelde plaaslike gebiedskomitee soos vermeld in Bylae 2 hiervan vir 'n tydperk van hoogstens vyf jaar.

A. A. VENTER,

Minister van Begroting en Plaaslike Bestuur.

BYLAE 1**Beskrywing van die gebied van die Plaaslike
Gebiedskomitee van Vaaloewer**

Vaaloewerdorp in sy geheel, volgens Algemene Plan A 1856/72.

BYLAE 2**Lede van die Plaaslike Gebiedskomitee van
Vaaloewer**

Mnr. D. A. Smit.

Mnr. M. G. Tulip.

Mnr. J. E. S. van Zyl.

Mnr. P. M. van Noorden.

Mnr. J. W. Vosloo.

Mnr. H. J. van der Walt.

Mnr. S. J. Strydom.

No. 99, 1990**APPOINTMENT OF MEMBERS OF A SPECIAL COURT IN TERMS OF THE HARMFUL BUSINESS PRACTICES ACT, 1988 (ACT No. 71 OF 1988)**

By virtue of the powers vested in me by section 13 (3) of the Harmful Business Practices Act, 1988 (Act No. 71 of 1988), I hereby appoint Dr David Johannes Mouton and Mr John Melville Pels as members of the special court which I established by Proclamation No. 72 of 1990 on 12 April 1990 in *Gazette* No. 12417.

Given under my Hand and the Seal of the Republic of South Africa at Cape Town this First day of June, One thousand Nine hundred and Ninety.

F. W. DE KLERK,

State President

By Order of the State President-in-Cabinet:

K. D. S. DURR,

Minister of the Cabinet.

GOVERNMENT NOTICES**ADMINISTRATION: HOUSE OF
ASSEMBLY****DEPARTMENT OF LOCAL GOVERNMENT,
HOUSING AND WORKS**

No. 1310

15 June 1990

**ESTABLISHMENT OF THE VAALOEWER
LOCAL AREA COMMITTEE**

I, Abraham Adriaan Venter, Minister of the Budget and Local Government, Administration: House of Assembly, acting under section 21 (1) of the Transvaal Board for the Development of Peri-Urban Areas Ordinance, 1943, read with regulations 4 and 7 of the Regulations for Local Area Committees promulgated by Administrator's Notice No. 8 of 1945—

(a) establish with effect from 15 June 1990 a local area committee to be known as the Vaaloewer Local Area Committee for the area as defined in Schedule 1 hereof;

(b) determine that the said local area committee shall consist of seven members;

(c) appoint the members of the said local area committee as mentioned in Schedule 2 hereof for a maximum period of five years.

A. A. VENTER,

Minister of the Budget and Local Government.

SCHEDULE 1**Description of the area of the Vaaloewer
Local Area Committee**

Vaaloewer Township in its entirety, vide General Plan A 1856/72.

SCHEDULE 2**Members of the Vaaloewer Local Area
Committee**

Mr D. A. Smit.

Mr M. G. Tulip.

Mr J. E. S. van Zyl.

Mr P. M. van Noorden.

Mr J. W. Vosloo.

Mr H. J. van der Walt.

Mr S. J. Strydom.

DEPARTEMENT VAN BEPLANNING EN PROVINSIALE SAKE

No. 1288

15 Junie 1990

OMSKRYWING VAN GROND AANGEWYS AS 'N ONTWIKKELINGSGBIED IN DIE DISTRIK KLERKSDORP, TRANSVAAL

Ingevolge artikel 33 (3) van die Wet op die Ontwikkeling van Swart Gemeenskappe, 1984 (Wet No. 4 van 1984), omskryf ek, Andrew Fourie, Adjunk-minister van Beplanning en Provinsiale Sake, in die Bylae hier-van grond wat kragtens artikel 33 (1) van bedoelde Wet as 'n ontwikkelingsgebied aangewys is.

A. FOURIE,

Adjunk-minister van Beplanning en Provinsiale Sake.

(Leër 20/5/T40/1)

BYLAE

'n Sekere stuk grond, 38,639 9 ha groot, synde Gedeelte 488 ('n gedeelte van Gedeelte 306) van die plaas Hartbeestfontein 297 IP, geleë in die provinsie Transvaal, soos aangetoon op Landmeter-generaal-diagram A4886/89.

DEPARTEMENT VAN BINNELANDSE SAKE

No. 1289

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—NHLABATHI IN DLADLA

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Vantje Albert Nhlabathi, sy vrou Paulinah Nontombi Mshayisa en minderjarige kinders Maria Duduzile, Phiksile Jenetta Dladla en Ntombifuthi Precious Dladla, woonagtig te Piet Retief Hostel, Piet Retief, te magtig om die van **Dladla** aan te neem.

No. 1290

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—PILLAY IN LEE

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Glen Frank Pillay, woonagtig te 15de Laan 182, Laudium, te magtig om die van **Lee** aan te neem.

No. 1291

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—BAADJIES IN ADAMS

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Michael Baadjies, woonagtig te Karenstraat 47, Gaylee, Blackheath, Kaapstad, te magtig om die van **Adams** aan te neem.

DEPARTMENT OF PLANNING AND PROVINCIAL AFFAIRS

No. 1288

15 June 1990

DEFINITION OF LAND DESIGNATED AS A DE- VELOPMENT AREA IN THE DISTRICT OF KLERKSDORP, TRANSVAAL

In terms of section 33 (3) of the Black Communities Development Act, 1984 (Act No. 4 of 1984), I, Andrew Fourie, Deputy Minister of Planning and Provincial Affairs, define in the Schedule hereto land which has been designated as a development area under section 33 (1) of the said Act.

A. FOURIE,

Deputy Minister of Planning and Provincial Affairs.

(File 20/5/T40/1)

SCHEDULE

A certain area of land, 38,639 9 ha in extent, being Portion 488 (a portion of Portion 306) of the farm Hartbeestfontein 297 IP, situated in the Province of the Transvaal, as shown on Surveyor-General Diagram A4886/89.

DEPARTMENT OF HOME AFFAIRS

No. 1289

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—NHLABATHI TO DLADLA

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Vantje Albert Nhlabathi, his wife Paulinah Nontombi Mshayisa and minor children Maria Duduzile, Phiksile Jenetta Dladla and Ntombifuthi Precious Dladla, residing at Piet Retief Hostel, Piet Retief, to assume the surname of **Dladla**.

No. 1290

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—PILLAY TO LEE

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Glen Frank Pillay, residing at 182 15th Avenue, Laudium, to assume the surname of **Lee**.

No. 1291

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—BAADJIES TO ADAMS

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Michael Baadjies, residing at 47 Karen Street, Gaylee, Blackheath, Cape Town, to assume the surname of **Adams**.

No. 1292

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—MAKHOBHA IN
MAJAKE

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), William Thibedi Makhoba, sy vrou Makgathatso Charlotte en minderjarige kinders Lehlogonolo Magdalena Bonolo Majake en Dikeledi Tsogo Majake, woonagtig te Gedeelte BB 1699, Umlaziwoonbuurt, te magtig om die van **Majake** aan te neem.

No. 1293

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—MTHETWA IN
HAWE

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Noah Mthetwa, woonagtig te Basswood Place 35, Quartsstraat 81, Hillbrow, te magtig om die van **Hawe** aan te neem.

No. 1294

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—JOOSTE IN
ROTHMANN

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Marius Jooste, woonagtig te Plot 118, Zesfontein, Benoni, te magtig om die van **Rothmann** aan te neem.

No. 1295

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—BELAMA IN
KHAN

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Krishna Belama, woonagtig te Outspanstraat 7, Estcourt, te magtig om die van **Khan** aan te neem.

No. 1296

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—DE WIT IN
KUYLAARS

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Steve Lionel de Wit, woonagtig te Weltevredenhof 9, Weltevredenstraat, Bellville, te magtig om die van **Kuylaars** aan te neem.

No. 1292

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—MAKHOBHA TO
MAJAKE

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise William Thibedi Makhoba, his wife Makgathatso Charlotte and minor children Lehlogonolo Magdalena Bonolo Majake and Dikeledi Tsogo Majake, residing at BB 1699 Section, Umlazi Township, to assume the surname of **Majake**.

No. 1293

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—MTHETWA TO
HAWE

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Noah Mthetwa, residing at 35 Basswood Place, 81 Quarts Street, Hillbrow, to assume the surname of **Hawe**.

No. 1294

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—JOOSTE TO
ROTHMANN

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Marius Jooste, residing at Lot 118, Zesfontein, Benoni, to assume the surname of **Rothmann**.

No. 1295

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—BELAMA TO
KHAN

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Krishna Belama, residing at 7 Outspan Street, Estcourt, to assume the surname of **Khan**.

No. 1296

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—DE WIT TO
KUYLAARS

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Steve Lionel de Wit, residing at 9 Weltevredenhof, Weltevreden Street, Bellville, to assume the surname of **Kuylaars**.

No. 1297

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—ABRAHAMS IN
KAJEE

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Moeghammed Shafiek Abrahams, woonagtig te Bazleyweg 61, Sydenham, Durban, te magtig om die van **Kajee** aan te neem.

No. 1299

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—MABOGOANE IN
SUMA

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Ramphelane Meshack Mabogoane, sy vrou Mbhali en minderjarige kinders Tumaini Badibong Mabogoane en Masingita Mabogoane, woonagtig te Blok 59, Woonstel 1, Jabulanie, Soweto, te magtig om die van **Suma** aan te neem.

No. 1315

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—PENNY IN PENNY,
FREIIN KOTZ VON DOBRZ

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Jenna Penny, woonagtig te The-Tower, Gebou 1, Farmall, Johannesburg, te magtig om die van **Penny, Freiin Kotz von Dobrz** aan te neem.

No. 1316

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—VAN DER MERWE
IN RICHARDS

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), André van der Merwe, woonagtig te Lennox Mere 54, Windermere, Durban, te magtig om die van **Richards** aan te neem.

No. 1317

15 Junie 1990

WET OP VREEMDELINGE, 1937

VANSVERANDERING.—RUSSELL IN
MAXWELL

Dit het die Minister van Binnelandse Sake behaag om, kragtens die bepalings van artikel 9 van die Wet op Vreemdelinge, 1937 (Wet No. 1 van 1937), Justin James Russell, woonagtig te Barclay Square 1003, Leydsstraat, Pretoria, te magtig om die van **Maxwell** aan te neem.

No. 1297

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—ABRAHAMS TO
KAJEE

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Moeghammed Shafiek Abrahams, residing at 61 Bazley Avenue, Sydenham, Durban, to assume the surname of **Kajee**.

No. 1299

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—MABOGOANE TO
SUMA

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Ramphelane Meshack Mabogoane, his wife Mbhali and minor children Tumaini Badibong Mabogoane and Masingita Mabogoane, residing at Block 59, Flat 1, Jabulanie, Soweto, to assume the surname of **Suma**.

No. 1315

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—PENNY TO PENNY,
FREIIN KOTZ VON DOBRZ

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Jenna Penny, residing at The-Tower, Building 1, Farmall, Johannesburg, to assume the surname of **Penny, Freiin Kotz von Dobrz**.

No. 1316

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—VAN DER MERWE
TO RICHARDS

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise André van der Merwe, residing at 54 Lennox Mere, Windermere Road, Durban, to assume the surname of **Richards**.

No. 1317

15 June 1990

ALIENS ACT, 1937

CHANGE OF SURNAME.—RUSSELL TO
MAXWELL

The Minister of Home Affairs has been pleased under the provisions of section 9 of the Aliens Act, 1937 (Act No. 1 of 1937), to authorise Justin James Russell, residing at 1003 Barclay Square, Leyds Street, Pretoria, to assume the surname of **Maxwell**.

DEPARTEMENT VAN FINANSIES**No. 1298****15 Junie 1990****WET OP DIE SUID-AFRIKAANSE RESERWEBANK, 1989****BEPALING VAN STATUTÊRE GOUDPRYS**

Hierby word bekendgemaak dat die Minister van Finansies kragtens artikel 25 (1) van die Wet op die Suid-Afrikaanse Reserwebank, 1989 (Wet No. 90 van 1989), alle goud van die Suid-Afrikaanse Reserwebank met ingang van 31 Mei 1990 teen R875,09 per ons suiwer goud gewaardeer het.

No. 1301**15 Junie 1990**
AANSTELLING VAN REGISTRATEUR VAN VERSEKERINGSWESE, VAN PENSIOENFONDSE, VAN ONDERLINGE HULPVERENIGINGS, VAN EFFEKTE-TRUSTMAATSKAPPYE, VAN EFFEKTEBEURSE EN VAN FINANSIËLE MARKTE

Kragtens artikel 2 van die Versekeringswet, 1943; artikel 3 van die Wet op Pensioenfondse, 1956; artikel 4 van die Wet op Onderlinge Hulpverenigings, 1956; artikel 2 van die Wet op Beheer van Effekte-trustskemas, 1981; artikel 2 van die Wet op Beheer van Effektebeurse, 1985; artikel 2 van die Wet op Beheer van Finansiële Markte, 1989, het die Minister van Finansies Petrus Johannes Badenhorst vanaf 1 April 1990 aangestel as Registrateur van Versekeringswese, van Pensioenfondse, van Onderlinge Hulpverenigings, van Effekte-trustmaatskappye, van Effektebeurse en van Finansiële Markte.

No. 1319**15 Junie 1990**

Staat van Ontvangste in en Oordragte uit die Skatkisrekening vir die tydperk 1 April 1990 tot 31 Mei 1990.

Tesourie, Pretoria.

DEPARTMENT OF FINANCE**No. 1298****15 June 1990****SOUTH AFRICAN RESERVE BANK ACT, 1989****DETERMINATION OF STATUTORY PRICE OF GOLD**

It is hereby notified that in terms of section 25 (1) of the South African Reserve Bank Act, 1989 (Act No. 90 of 1989), the Minister of Finance has valued, as from 31 May 1990 all gold of the South African Reserve Bank at R875,09 per fine ounce of gold.

No. 1301**15 June 1990**
APPOINTMENT OF REGISTRAR OF INSURANCE, OF PENSION FUNDS, OF FRIENDLY SOCIETIES, OF UNIT TRUST COMPANIES, OF STOCK EXCHANGES, AND OF FINANCIAL MARKETS

In terms of section 2 of the Insurance Act, 1943; section 3 of the Pension Funds Act, 1956; section 4 of the Friendly Societies Act, 1956; section 2 of the Unit Trust Control Act, 1981; section 2 of the Stock Exchanges Control Act, 1985 and section 2 of the Financial Markets Control Act, 1989, the Minister of Finance has appointed Petrus Johannes Badenhorst, as Registrar of Insurance, of Pension Funds, of Friendly Societies, of Unit Trust Companies, of Stock Exchanges and of Financial Markets, with effect from 1 April 1990.

No. 1319**15 June 1990**

Statement of Receipts into and Transfers from the Exchequer Account for the period 1 April 1990 to 31 May 1990.

Treasury, Pretoria.

ONTVANGSTE—RECEIPTS

Inkomstehoof	Head of Revenue	Maand Mei Month of May		Totaal 1 April tot 31 Mei Total 1 April to 31 May	
		1990	1989	1990	1989
Skatkissaldo, 31 Maart 1990	Exchequer Balance, 31 March 1990	R —	R —	R 6 555 825 840	R —
Skatkissaldo, 30 April 1990	Exchequer Balance, 30 April 1990	6 362 844 327	—	—	—
Staatsinkomsterekening	State Revenue Account				
Binnelandse Inkomste	Inland Revenue	3 316 236 422	2 955 854 393	7 414 628 777	6 401 273 132
Doecane en Aksyns	Customs and Excise	921 435 114	854 124 485	1 222 540 487	1 141 424 350
	R	4 237 671 536	3 809 978 878	8 637 169 264	7 542 697 482
Suid-Afrikaanse Ontwikkelingstrustfonds	South African Development Trust Fund	5 374 790	—	5 374 790	500 000
Fonds vir Sorghumbiervorsing	Sorghum Beer Research Fund	—	—	—	—
	R	5 374 790	—	5 374 790	500 000
	R	4 243 046 326	3 809 978 878	8 642 544 054	7 543 197 482
Ander Ontvangste	Other Receipts				
Skatkisbiljette	Treasury Bills	1 519 596 000	—	3 364 565 000	—
Leningsheffing 1989-94	Loan levy 1989-94	(28 400)	—	(28 400)	—
Obligasies:	Bonds:				
Onbepaalde Termyn Skatkis-obligasies	Indefinite Period Exchequer Bonds	197 500	—	2 896 000	—
Onbepaalde Termyn Nasionale Verdedigingobligasies	Indefinite Period National Defence Bonds	196 150	—	408 250	—
Binnelandse Geregistreerde Effekte:	Internal Registered Stock:				
Wisselende koers:	Floating Rate				
12%, 2004/5/6	12%, 2004/5/6	2 204 000 000	—	3 928 000 000	—
		(541 047 000)	—	(954 792 000)	—
12,5%, 1995-1996	12,5%, 1995-1996	152 753 835	—	157 751 308	—
		(17 611 000)	—	(17 611 000)	—
11,5%, 1999/2000	11,5%, 1999/2000	264 000 000	—	314 787 232	—
		(63 612 000)	—	(63 612 000)	—

[illegible]

Dienste	Services	Maand Mei Month of May		Totaal 1 April tot 31 Mei Total 1 April to 31 May	
		1990	1989	1990	1989
		R	R	R	R
14. Oudit	Audit	—	—	—	—
15. Mannekrag	Manpower	21 000 000	14 000 000	108 000 000	28 000 000
16. Administrasie: Raad van Verteenwoordigers	Administration: House of Representatives	280 000 000	222 000 000	640 000 000	555 000 000
17. Administrasie: Raad van Afgevaardigdes	Administration: House of Delegates	91 000 000	84 000 000	201 000 000	173 000 000
18. Polisie	Police	284 300 000	239 927 000	634 600 000	539 854 000
19. Omgewingsake	Environment Affairs	14 536 000	13 390 000	32 580 000	26 690 000
20. Waterwese	Water Affairs	29 000 000	29 000 000	58 000 000	58 000 000
21. Handel en Nywerheid	Trade and Industry	130 000 000	53 000 000	290 000 000	171 000 000
22. Ontwikkelingshulp	Development Aid	367 486 000	352 560 000	887 972 000	862 366 000
Statute Bedrag	Statutory Amount	50 152 000	46 980 000	100 304 000	93 880 000
23. Onderwys en Opleiding	Education and Training	206 000 000	164 000 000	477 000 000	353 000 000
24. Binnelandse Sake	Home Affairs	18 000 000	12 000 000	38 000 000	24 000 000
25. Vervoer	Transport	130 000 000	81 000 000	221 000 000	156 000 000
26. Openbare Werke en Grondsake	Public Works and Land Affairs	134 000 000	120 600 000	269 000 000	285 740 000
27. Nasionale Gesondheid en Bevolkingsontwikkeling	National Health and Population Development	51 500 000	205 000 000	151 500 000	698 000 000
Statute Bedrag	Statutory Amount	45 000	35 000	90 000	70 000
28. Bepanning en Provinsiale Sake	Planning and Provincial Affairs	34 000 000	84 000 000	68 000 000	168 000 000
Statute Bedrag	Statutory Amount	731 145 000	726 748 000	1 679 935 000	1 683 655 000
29. Landbou-ekonomie en -bemarking	Agriculture Economics and Marketing	25 000 000	23 000 000	50 000 000	48 000 000
30. Kommissie vir Administrasie	Commission for Administration	33 329 000	11 665 000	75 658 000	151 979 000
31. Verbetering van Diensvoorwaardes	Improvement of Conditions of Service	—	—	—	—
Statute Bedrag	Statutory Amount	—	—	—	—
	R	6 750 479 000	5 225 789 000	13 076 280 358	11 817 797 000
*Min Diskonto RSA Effekte	*Less Discount RSA Stocks	622 270 000	252 791 000	1 037 652 000	429 917 000
	R	6 128 209 000	4 972 998 000	12 038 628 358	11 387 880 000
Staanse Toewysings	Standing Appropriations				
Suid-Afrikaanse Ontwikkelingsstrustfonds	South African Development Trust Fund	5 374 790	—	5 374 790	500 000
	R	5 374 790	—	5 374 790	500 000
	R	6 133 583 790	4 972 998 000	12 044 003 148	11 388 380 000
Ander Uitbetalings	Other Issues				
Skatkisbiljette	Treasury Bills	771 317 000	—	2 635 739 000	—
Leningsheffing	Loan Levy	53 030	—	108 144	—
Betaalmiddele Bydrae, I.D.A.	Currency Subscription, I.D.A.	—	—	622 000	—
Betaling Ingevolge Art. 10 (1) D Wet 66 van 1975	Payments in terms of section 10 (1) D of Act 66 of 1975	3 602 257	—	4 466 060	—
Obligasies:	Bonds:				
Onbepaalde Termyn Skatkis-obligasies	Indefinite Period Exchequer Bonds	245 700	—	245 700	—
Onbepaalde Termyn Nasionale Verdedigingsobligasies	Indefinite Period National Defence Bonds	2 521 950	—	7 250 250	—
Onbepaalde Termyn Senior Burger Spaar-obligasies	Indefinite Period Senior Citizens Savings Bonds	15 886 900	—	33 961 900	—
Binnelandse Geregistreerde Effekte:	Internal Registered Stock:				
11%, 1997	11%, 1997	155 566	—	54 443 066	—
9,75%, 1994	9,75%, 1994	—	—	99 130	—
10,75%, 1999	10,75%, 1999	78 850	—	678 850	—
13%, 2002 (63)	13%, 2002 (63)	—	—	99 000	—
14,5%, 2006	14,5%, 2006	6 024 500	—	7 024 500	—
13,5%, 1996	13,5%, 1996	—	—	384 570 000	—
9,5%, 1990	9,5%, 1990	1 283 979 800	—	1 283 979 800	—
6,5%, 1994	6,5%, 1994	2 423 300	—	2 423 300	—
13%, 2005	13%, 2005	20 179 450	—	20 179 450	—
14%, 1997	14%, 1997	200 000	—	200 000	—
15%, 2007	15%, 2007	1 105 400	—	1 105 400	—
9,8%, 2001	9,8%, 2001	34 000	—	34 000	—
10%, 2000	10%, 2000	135 482	—	135 482	—
11%, 1998	11%, 1998	1 355 700	—	1 355 700	—
11,5%, 2001	11,5%, 2001	30 000	—	30 000	—
12,5%, 2003	12,5%, 2003	3 476 500	—	3 476 500	—
13%, 2002 (61)	13%, 2002 (61)	158 334	—	158 334	—
Buitelandse Lenings en Kredite:	Foreign Loans and Credits:				
1988-91	1988-91	23 102 840	—	23 102 840	—
Uitbetalings, 1989-90	Issues, 1989-90	—	—	1 739 000	—
	R	2 136 066 559	—	4 467 227 406	—
Totaal Staatsinkomsterekening	Total State Revenue Account	8 269 650 349	—	16 511 230 554	—
Inkomsterekening: Volksraad	Revenue Account: House of Assembly	678 089 000	573 144 000	1 544 178 000	1 302 085 000
Inkomsterekening: Raad van Verteenwoordigers	Revenue Account: House of Representatives	280 000 000	222 000 000	640 000 000	555 000 000
Inkomsterekening: Raad van Afgevaardigdes	Revenue Account: House of Delegates	91 000 000	84 000 000	201 000 000	173 000 000
Rekening vir Provinsiale Dienste: Kaap	Account for Provincial Services: Cape	196 000 000	185 000 000	542 000 000	510 000 000
Rekening vir Provinsiale Dienste: Natal	Account for Provincial Services: Natal	174 000 000	172 000 000	358 000 000	354 000 000
Rekening vir Provinsiale Dienste: Oranje-Vrystaat	Account for Provincial Services: Orange Free State	75 000 000	73 000 000	160 000 000	153 000 000
Rekening vir Provinsiale Dienste: Transvaal	Account for Provincial Services: Transvaal	286 145 000	296 748 000	619 935 000	666 655 000
	R	1 780 234 000	1 605 892 000	4 065 113 000	3 713 740 000
Totale	Totals	10 049 884 349	—	20 576 343 554	—
Skatkissaldo, 30 Mei 1990	Exchequer Balance, 30 May 1990	5 857 192 045	—	5 857 192 045	—
Totale	Totals	15 907 076 394	—	26 433 535 599	—

No. 1322

15 Junie 1990

16 PERSENT 1994 LENINGSHEFFINGSERTIFIKAAT.—UITGEREIK TEN GUNSTE VAN REVERTEX (SOUTH AFRICA) (PTY) LTD

Aangesien daar by die Departement van Finansies aansoek gedoen is om duplikate van ondergemelde sertifikate wat verloor of verlê is, word hierby bekendgemaak dat tensy die oorspronklike sertifikate binne vier weke na die datum van publikasie van hierdie kennisgewing by die Departement van Finansies, Privaatsak X115, Pretoria, ingelewer word, die verlangde duplikate uitgereik sal word:

Sertifikaatnommer 6574 vir R104 000.

Sertifikaatnommer 4696 vir R100.

DEPARTEMENT VAN HANDEL EN NYWERHEID

No. 1318

15 Junie 1990

WET OP STANDAARDE, 1982

VERPLIGTE SPESIFIKASIE VIR BIOLOGIESE VEILIGHEIDSKABINETTE (KLAS I, II EN III)

Ek, Theodorus Gerhardus Alant, Adjunk-minister van Handel en Nywerheid, handelende namens en in opdrag van die Minister van Handel en Nywerheid en Toerisme, verklaar hierby kragtens artikel 16 (1) van die Wet op Standaarde, 1982 (Wet No. 30 van 1982), en op aanbeveling van die Raad van die Suid-Afrikaanse Buro vir Standaarde, die spesifikasie in die Bylae vervat tot 'n verpligte spesifikasie vir biologiese veiligheidskabinette (klas I, II en III).

Die verpligte spesifikasie tree in werking op 'n datum twee maande na die datum van hierdie kennisgewing.

T. G. ALANT,

Adjunk-minister van Handel en Nywerheid.

BYLAE

VOORGESTELDE VERPLIGTE SPESIFIKASIE VIR BIOLOGIESE-VEILIGHEIDSKABINETTE (KLAS I, II EN III)

1. BESTEK.

- 1.1 Hierdie spesifikasie dek vereistes vir die konstruksie, toebehore, installering en prestasie van drie klasse (klas I, II en III) biologiese veiligheidskabinette wat bedoel is om die operateur sowel as die omgewing te beskerm teen die gevare verbonde aan gevaarlik mikrobiologiese materiaal en (indien aldus vereis) organiese giftowwe en nie-korroderende vlugtige organiese stowwe.

Opmerking: Biologiese veiligheidskabinette is nie bedoel om as beskerming teen korroderende chemikalieë of radio-aktiewe materiaal te dien nie.

- 1.2 Die spesifikasie dek nie die werklike ontwerp van 'n veiligheidskabinet nie en lê geen beperkings op nuwe ontwerp nie, mits 'n biologiese veiligheidskabinet van nuwe ontwerp voldoen aan die vereistes vir materiaal, betroubaarheid, prestasie en veiligheid wat in hierdie spesifikasie aangegee word.

Opmerking: Veiligheidskabinette van klas I, II en III moet nie verwar word nie met skoon werkstasies met laminêre vloei wat gewoonlik horisontaal en vertikaal in die rigting van die operateur uitlaat en wat nie net geen beskerming aan die operateur verleen nie, maar selfs blootstelling aan luggedraagde gevare kan verhoog.

2. WOORDBEPALING.

- 2.1 Die volgende woordbepalings geld vir die doel van hierdie spesifikasie:

Afgedig: Sonder enige openinge waardeur water of gas kan inkom of ontsnap.

Bestand: Beskrywende van materiaal wat hul oorspronklike oppervlakeienskappe behou in ander toestande as dié wat vir normale gebruik bedoel is.

No. 1322

15 June 1990

16 PER CENT 1994 LOAN LEVY CERTIFICATES.—ISSUED IN FAVOUR OF REVERTEX (SOUTH AFRICA) (PTY) LTD

Application having been made to the Department of Finance for duplicates of the undermentioned certificates, the originals having been lost or mislaid, notice is hereby given that unless the original certificates are produced at the Department of Finance, Private Bag X115, Pretoria, within four weeks from the date of publication of this notice, duplicates as applied for, will be issued:

Certificate Number 6574 for R104 000.

Certificate Number 4696 for R100.

DEPARTMENT OF TRADE AND INDUSTRY

No. 1318

15 June 1990

STANDARDS ACT, 1982

COMPULSORY SPECIFICATION FOR BIOLOGICAL SAFETY CABINETS (CLASSES I, II AND III)

I, Theodorus Gerhardus Alant, Deputy Minister of Trade and Industry, acting on behalf of and on assignment by the Minister of Trade and Industry and Tourism, hereby under section 16 (1) of the Standards Act 1982 (Act No. 30 of 1982), and on the recommendation of the Council of the South African Bureau of Standards, declare the specification contained in the Schedule to be a compulsory specification for biological safety cabinets (Classes I, II and III).

The compulsory specification shall become operative on a date two months after the date of publication of this notice.

T. G. ALANT,

Deputy Minister of Trade and Industry.

DOP: Di-oktielftalaat-(aërosol).

Geredelik toeganklik (maklik toeganklik): Kan maklik sonder gereedskap vir behoorlike en deeglike skoonmaak en visuele ondersoek oopgemaak word.

Gevaar, biogeveaar of gevaarlike materiaal: Infektiewe partikels wat werklike of potensiele gevaar inhou vir die welsyn van mense, diere of plante, hetsy regstreeks deur infeksie of onregstreeks deur kontaminasie van die omgewing.

Gifstowwe: Stowwe wat 'n nadelige fisiologiese uitwerking op biologiese stelsels het.

Giftig: Beskrywend van stowwe wat 'n nadelige fisiologiese uitwerking op biologiese stelsels het.

Glad: Met 'n oppervlakte wat vry van invretings en insluitsels is.

HEPA-filter: Hoëdoeltreffendheid-filter vir partikels in lug.

Kabinet: 'n Biologiese veiligheidskabinet van klas I, II of III, soos toepaslik.

Konstruksie: Die vervaardiging, samestelling van subeenhede (indien toepaslik) en installering van die biologiese veiligheidskabinet.

Maklik verwyderbaar: Kan sonder gereedskap uit die hoofteenheid verwyder word.

Ontsmetting (dekontaminasie): Die verwydering of onaktivering van infektiewe partikels of die verwydering of neutralisering van giftige stowwe.

Skoonmaakbaar (skoon): Toeganklik en van sodanige materiaal en afwerking en op so 'n wyse vervaardig dat vuil volgens normale skoonmaakmetodes doeltreffend verwyder kan word.

Sperlug (voorvlaklug): Atmosferiese lug wat uit die kameromgewing deur die werktoegangsopening van die kabinet ingesuij word en op dié wyse 'n lugversperring oor die opening skep waardeur partikels in die kabinet nie na die buiteatmosfeer kan ontsnap nie.

Toe: Sonder enige openinge wat groot genoeg is om insekte of knaagdiere in te laat.

Toeganklik: Kan met behulp van eenvoudige gereedskap soos 'n skroewedraaier, knyptang of 'n oopbeksleutel (moersleutel) vir die doel van behoorlike en deeglike skoonmaak en visuele ondersoek oopgemaak word.

Verwyderbaar: Kan met behulp van eenvoudige gereedskap soos 'n skroewedraaier, knyptang of 'n oopbeksleutel (moersleutel) uit die hoofteenheid verwyder word.

Werkruimte: Die deel van die binnekant van die kabinet waarin die gevaarlike materiaal veilig gemanipuleer kan word.

3. ALGEMENE VEREISTES.

3.1 **KLAS:** 'n Kabinet moet van een van die volgende klasse wees:

- (a) **Klas I:** 'n Gedeeltelik toe kabinet wat so gemaak is dat lug weg van die operateur af na binne vloei en die uitlaatlug deur 'n HEPA-gefiltreer word voordat dit uit die kabinet uitgelaat word. Die kabinet verleen beskerming aan personeel en die omgewing teen minimaal gevaarlike stowwe en partikels, d.w.s by risikovlakke wat geassosieer word met stowwe en partikels wat minimale of geen gevaar vir mense, diere of plante inhou nie, mits die normale voorsorgmaatreëls by die hantering van mikrobiologiese materiaal getref word.

Opmerking: Klas I-kabinette is ontwerp om die blootstelling van laboratoriumpersoneel en die omgewing aan luggedraagde verspreiding van mikrobiologiese materiaal tydens werkprosedures te verminder. Hierdie kabinette mag nie gebruik word as, of verwar word met dampkaste wat vir chemiese prosedures bedoel is nie.

- (b) **Klas II:** 'n Gedeeltelik toe kabinet wat so gemaak is dat die werkruimte deurspoel word met 'n skoon, gefiltreerde eenrigtinglugvloei en dat die ontsnapping van partikels uit die werkruimte deur middel van lugvloei na binne deur die werktoegangsopening voorkom word. Die kabinet verleen beskerming aan personeel en die omgewing teen gewone of potensieel gevaarlike mikrobiologiese partikels, dws by risikovlakke wat geassosieer word met stowwe en partikels wat siekte by mense, diere of plante kan veroorsaak en wat met normale mikrobiologiese tegnieke in bedwang gehou kan word. Personeel wat materiaal in hierdie kabinette hanteer, moet oor dieselfde vlak van bevoegdheid beskik as personeel wat formeel as mikrobioloog opgelei is.

Opmerking: Klas II-kabinette is ontwerp om die blootstelling van laboratoriumpersoneel en die omgewing aan luggedraagde verspreiding van infektiewe materiaal tydens werkprosedure te verminder en om terselfdertyd luggedraagde kontaminasie, wat die eksperiment kan benadeel, te beheer.

- (c) *Klas III*: 'n Heeltemal toe, geventileerde kabinet van gasdigte konstruksie wat so gemaak is dat die operateur deur 'n fisiese versperring van die werk geskei word en dat die werkruimte so met lug onder negatiewe druk deurspoel word dat dit hoogs onwaarskynlik is dat partikels uit die werkruimte kan ontsnap. Die kabinet verleen beskerming aan personeel en die omgewing teen spesiale en uiters gevaarlike mikrobiologiese partikels, dws by risikovlakke wat geassosieer word met stowwe en partikels wat hoogs infektief of giftig is vir mense, diere en plante, en wat gevaarlike siektes kan veroorsaak, of by risikovlakke wat geassosieer word met stowwe en partikels wat genetiese mutasies veroorsaak of saam met ander materiaal 'n sinergistiese uitwerking ken hê.

Personeel wat materiaal in hiedie kabinette hanteer, moet oor dieselde vlak van bevoegheid beskik as personeel wat formeel as mikrobioloog opgelei is en wat ook behoorlike opleiding in die hantering van uiters gevaarlike stowwe ontvang het.

Opmerking: Klas III-kabinette is ontwerp om die blootstelling van laboratoriumpersoneel en die omgewing aan luggedraagde verspreiding van hoogs infektiewe materiaal tydens werkprosedures tot 'n minimum te beperk en om terselfdertyd luggedraagde kontaminasie, wat die eksperiment kan benadeel, te beheer.

3.2 AFMETINGS.

3.2.1 *Buiteafmetings*: Die totale afmetings van 'n kabinet, uitgesonderd die maklik verwyderbare dele, moet so wees dat dit deur die opening van 'n standaardenkeld deur met 'n nominale hoogte en breedte van onderskeidelik 2,0 m en 0,78 m, wat in 'n 1,5 m breë gang oopmaak, kan gaan.

3.2.2 *Werkruimteafmetings*: In die geval van klas I- en II-kabinette, mag die breedte van die werkruimte nie 1 900 mm oorskry nie en moet die diepte in die bestek van 500–700 mm wees. Die werkruimte moet minstens 550 mm hoog wees. Die volume van die werkruimte moet minstens 0,2 m³ en hoogstens 0,75m³ wees.

3.3 BUITEDOP (HOOFSTRUKTUUR)—MATERIAAL EN KONSTRUKSIE.

3.3.1 *Algemeen*:

(a) 'n Kabinet moet gemaak wees van materiaal wat volgens 6,12 getoets, as korrosiebestand beskou word. Indien vlekvrystaal egter gebruik word, moet dit van AISI-graad 304 wees en geld die vereiste vir korrosiebestandheid nie.

(b) Die materiaal moet ondeurlatend vir vloeistof wees.

(c) Daar mag geen barste en oppervlakgebreke met inbegrip van gebreke wat ondoeltreffende passing met paksrukoppervlakke of ander afdigtoestelle tot gevolg het, wees nie. Alle struktuurvasse wat nie gesweis is nie, moet afgedig wees met nie-poreuse materiaal wat nie sal bars of poreus raak nie. Die struktuursterkte van enige las of verbinding in die kabinet of enigeen van die panele daarvan moet onafhanklik wees van die afdigting wat deur die paksruk of afdigmateriaal gevorm word.

3.3.2 *Stabiliteit*: Die hoofstruktuur mag nie onstabiliteitspunt bereik wanneer laterale kragte van tot 250N of 'n afwaartse krag van tot 50 N op die voorrand van die kabinet uitgeoefen word nie. Die uitlaatlugleigang mag nie gebruik word om stabiliteit te verleen nie.

In die geval van 'n kabinetstruktuur wat nie hierdie mate van stabiliteit bied nie, moet daar voorsiening gemaak word vir die bevestiging van die kabinet aan die vloer of muur deur middel van klampe of bonte.

3.3.3 *Vensters*: Vensters moet van lamelglas wees wat aan die prestasievereistes van SABS 1263 'Veiligheids- en sekerheidsbeglasingsmateriaal vir gebou', deel II-1987 'Inbraak- en vandaalbestande beglasingsmateriaal', gepubliseer by Goewermentskennisgewing No. 141 van 5 Februarie 1988, voldoen of van enige ander geskikte deursigtige materiaal wat teen ultravioletstrale bestand is en waarvan die prestasiefaktor gelyk aan of beter is as dié wat vir die lamelglas vereis word.

Opmerking: Lamelveiligheidsglas wat 6 mm dik is, voldoen gewoonlik aan hierdie vereiste.

3.3.4 *Toegangspanele*: Verwyderbare toegangspanele moet voorsien wees vir die instandhouding of verwydering (of albei) van filters blasers, motors, verligting, elektriese komponente en loodgieterswerk. Wanneer panele of deksels in posisie is, moet die afdigting van die toegangspanele of deksels die lekkasie van gekontameneerde lug na die omringende atmosfeer voorkom. Fisiese middele om groot toegangspanele of deksels in posisie te hou en te steun, moet voorsien wees om die veilige aanbring en verwydering daarvan te vergemaklik.

3.3.5 *Spore en leibane*: Alle spore en leibane vir deure, vensters, deksels en toeganspanele moet so gemaak en geïnstalleer wees dat die vergaring van vreemde stof tot die minimum beperk word en skoonmaak vergemaklik word.

3.4 WERKRUIimte – MATERIAAL EN KONSTRUKSIE

3.4.1 *Algemeen:*

(a) Die werkruimte, uitgesonderd die kykvenster maar met inbegrip van die opvanger en roosters, indien toepaslik, moet uitsluitlik van geskikte materiaal gemaak wees wat, volgens 6.12 getoets, as korrosiebestand beskou word. Indien vlekvrystaal egter gebruik word, moet dit van AISI-graad 304 wees en geld die vereiste vir korrosiebestandheid nie.

(b) Die materiaal moet ondeurlatend vir vloeistof wees.

(c) Die oppervlakke moet glad afgewerk wees en moet maklik skoongemaak kan word, en moet so wees dat blikkering afkomstig van die verligting voorkom word.

(d) Om die indringing van mikroörganismes te voorkom, moet alle sweislasse, lasse, barste en splete in die werkruimte doeltreffend afgedig wees met nie-poreuse materiaal wat teen die meeste chemikalieë wat algemeen gebruik word, asook teen die normale ontsmettingsprosesse bestand is en wat nie sal bars of poreus raak nie.

3.4.2 *Binnehoeke:* Alle binnehoeke binne die werkruimte moet vry van barste en splete wees en moet so ontwerp wees dat dit skoonmaak vergemaklik.

3.4.3 *Kykvenster:*

(a) Die werkvoervlak moet bestaan uit 'n paneel wat aan die vereistes van 3.3.3 voldoen en wat oopgemaak kan word om toegang tot die werkruimte te verleen.

(b) Die kykvenster moet die voorste grens van die skoonlugomgewing vorm en mag nie die laminêre patroon van die lugvloei belemmer nie. Geen middele moet voorsien wees om die kykvenster oop te hou nie—dit moet toegaan wanneer dit gelos word en wanneer dit vasgemaak is, moet dit 'n gasdigte afdigting vorm.

(c) Die grootte, posisie en hoek van die kykvenster moet so wees dat die operateur 'n onbelemmerde sig op die werkruimte het wanneer hy in die middel voor die kabinet sit.

(d) By die toets van 'n kabinet volgens 6.5, mag geen afdigting om die bokant en sykant van die kykvenster 'n DOP-indringing van meer as 0,03% hê nie.

3.4.4 *Werktoegangsopening (slegs klas I- en klas II-kabinette):* Die rande van die werktoegangsopening moet so gevorm wees dat lugturbulensie by die ingang tot 'n minimum beperk word. Die vertikale afmeting van die opening moet in die bestek van 200–250 mm wees.

3.4.5 *Deksel van werktoegangsopening (slegs klas I- en klas II kabinette):* 'n Deksel wat oor die werktoegangsopening pas, moet voorsien wees om die kabinet tydens dekontaminasie af te dig. Die deksel moet sonder beskadiging van die buitedop bevestig en afgedig kan word om 'n gasdigte afdigting te vorm.

3.4.6 *Werkruimteverligting:*

(a) Die werkruimte moet verlig word met fluoresseerlampe wat voldoen aan die vereistes van SABS 1041–1975 'Buisfluoresseerlampe vir algemene gebruik', gepubliseer by Goewermenskennisgewing No. 463 van 9 Julie 1982. Die lampe en bybehore moet buite die werkruimte wees. Vervanging en instandhouding van die lampe en bybehore moet van buite die kabinet geskied sonder om die integriteit van die werkspasie te kompromitteer.

(b) Volgens 6.2 bepaal, moet die gemiddelde illuminansie by die werkoppervlak minstens 1 000 lux (1 000 lumen per vierkante meter) wees.

(c) Alle beheerinrigtings moet van buite die kabinet toeganklik wees sonder om aan die integriteit van die plenum of biogeveiligheidsversperrings afbreuk te doen. Beheerinrigtings moet so gemonteer wees dat die kabinet te alle tye gasdig bly en geen lug na die atmosfeer uitlek nie [kyk 3.3.1 (c)].

3.4.7 *Skerm:* 'n Skerm of skerm moet op die terugvloeiugspuitstuk aangebring wees om te voorkom dat enige los materiaal uit die werkruimte gesuig word en in die motorgedrewe blaser(s) of die filterhulsels beland. Die skerm(s) moet in posisie inknip sonder dat dit bevestig hoef te word. Die afwerking van die skerm moet glad wees om skoonmaak en ontsmetting te vergemaklik.

3.4.8 *Ultraviolet Lampe:* Ultraviolet lampe mag *nie* as integrerende dele van die kabinet geïnstalleer word nie.

3.4.9 *Gastoebehore:*

(a) Indien die werkruimte van klas I- en klas II-kabinette voorsien is van 'n toevoer van vlambare gas (bv. vir bunsenbranders), moet hierdie toevoer beheer word deur middel van 'n solenoïedklep wat gas net laat vloei wanneer die motorgedrewe blasers aangeskakel is.

(b) om plofgevaar te verminder, moet die solenoïedklep so wees dat dit na enige onderbreking van die elektriese stroom weer met die hand ingestel moet word.

(c) Klas III-kabinette mag *nie* van gastoebehore voorsien wees nie.

(d) Slegs bunsenbranders wat gebruik maak van laeprofieltipe mikrobranders met 'n vlamhoogte wat outomaties na aansteekvlam of die afposisie terugkeer wanner die vlam nie vereis word nie, mag in die kabinet gebruik word aangesien hulle die minste versteuring van lugvloeiopatrone veroorsaak.

3.5 LUGFILTERS.

3.5.1 *Hersirkuleertoevoer- en uitlaatfilters:*

3.5.1.1 *Filtertipes:* Alle filters moet HEPA-filters wees met 'n volumetriese tempo (lugvloei tempo), gespesifiseer deur die fabrikant van die filter, wat minstens gelyk is aan of groter is as die maksimum wat nodig is vir die toepaslike deel van die kabinet. By die toets van 'n filter volgens 6.4 by die fabrikant se ontwerp- volumetriese tempo, mag die DOP-indringing van die filter nie 0,03% oorskry nie. Manometers moet voorsien wees om die drukval oor die filters te monitor.

3.5.1.2 *Filtterraam:*

(a) 'n Filter moet 'n raam hê wat gemaak is van korrosiebestande materiaal of materiaal wat teen korrosie beskerm is. By die toets van die filtterraam vir 24 uur volgens 6.12, mag dit geen teken van korrosie toon nie.

(b) Die filtterraam moet so gemaak wees dat dit die uitwerking van druk en meganiese spanning waaraan dit tydens die normale lewensduur daarvan onderwerp kan word, kan deurmaan.

(c) Indien filterskeiers gebruik word, mag hulle, volgens (a) hierbo getoets, geen teken van korrosie toon nie.

3.5.1.3 *Filterafdigtings en afdigmateriaal:* Geïnstalleerde filters moet so afdig wees dat daar geen lug- of gaslekke om die afdigtings voorkom nie. By die toets van 'n filter volgens 6.4, mag die DOP-indringing van die afdigting nie 0,03% oorskry nie.

Die filter mag **nie** met gom of stolmiddels in posisie bevestig wees nie.

3.5.1.4 *Toegang tot filters en monsternemingsopening:*

(a) Toegang moet voorsien wees om versiening en die bepaling van die integriteit van filters en afdigtings te vergemaklik.

(b) Indien nodig, moet monsternemingsopening vir 100%-verwysingskonsentrasies DOP-toets-aërosol voorsien wees vir elke positiwedruk-plenum vir HEPA-filters, en die openinge moet deur middel van 'n buis met 'n binnediameter van minstens 15 mm met toeganklike posisies in die negatiwedruk-plenum verbind wees.

(c) elke monsternemingsopening moet voorsien wees van 'n afdigdop. Buisse en doppe mag nie deur die buitedop van die kabinet dring nie.

3.5.1.5 *Filterafdigplate:* Afdigplate moet vir die inlaat (indien toepaslik) sowel as die uitlaatopening voorsien wees om beroking en ontsmetting te vergemaklik. Indien hierdie plate voorsien word om die filters af te dig, moet hulle buite oor die filters aangebring word en moet hulle doeltreffende afdigting bied om te verseker dat die filters ook tydens beroking ontsmet word.

3.5.1.6 *Beskerming:* 'n Verwyderbare geperforeerde skerm moet in die uitlaatopening voorsien wees om die HEPA-filter teen meganiese beskadiging te beskerm en moet so geplaas wees dat die uitlating van lug nie belemmer word nie.

3.5.2 *Voorfilters:* Om die lewensduur van die filters te verleng, moet 'n geskikte voorfilter met 'n aanvanklike terughouding, volgens 6.13 bepaal, van 90% voor (stroomop van) elke HEPA-filter aangebring wees. Hierdie voorfilter mag nie die prestasie van die HEPA-filter benadeel nie.

3.5.3 *Geaktiveerde koolstoffilter:*

(a) Indien organiese giftowwe en nie-korroderende vlugtige organiese stowwe gebruik gaan word, moet 'n geaktiveerde koolstoffilter na (stroomaf van) die HEPA-uitlaatfilter in die kabinet aangebring wees en mag dit glad nie die uitlaatlugvloei belemmer of die prestasie van die HEPA-filter benadeel nie.

(b) Die massa van die geaktiveerde koolstof moet toereikend wees om die chemiese kontaminant(e) tot onder die veiligheidsvlak uit die uitlaatlug te filtreer.

(c) Die koolstoffilter moet gereedelik toeganklik wees vir maklike versiening, instandhouding en vervanging (kyk 3.3.4). 'n Kennisgewing waarin die tipe absorbeerfilter wat aangebring is en die datum van installering of versiening duidelik vermeld word, moet aan die voorkant van die kabinet of beheerpaneel aangebring wees.

(b) Indien koolstoffilters gebruik word, moet die lug in die kabinet na die buiteatmosfeer uitgelaat word.

3.6 MOTORGEDREWE BLASERS.

3.6.1 *Tipe en beheer:* 'n Enkelmotorgedrewe blaser wat regstreeks aangedryf word en wat van 'n reëlbare spoedkontrolle voorsien is, moet op die kabinet aangebring wees.

3.6.2 *Blaseraanslag en -prestasie:* Volgens 6.7 getoets, met 'n toename in positiewe druk van minstens twee maal dié van 'n HEPA-filter-skoonlugstelsel daarop aangelê, moet die blaser minstens 30 minute lank 'n lugvloeiensnelheid van $0,475 \pm 0,025$ m/s kan volhou.

3.7

UITLAATSTELSEL.

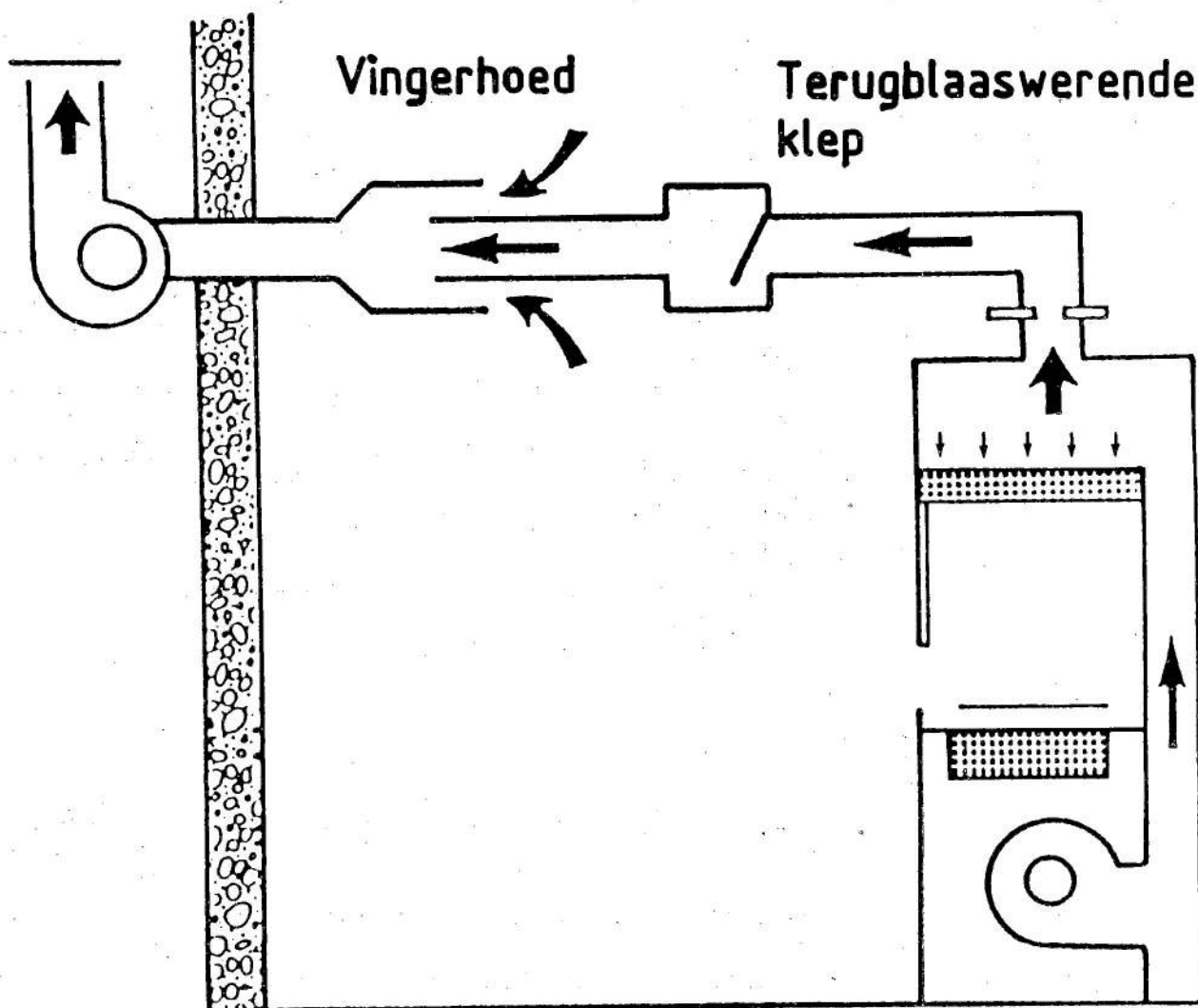
(a) Die kabinet moet so gemaak wees dat die lug daarin na die buiteatmosfeer uitgelaat kan word. Die uitlaatstelsel moet so wees dat lug nie in die kabinet in kan terugvloei nie.

(b) Indien nodig, kan 'n bykomende lugdigte uitlaatleigang wat so kort moontlik, maar nie langer as 3 m is nie, gebruik word.

(c) Indien die gebruik van 'n kort leigang nie moontlik is nie, moet 'n afsonderlike, bykomende motorgedrewe blaser so na moontlik aan die buite-uitlaant van die uitwendige uitlaatleiding aangebring word, en 'n vingerhoedtype opvanger (kyk Fig. 1) moet by die aansluiting tussen die kabinetleigang en die uitwendige uitlaatleigang gebruik word. Die uitwendige blaser moet so ingestel wees dat oormatige uitsuiging te alle tye verseker word.

(d) Die luguitsuigstelsel moet uitwendige windtoestande en leigangweerstande kan hanteer. Fabrikante moet maksimum toelaatbare uitwendige weerstande teen lugvloei spesifiseer.

(e) Die leigang moet voorsien wees van 'n outomatiese terugblaaswerende stelsel wat na (stroom-af van) die uitlaatfilters aangebring is om te voorkom dat lug in die kabinet in terugvloei, veral wanneer die waaier afgeskakel is. Terugblaaswerende kleppe moet so gemaak wees dat die klepbeddings maklik ondersoek en skoongemaak kan word. Die inwendige komponente moet altyd sigbaar wees. Enige mikroskakelaars of ander elektriese komponente of kontroles moet buite die leigang wees.



Tek.12090/A

Fig. 1 - Voorbeeld van 'n vingerhoedtype uitlaatstelsel wat gebruik word om kabinetuitlaat- sowel as laboratoriumlug uit te laat

3.8 ELEKTRIESE DIENSTE.

3.8.1 *Bedrading*: Elektriese bedrading moet afgeskerm wees van regstreekse blootstelling aan moontlike ultraviolet straling en moet een van die volgende wees:

- (a) Bedrading met polivinielchloried(PVC)-isolering wat voldoen aan SABS 150-1970 'Elektriese kables en buigsame koorde met polivinielchloried(PVC)-isolering', gepubliseer by Goewermentskennisgewing No. 463 van 9 Julie 1982 en gewysig by Goewermentskennisgewing No. 355 van 20 Mei 1983 en Goewermentskennisgewing No. 6 van 3 Januarie 1986; of
- (b) rubbergeïsoleerde bedrading wat voldoen aan SABS 168-1978 'Rubbergeïsoleerde kables en buigsame koorde', gepubliseer by Goewermentskennisgewing No. 463 van 9 Julie 1982.

Bedrading wat oor die grense van gekontamineerde gebiede gaan, moet veranker wees en moet gasdig gemaak wees met nie-poreuse afdigmiddels wat nie sal bars of poreus raak nie. Elektriese komponente en bedrading, uitgesonderd die blasmotor(s) en die bybehorende bedrading, mag nie binne die gekontamineerde lugsones geplaas wees nie. Alle bedrading en elektriese komponente binne die skoonluggebied van die werkruimte moet so meganies bevestig wees dat geen turbulensie geskep word nie.

Kleefband mag nie vir vashegting of ombanding gebruik word nie.

3.8.2 *Kontroles*: 'n Kontroleomhulsel moet 'n integrerende deel van die kabinet uitmaak en moet 'n kontrolepaneel bevat. Die omhulsel moet 'n deksel hê wat volle toegang tot die verbindinge en bedrading van die paneel verleen. 'n Leesbare bedradingsdiagram moet permanent aan die binnekant van die deksel bevestig wees. Alle kontroles wat deur die operateur gestel kan word, moet duidelik sigbaar wees en moet maklik toeganklik vir die operateur wees wanneer hy in die middel voor die werktoegangsopening sit. Alle werkkontroles en elektriese komponente binne die kontroleomhulsel moet op permanente wyse gemerk wees.

3.9 *GERAASPEILE*: By die toets van 'n kabinet volgens 6.8, mag die geraaspeil van die kabinet, terwyl dit in werking is, nie 65 dB(A) oorskry nie.

3.10 *VIBRASIE*: By die toets van 'n kabinet volgens 6.3, mag die vibrasiesnelheid op geen vlak van enige werkoppervlak terwyl die kabinet in werking is 'n WGK-waarde in die frekwensiebestek van 10-250 Hz hê wat 0,7 mm/s oorskry nie.

3.11 *MERKE*: Die toepaslike van die volgende besonderhede, in ooreenstemming met die klas kabinet, moet leesbaar en onuitwisbaar op 'n opvallende plek op die voorkant van elke kabinet aangebring wees.

(a) Die aanwysing, dws—

- (1) "Biologiese veiligheidskabinet klas I—Beskerm personeel teen enige gewone mikrobiologiese partikels"; of
- (2) "Biologiese veiligheidskabinet klas II—Beskerm personeel en produk teen gewone mikrobiologiese partikels"; of
- (3) "Biologiese veiligheidskabinet klas III—Beskerm die produk sowel as personeel en die omgewing teen spesiale en uiters gevaarlike mikrobiologiese partikels";

(b) die fabrikant se naam;

(c) die totale volume van die kabinet;

(d) die woorde "WAARSKUWING: Moet nie vlambare of plobbare en hoogs vlugtige vloeistowwe in hierdie kabinet gebruik nie;

(e) die reeksnommer van die kabinet".

4. SPESIFIEKE VEREISTES.

4.1 KLAS I-KABINETTE.

4.1.1 *Algemeen*:

4.1.1.1 Die kabinet moet 'n selfstandige eenheid wees wat minstens 'n werkruimte, voorfilters, HEPA-filters en 'n blaser vir HEPA-gefiltreerde uitlaatlug bevat. 'n Geaktiveerde koolstoffilter kan ook ingesluit wees vir die hantering van organiese giftowwe en nie-korroderende vlugtige organiese stowwe.

4.1.1.2 Die kabinet moet 'n onafhanklike werkeenheid wees en moet onafhanklik van enige ander lugsirkuleerstelsel werk.

4.1.1.3 Die uitlaatopening kan in enige rigting wys, mits dit geredelik toeganklik is.

4.1.1.4 Die werkvoervlak van die werkruimte moet 'n kykvenster insluit, asook 'n werktoegangsopening waardeur lugvloei na binne volgehou word.

4.1.1.5 Alle kontroles wat met die kabinet verband hou, moet 'n integrerende deel van die kabinet uitmaak.

4.1.1.6 Ten einde potensieel gevaarlike materiaal binne die kabinet te hou, moet die plenum wat die potensieel gevaarlike materiaal bevat, onder 'n negatiewe druk met betrekking tot die druk in die werk-kamer/omgewing gehou word.

'n Klas I-kabinet mag onder **geen** omstandighede opgegradeer word om aan die vereistes van 'n klas III-kabinet te voldoen nie.

4.1.2 *Werkvloer:* Die werkvloer moet stewig, plat en in een stuk gemaak wees en moet geronde hoeke hê om skoonmaak en ontsmetting te vergemaklik. Die voorrand van die vloer moet 'n keerlip met 'n minimum hoogte van 10 mm hê vir die keer van vloeistof wat in die kabinet gestort is.

4.1.3 *Vloei en verspreiding van lug deur die werktoegangsopening:* Die kabinet moet so ontwerp wees dat die snelheid van die lug wat deur die werktoegangsopening invloei, binne die gespesifiseerde grense bly op die plekke wat hieronder aangegee word.

Volgens 6.6 bepaal en minstens een minuut lank op minstens vyf plekke, naamlik by die geometriese middelpunt van die opening en by elk van die vier hoeke daarvan gemeet met die middelpunt van die meettoestel 50–55 mm van die rand van die opening af, moet die lugsnelheid in die bestek van 0,7–1,0 m/s wees.

4.2 KLAS II-KABINETTE.

4.2.1 *Algemeen:*

4.2.1.1 Die kabinet moet 'n selfstandige eenheid wees wat minstens 'n werkruimte, voorfilters, HEPA-filters en 'n blaser vir HEPA-gefiltreerde eenrigtinglugvloei (laminêre lugvloei) en HEPA-gefiltreerde uitlaatlug bevat. 'n Geaktiveerde koolstoffilter kan ook ingesluit wees vir die hantering van organiese giftowwe en nie-korroderende vlugtige organiese stowwe.

4.2.1.2 Die kabinet moet 'n onafhanklike werkeenheid wees en moet onafhanklik van enige ander lugsirkuleerstelsel werk.

4.2.1.3 Die uitlaatoening kan in enige rigting wys, mits dit geredelik toeganklik is.

4.2.1.4 Die werkvoorstel van die werkruimte moet 'n kykvenster insluit, asook 'n werktoegangsopening waardeur lugvloei na binne volgehou word.

4.2.1.5 Alle kontroles wat met die kabinet verband hou, moet 'n integrerende deel van die kabinet uitmaak.

4.2.1.6 Ten einde potensieel gevaarlike materiaal binne die kabinet te hou, moet alle gekontameneerde sones wat onder positiewe lugdruk is, omring wees deur sones wat onder negatiewe druk met betrekking tot die druk in die werkkamer/omgewing gehou word.

4.2.2 *Werkvloer:* Die werkvloer moet stewig wees, mag nie bevestig wees nie en moet maklik opgelig kan word, maar moet 'n stand- en posisiebevestigingsstelsel hê, sowel as stelsels om te voorkom dat installering verkeerdom geskied. Die werkvloer kan solied of geperforeer wees. Indien die werkvloer solied is, moet dit 'n keerlip met 'n minimum hoogte van 10 mm om die omtrek daarvan hê vir die keer van vloeistof wat in die kabinet gestort is. Alle hoeke van die vloer moet gerond wees om skoonmaak en ontsmetting (kyk 3.4.2) te vergemaklik.

4.2.3 *Opvanger:* Die opvanger, wat die basis van die onderste lugplenum uitmaak, moet waterdig wees en alle lasse moet gesweis, glad geskuur en afgewerk wees. Die grootte van die opvanger moet sodanig wees dat dit vloeistof tot 'n minimum diepte van 10 mm kan hou. Alle hoeke van die vloer van die opvanger moet gerond wees om skoonmaak en ontsmetting (kyk 3.4.2) te vergemaklik. Enige versperings of hegstukke moet so aangebring wees dat hulle vry is van barste en splete wat skoonmaak en ontsmetting kan benadeel.

4.2.4 *Vloei en verspreiding van lug:*

4.2.4.1 *Hersirkuleer- en sperlug:* Lug moet in een rigting (laminêr) deur HEPA-filters deur die werkruimte hersirkuleer sodat ongekontameneerde lug vir beskerming van die produk voorsien word.

'n Lugversperring moet oor die volle breedte van die werktoegangsopening tussen die werkruimte en die kamer geskep word deurdat atmosferiese lug (kamerlug) afwaarts in die opvanger ingevoer word.

4.2.4.2 *Snelheid en eenvormigheid van lugvloei in die werkruimte:*

(a) Volgens 6.6 bepaal, moet die gemiddelde snelheid van die laminêre lugvloei minstens 0,45 m/s en hoogstens 0,50 m/s wees. Snelheidsaflesings op verskillende plekke in die werkruimte moet gelyk aan die gemiddelde syfer wees, behoudens 'n toleransie van $\pm 20\%$.

(b) By die toets van 'n kabinet volgens 6.11, mag daar hoogstens vyf organismes op die plate van elk van die ses replikatoetse aanwesig wees, wat minimum kruiskontaminasie en derhalwe aanneemlik eenvormige lugvloei aandui.

4.2.4.3 *Integriteit van lugversperring:*

(a) By die toets van 'n kabinet volgens 6.5 en 6.10, mag DOP-aërosol en bakteriespore wat om die buiteomtrek van die werktoegangsopening vrygelaat word en op die lugversperring gerig word, nie die werkruimte binnedring nie.

(b) Volgens 6.9 getoets, moet die kabinet n beskermingsfaktor van minstens 10^5 hê.

(c) Indirek as uitlaatlugvloeiensnelheid volgens 6.6 gemeet, moet die gemiddelde snelheid van die lug wat na binne deur die werktoegangsopening vloei, minstens 0,4 m/s wees.

(d) Die rooktoets volgens 6.5.3 (d) uitgevoer, moet toon dat lug oor die hele werktoegangsopening na binne vloei.

Opmerking: Die eweredige instelling van die hoeveelhede sperlug en die laminêre lugvloei is van kritieke belang vir die prestasie van die kabinet.

4.2.4.4 **Uitlaatlug:** 'n Hoeveelheid lug wat gelyk is aan die hoeveelheid sperlug moet deur die uitlaatfilter uit die kabinet uitgelaat word.

4.3 KLAS III-KABINETTE.

4.3.1 *Algemeen:*

4.3.1.1 Die kabinet moet 'n selfstandige eenheid wees wat minstens 'n werkruimte, voorfilters, HEPA-filters en 'n blaser vir HEPA-gefiltreerde inlaat- en uitlaatlug bevat. Voorsiening moet gemaak word om te voorkom dat gekontamineerde lug deur die luginlaat terugvloei, deur die aanbring van 'n HEPA-inlaatfilter wat ook 'n toevoer van steriele lug lewer om die binnekant te deurspoel en kontaminasie van die materiaal wat hanteer word, te voorkom. 'n Geaktiveerde koolstoffilter kan ook in die uitlaatlug ingesluit wees vir die hantering van organiese giftowwe en nie-korroderende vlugtige organiese stowwe.

'n Klas I-kabinet mag onder *geen* omstandighede opgegradeer word om aan die vereistes van 'n klas III-kabinet te voldoen nie.

4.3.1.2 Die kabinet moet 'n onafhanklike werkeenheid wees en moet onafhanklik van enige ander lugsirkuleerstelsel werk. Volgens 6.1 getoets, moet 'n kabinet gasdig wees.

4.3.1.3 Die uitlaatoening kan in enige rigting wys, mits dit geredelik toeganklik is.

4.3.1.4 Die werkvoorstel van die werkruimte moet 'n kykvenster en 'n afgedigte versperring insluit wat die operateur van die werkruimte skei. Hierdie versperring moet voorsien wees van handskoene wat aaneenloop met die versperring en die buitedop van die kabinet en wat die operateur in staat stel om materiaal binne die kabinet te hanteer.

4.3.1.5 Alle kontroles wat met die kabinet verband hou, moet van buite die kabinet beheer word.

4.3.1.6 Ten einde potensieel gevaarlike materiaal binne die kabinet te hou, moet die binnekant van die kabinet altyd onder 'n negatiewe druk met betrekking tot die druk in die werkkamer/omgewing gehou word. 'n Manometer met 'n bestek van 0-500 Pa moet buite die kabinet gemonteer wees om 'n visuele aanduiding van die druk van die inwendige negatiewedruk-plenum te gee.

5.3.2 **Handskoenoeninge:** Manipulasie binne die werkruimte moet geskied deur midde van handskoenoeninge wat ook as oorplasingsoeninge of vir die bevestiging van oorplasingssakke kan dien. Om hierdie rede moet 'n prop wat inwendig of uitwendig aangebring kan word om die opening doeltreffend en volkome af te dig, vir elke opening voorsien wees.

4.3.2.1 *Handskoenoeningsamestel:*

(a) Die handskoenoeningsamestel moet op permanente wyse aan die voorpaneel van die kabinet vasgesweis, met klinknaels daaraan bevestig of daaruit uitgepers wees, of deur middel van hegstukke met afdigpakkies aan die voorpaneel van die kabinet aangebring wees.

(b) Die handskoenoeningsamestel moet aan al die fisiese en chemiese vereistes voldoen wat in 3.3 vir die buitedop van die kabinet gespesifiseer word.

(c) Die afmetings van die handskoenoeningsamestel moet so wees dat dit voorsiening maak vir die aanbring van standaard tipe spanrandkaphandskoene, wat op die handskoenkompartment pas en in die handel beskikbaar is, sonder oormatige spanning op die rand van die handskoene. Die fabrikant moet die gepaste handskoenskapdiameter of -fatsoen vir die spesifieke openinggrootte spesifiseer.

(d) Die buitekant van die openingring moet voorsien wees van twee groewe om die spanrandkap van die handskoene en 'n sekondêre handskoene te akkommodeer sodat handskoene omgeruil kan word sonder om aan die afdigting afbreuk te doen.

(e) Doeltreffende middele moet vir die afdigting van die handskoenoeningsamestel voorsien wees om te verseker dat die handskoenoeninge heeltemal afgedig kan word sodat die kabinet berook kan word.

4.3.2.2 *Handskoene (kaphandskoene):*

(a) Die handskoene moet albei hande ewe goed pas en moet spanrandkappe hê wat saambuikbaar is met die diameter en fatsoen van die handskoenoeninge.

(b) Handskoene moet gemaak wees van deursigtige materiaal wat sodanig is dat beskadiging van die handskoene maklik raakgesien kan word.

(c) Die handskoene moet maklik van buite die kabinet vervang kan word deur die ou handskoene na die binnekant van die kabinet te druk en 'n nuwe handskoene aan te bring terwyl die blaser nog aan die gang is.

- 4.3.3 *Filters*: Die inlaat- sowel as die uitlaatlfilter van 'n klas III-kabinet moet HEPA-filters wees en moet almal van dieselfde grootte en spesifikasie wees. Die fabrikant se ontwerp volumetriese tempo (lugvloei tempo) moet gelyk wees aan die maksimum wat vir die kabinet nodig is, of dit oorskry. By die toets van 'n filter volgens 6.4 by die fabrikant se ontwerp volumetriese tempo (lugvloei tempo), mag die DOP-indringing van die filter nie 0,03% oorskry nie.
- 4.3.4 *Vloei en verspreiding van lug*:
- 4.3.4.1 *Lugvloei*: Volgens 6.6 bepaal, moet die lugvloei snelheid voldoende wees om te verseker dat daar 'n lugvloei snelheid van minstens 0,75 m/s deur die openinge is as alle handskoene afgehaal is. Die lugvloei deur die inlaatlfilter moet minstens 3 m³/min wees as die handskoene aangebring is.
- 4.3.4.2 *Kabinetlugdruk*: Elke inlaatlfilter en elke uitlaatlfilter moet groot genoeg wees om die gespesifiseerde lugvloei (minstens 3 m³/min deur die inlaatlfilter) deur te laat by 'n negatiewe druk van 200 Pa in die kabinet, wat die minimum werkdruk moet wees.
- 4.3.5 *Werkvloer*: Die werkvloer moet stewig, plat en in een stuk gemaak wees, met geronde hoeke om skoonmaak en ontsmetting te vergemaklik.
- 4.3.6 *Oorplasingkamer*: 'n Oorplasingkamer kan aan die kabinet aangebring wees sodat bonkige artikels in die kabinet oorgeplaas kan word. Die oorplasingkamer, indien een aangebring is, moet van geskikte grootte wees, met deure wat groot genoeg vir die betrokke artikels is, en moet aan die kant van die kabinet aangebring wees.

Die oorplasingkamer moet 'n naatlose gasdigte eenstukkamer wees, met geronde hoeke om skoonmaak te vergemaklik. By die toets volgens 6.1 van 'n oorplasingkamer wat aan die kabinet aangebring is, mag die nate en lasse van die deure en van die kamer geen teken van gaslekke toon nie. Alle materiaal wat vir die konstruksie van die kamer gebruik word, moet aan die vereiste van 3.3.1 voldoen. Die kamer moet voorsien wees van inlyn-HEPA-filters en geskikte riefelpuntnaaldkleppe sodat die kabinet gedeeltelik lugleeg gemaak kan word, indien nodig.

5. INSTALLERING VAN 'N KLAS I-, KLAS II- OF KLAS III-KABINET.

- 5.1 Die kabinet of die komponente daarvan moet op so 'n wyse vervoer en geïnstalleer word dat beskadi-ging van enige deel van die kabinet voorkom word en dat die integriteit van die kabinet verseker word. Na installering moet die kabinet aan al die vereistes van die spesifikasie voldoen, en die toepaslike van die toets in afdeling 6 moet uitgevoer word om te verseker dat die kabinet aan die toepaslike presta-sie- en veiligheidsvereistes voldoen.

6. TOETSMETODES.

6.1 BEPALING VAN GASDIGTHEID VAN BUITEDOP (KLAS III-KABINETTE).

- 6.1.1 *Beginsel*: Die kabinet word afgedig en onder positiewe druk geplaas met dichloordifluormetaangas. Alle oppervlakke en lasse word met die aftaster van 'n detektor vir gaslekke ondersoek.

6.1.2 *Apparaat*:

(a) 'n *Gasdetektor* wat ingestel en gekalibreer is om die verlies aan dichloordifluormetaangas by 'n verwysingslekbron teen 'n maksimum tempo van 14 g per jaar te bespeur.

(b) 'n *Manometer* met skaalindelings van hoogstens 25 Pa en wat drukwaardes in die bestek van 200–300 Pa kan registreer.

(c) 'n *Silinder dichloordifluormetaangas* (in die handel beskikbaar as 'n koelmiddel, Freon 12), met 'n reguleerklap, spuitstuk en verbindingslang.

6.1.3 *Prosedure*:

(a) Berei die kabinet voor vir toetsing as 'n geslote stelsel, d.w.s. dig alle openinge soos die uitlaatoening, verwyderbare panele en ander openinge af. Haal alle uitwendige deksels af wat nie noodsaaklik vir die werking van die kabinet is nie.

(b) Bevestig die manometer aan die toepaslike toetsdeel van die kabinet om binnedruk aan te dui.

(c) Verbind die gassilinder op geskikte wyse met die toetsdeel en stel die gas vry sodat die binnekant van die kabinet onder 'n positiewe druk van 250 ± 5 Pa geplaas word.

(d) Stel die sensitiwiteit van die gasdetektor in volgens die fabrikant se aanwysings.

(e) Beweeg die aftaster van die instrument oor die nate, lasse, utiliteitsopeninge, pakstukke en ander plekke waar lekkasie moontlik kan voorkom, deur die aftaster 7–12 mm van enige oppervlak af te hou en dit teen 'n tempo van ongeveer 0,013 m/s te beweeg.

- 6.1.4. *Beoordeling*: Beskou die kabinet as gasdig indien daar op geen plek 'n gaslek opgespoor word wat groter as 14 g per jaar is nie.

6.2 BEPALING VAN ILLUMINANSIE.

- 6.2.1 *Beginsel*: Illuminansiemetings word by 'n gespesifiseerde werkvlak gedoen op plekke wat na willekeur gekies is.

- 6.2.2 *Apparaat:* 'n Gekalibreerde kosinus-en siggekorregerde illuminansiemeter waarvan die bestek sodanig is dat die illuminansie wat gemeet word, by minstens een vyfde van die volskaalwaarde is.
- 6.2.3 *Prosedure:*
- (a) Laat die lampe in die kabinet minstens twee uur lank werk.
 - (b) Meet op agt plekke wat na willekeur gekies is, die illuminansie op 'n hoogte van hoogstens 25 mm bo die oppervlak van die werkvloer en teken die resultaat aan wat op elke plek verkry is.
- 6.3 **VIBRASIEBEPALING.**
- 6.3.1 *Beginsel:* Vibrasiesnelheidsmetings word met 'n eenvoudige vibrasiemeter op uitgesoekte plekke gedoen terwyl die kabinet in werking en nie in werking is nie, sodat die vibrasiepeile in hierdie twee toestande vergelyk kan word. Bepaling van die netto vibrasie, dws dié wat slegs aan die kabinet toegeskryf kan word, sal ontleding van vibrasiefrekwensie vereis.
- 6.3.2 *Apparaat:* 'n Vibrasiemeter wat bestendigestaat-vibrasiesnelhede in die bestek van 0,05–0,5 mm/s (WGK) in die frekwensiebestek van 10–250 Hz kan meet, behoudens 'n toleransie van $\pm 10\%$.
- 6.3.3 *Prosedure.*
- 6.3.3.1 *Toetsplekke:*
- (a) *Op die horisontale voor-na-agter-as:* Om vibrasiesnelheidsmetings op die horisontale voor-na-agter-as te doen, heg die voelelement stewig aan die middelpunt van die voorrand van die werkvloer vas.
 - (b) *Op die horisontale sy-tot-sy-as:* Om vibrasiesnelheidsmetings op die horisontale sy-tot-sy-as te doen, heg die voelelement stewig aan die middelpunt van die (linker- of regter-)kant van die werkvloeroppervlak vas.
- 6.3.3.2 *Meting:*
- (a) Maak seker dat die lugvloei is soos gespesifiseer (kyk 4.1.3, 4.2.4 of 4.3.4.1, soos toepaslik) en dat die kabinet minstens 10 minute lank normaal werk voordat enige metings gedoen word.
 - (b) Met die voelelement soos in 6.3.3.1 (a) geplaas en vasgeheg, en met die kabinet in werking soos in (a) hierbo, meet die bruto vibrasiesnelheid en teken dit aan.
 - (c) Skakel die meganiese en elektriese stelsels af, meet die vibrasiesnelheid wat deur omgewingstoestande teweeggebring word en teken dit aan.
 - (d) Met die voelelement soos in 6.3.3.1 (a) geplaas en vasgeheg, en met die kabinet in werking soos in (a) hierbo, doen weer metings soos in (b) en (c) hierbo.
- Opmerking:** Die vibrasiefrekwensiekomponente van die omgewingsvibrasie verskil gewoonlik heelwat van dié van die kabinet se meganiese stelsel en daarom is herleiding van die netto WGK-snelheid (dié wat aan die skoonkabinet-toerusting toegeskryf kan word) van metings van bruto en omgewingsvibrasie nie noodwendig 'n eenvoudige wiskundige aftrekking nie.
- 6.4 **BEPALING VAN DIE INTEGRITEIT VAN DIE FINALE FILTERINSTALLASIE EN FILTERPRESTASIE.**
- 6.4.1 *Beginsel:* 'n Polidispersie-aërosol by kamertemperatuur word teen 'n gespesifiseerde vloeiempo aan die stroomopkant van die HEPA-filterinstallasie ingevoer en die hele oppervlak aan die stroomafkant van die filterbank word met 'n aftassuigstuk afgetas om die persentasie indringing te bepaal.
- 6.4.2 *Apparaat:*
- (a) 'n Anemometer, noukeurig tot binne $\pm 2\%$.
 - (b) *DOP-generator:* 'n Generator wat van geskikte spuitstukke voorsien is en wat saamgeperste stikstofgas by 140 ± 14 kPa gebruik, met die vrylugvloei ingestel op minstens 30 l/min per spuitstuk. Die DOP moet by kamertemperatuur gebruik word en mag nie verhit word nie.
- Opmerking:** Besonderhede van 'n geskikte spuitstuk kan van die Suid-Afrikaanse Buro vir Standaardte verky word.
- (c) *Aërosolfotometer:* 'n Ligverstrooitipe massakonsentrasie-aanwyser met 'n aftassuigstuk. Fotometer met 'n drumpelsensitiwiteit van minstens 10^{-3} g/l vir DOP-partikels met 'n diameter van 0,3 μm , wat konsentrasies in die bestek van 80–120 g/l kan meet, is geskik. Die toetsfotometer moet 'n monstervloeiempo van 30 063 l/min hê. Die aftasterinlaat moet groot genoeg wees om die aftasterinlaattoempo by 'n toetsvloei van 27,5 l/min (of effens hoër) deur die filter te hou.
- 6.4.3 *Prosedure:*
- (a) Gebruik die anemometer om seker te maak dat die lugvloei deur die filterbank binne die werkgrense van die kabinetontwerpvloei is (kyk 4.1.3, 4.2.4.2 of 4.3.4.1, soos toepaslik). Maak seker dat die kabinet normaal werk terwyl hierdie prosedure uitgevoer word. Bepaal lugvloei volgens die metode in 6.7.

(b) Reguleer die generatordruk tot 140 06 14 kPa mt 'n minimum vrylugvloei deur die generator van 30 l/spuistuk per minuut.

(c) In die geval van fotometers met—

- (1) 'n lineêre aflesing, bepaal die stroomopkonsentrasie deur die kleinste hoeveelheid DOP-aërosol in te voer wat nodig is om 'n 100%-aflesing te verkry, sodat die instrument strooilig ingestel kan word op nul op die laagste skaalbestek wanneer alle aërosol uit die monsterlugstroom gefiltreer is;
- (2) 'n logaritme-aflesing, stel die stroomopkonsentrasie (soos aan die hand van die instrumentkalibrasiekromme bepaal) in deur die kleinste hoeveelheid DOP-aërosol in te voer wat nodig is om 'n konsentrasie te verkry van 1×10^4 bo die konsentrasie wat nodig is om 'n aflesing van een skaalindeling te verkry. Vermy langdurige blootstelling van filters aan DOP.

(d) Tas die hele filterbank af deur die aftaster daaroor te beweeg met hale wat effens oorvleuel, sodat 'n monster van die hele filtergebied geneem word. Voer afsonderlike aftashale teen 'n beweegtempo van hoogstens 5 cm/s uit om die hele omtrek van die filterbank, langs die verbindings tussen die filters en hul rame en om die afdigting tussen die filterbank en die kabinet. Teken enige lokale dele of punte aan waar 'n aflesing van meer as 0,03% verkry word.

6.5 METODE VIR DIE OPSPORING VAN LEKKASIES NA DIE WERKRUIMTE, EN BEWYSLEWERING VAN DIE INTEGRITEIT VAN DIE KABINET, DIE LUGVERSERRING EN DIE LUGFILTER.

6.5.1 *Beginsel:* Die omgewing van alle konstruksielasse wat aan die werkruimte grens en alle openinge na die werkruimte word ondersoek terwyl luggegeneerde DOP-rook op 'n las in die omgewing van die werkruimte of op die werktoegangsopening (lugversperring) gerig word. Metings word met 'n aërosolfotometer gedoen om enige toename vergeleke met die filtervoorvlakaflesing te bepaal.

Meteraflesings wat 'n indringing van 0,03% oorskry, dui op laslekkasie of terugstroming.

6.5.2 *Apparaat:*

- (a) 'n Aërosolfotometer soos in 6.4.2(c).
- (b) 'n DOP-generator soos in 6.4.2(b).

6.5.3 *Prosedure:*

(a) Gebruik die aërosolfotometer om die omgewings-DOP-peil van die kamer en die werkruimte van die kabinet te meet. Indien die aflesing minder as 10^3 bo die filtervoorvlakaflesing vir die aërosolfotometer is, rig die DOP-rook op die omgewingskant (uitwendige kant) van die las of werktoegangsopening terwyl die kabinet normaal werk en die lyf van die operateur minstens 200 mm weg is van die buiterande van die gebied wat ondersoek word.

(b) Gebruik die fotometer om alle konstruksielasse wat aan die werkruimte grens, af te tas deur die aftastersuigstuk binne die kabinet, hoogstens 25 mm weg van die las af te hou en teen hoogstens 5 cm/s met die las langs te beweeg.

(c) Beskou enige oop deurgang van die werkruimte na die omgewingskant (uitwendige kant) of by die binnerand van 'n hersirkuleergleuf of by die las tussen kabinetoppervlakke en 'n afsluitpaneel as 'n opening. Tas die omtrek van alle openinge na die werkruimte af deur die aftastersuigstuk binne die werkruimte, hoogstens 50 mm weg van die opening of hoogstens 25 mm weg van die oppervlakke af te hou. Tas die hele omtrek van die opening teen hoogstens 5 cm/s af.

Teken enige fotometeraflesing wat 'n DOP-indringing van 0,03% met betrekking tot die 100% wat stroomop gemeet is, oorskry en die plek waarop dit geneem is, aan.

(d) Voer hierbenewens 'n eenvoudige rooktoets uit om die rigting van die lugvloei naby die werktoegangsopening te bepaal. Genereer DOP- of enige ander rook aan die omgewingskant (uitwendige kant) van die opening sodat die rookwolk binne 150 mm van die totale oppervlakte van die opening af is. Let op die rigting van die lugvloei.

6.6 BEPALING VAN SNELHEID EN EENVORMIGHEID VAN LUGVLOEI.

6.6.1 *Beginsel:* Lugvloeisnelheidsaflesings word met 'n anemometer op uitgesoekte plekke geneem en die gemiddelde van die aflesings word dan bereken.

6.6.2 *Apparaat:*

- (a) 'n Anemometer, tot binne $\pm 2\%$ noukeurig.
- (b) *Manometer:* 'n Vloeistofge vulde skuinsbuismanometer of soortgelyke manometer met skaalindeling van hoogstens 25 Pa.

6.6.3 *Prosedure:*

(a) Maak seker dat die kabinet normaal werk. Neem snelheidsaflesings op 'n vlak parallel met en ongeveer 150 mm na (stroomaf van) die HEPA-filters of 150 mm van die plafon van die kabinet af, en teken dit aan.

(b) Neem snelheidsaflesings op tussenafstande van 200–225 mm in albei rigtings deur te begin op 'n plek 75–100 mm van die binnerand van die werkoppervlak af sodat een aflesing geneem word by elke kruising van 'n denkbeeldige vierkantige rooster waarvan die totale afmetings met dié van die werkoppervlak ooreenstem. Teken hierdie snelheidsaflesings aan.

(c) Gebruik die manometer om die drukval oor die filterstelsel te meet, en teken dit aan.

(d) Gebruik die anemometer om ook die snelheid van die uitlaatlug by die uitlaat van die leigang te bepaal, en teken dit aan.

6.6.4 *Verslag:* Sluit die volgende besonderhede in die verslag in:

(a) Die drukval oor die filterstelsel.

(b) Elke snelheidsafdeling en die plek waarop dit geneem is. Die snelheid van die uitlaatlug is gelyk aan die snelheid van die inlaatlug (sperlug of voorvlaklug).

(c) Die gemiddelde van die snelheidsaflesings wat geneem is.

(d) Maksimum en minimum snelheidsaflesings.

(e) Persentasie afwyking van die gemiddelde van die maksimum en minimum aflesings.

6.7 **BEPALING VAN LUGVLOEISNELHEID IN BELASTE FILTERTOESTANDE (TOETS VAN MOTORGEDREWE BLASER).**

6.7.1 *Beginnel:* Die lugvloeisnelheid word bepaal nadat skoon filters aangebring is en weer nadat die bykomende beperkende toestel aangebring is om 'n toename in die lugvloeiweerstand gelyk aan twee maal die drukval oor 'n skoon filterstelsel na te boots. Volgehoue lugvloeisnelheid toon dat die vermoë van die motorgedrewe blaser toereikend is.

6.7.2 *Apparaat:*

(a) *Beperkende toestel:* Weerstandsmateriaal wat bygevoeg word om 'n toename in die drukval te verkry wat gelyk is aan minstens twee maal die drukval oor die skoonfilters.

(b) 'n *Anemometer* soos in 6.6.2 (a).

(c) 'n *Manometer* soos in 6.6.2 (b).

6.7.3 *Prosedure:*

(a) Met die motorgedrewe blaser van die kabinet in werking, meet die lugvloeisnelheid soos in 6.6, teken dit aan en stel dit op die gespesifiseerde waarde in. Maak seker dat voorfilters en finale HEPA-filters skoon is vir hierdie toets.

(b) Bring die manometer aan die stroomopkant van die finale HEPA-filter(s) aan, meet die drukval na die stroomafkant van die filter(s) en teken dit aan.

(c) Installeer die beperkende toestel.

(d) Meet die drukval van die belaste stelsel, teken dit aan en verstel die beperkende toestel, indien nodig, om die gespesifiseerde toename in drukval te verkry.

(e) Meet die lugsnelheid soos in 6.6 in en teken dit aan.

(f) Maak seker dat die blaser die gespesifiseerde lugsnelheid minstens 30 minute lank by die verhoogde drukval volhou.

6.7.4 *Verslag:* Sluit die volgende besonderhede in die verslag in:

(a) Die gespesifiseerde lugvloeisnelheid met skoon filters;

(b) die drukval oor die finale filterstelsel met albei filters in 'n skoon toestand;

(c) die drukval oor gekombineerde filters en wanneer die beperkende toestel in posisie is;

(d) die lugvloeisnelheid wanneer die beperkende toestel in posisie is.

6.8 **BEPALING VAN GERAASPEIL.**

6.8.1 *Beginnel:* Geraaspeile word in werktoestande op uitgesoekte plekke naby 'n kabinet gemeet en die agtergrondomgewingstoestande word ook aangeteken, indien nodig.

6.8.2 *Apparaat:*

(a) *Klankpeilmeter:* 'n Klankpeilmeter wat voldoen aan die prestasie-eienskappe en noukeurigheidsvereistes van minstens 'n tipe I-instrument soos aangegee in onderafdeling 4.1 van SABS 083-1983 'Die meet en beoordeling van arbeidsgeraas vir gehoorbehoudsdoeleindes', gepubliseer by Goewermentskennisgewing No. 356 van 20 Mei 1983.

(b) *Kalibrasiebron:* 'n Akoestiese bron wat vir gebruik saam met die klankpeilmeter ontwerp is en wat 'n enkelfrekwensieklanklewering het waarvan die amplitude by die temperatuur en barometerdruk waarby die kalibrasie nagegaan is, tot binne 0,3 dB bekend is.

6.8.3 *Prosedure:*

(a) Maak seker dat die kabinet normaal werk. Meet die geraaspeil met die meter 0,3 m vanaf die werktoegangsopening, sowel as 0,3 m bokant die borand van die werktoegangsopening of, 1 m vanaf enige ander deel van die kabinet, met inbegrip van die leigange en uitlaatpunt van die uitsuigstelsel, indien een aangebring is, en teken dit aan.

(b) Maak seker dat die lugvloei van die kabinet is soos gespesifiseer. Doen alle metings met die klankmeter so ingestel dat die A-beswaarde net en vinnige responsie gebruik word. Gebruik die akoestiese kalibreerder om die prestasie van die klankpeilmeter na te gaan voordat sowel as nadat metings gedoen word, en veronagsaam die resultate indien die twee prestasiewaardes nie tot binne 1,0 dB ooreenstem nie.

6.8.4 *Verslag:* Sluit die volgende besonderhede in die verslag in:

- (a) Alle werkgeraaspeilmettings en die plek waar dit gemeet is;
- (b) die geïdentifiseerde maksimum klankpeil en die plek waar dit gemeet is;
- (c) indien toepaslik, die omgewingsgeraaspeilmettings op plekke waar dit nodig is.

6.9 **BEPALING VAN DIE BESKERMINGSFAKTOR IN DIE GEVAL VAN KLAS II-KABINETTE.**6.9.1 *Beginnel:* Die beskermingsfaktor word omskryf deur die verhouding tussen die blootstelling van luggedraagde kontaminasie wat op die oop bank gegenereer word, en die blootstelling wat die gevolg is van dieselfde verspreiding binne die kabinet.

(a) **Opmerking:** Die oorplasingsindeks omskryf die blootstelling wat by 'n gegewe punt ondervind word as $n(Ns)$, waar N die getal vrygestelde partikels is en n die getal partikels is wat teen 'n monsternemingstempo s herwin word as monsterneming voortgesit word totdat dit voltooi is. In 'n kamer met turbulente ventilasie wat deurgaans eenvormige vermenging tot gevolg het, is die oorplasingsindeks gelyk aan $1/V$, waar V die effektiewe volumetriese ventilasietempo is, met inbegrip van verlies weens afsakking. Die dimensie van die oorplasingsindeks is TL^{-3} , d.w.s. tyd/(lengte)³.

(b) Die verhouding tussen die oorplasingsindekse in die twee situasies is die beskermingsfaktor en is dimensieloos. In die geval van die oopbankverwysingstoestand word die kamerventilasie V as $10 \text{ m}^3/\text{min}$ beskou.

(c) Die beskermingsfaktor word dan $(Ns)/(10n)$ as die monsternemingstempo s uitgedruk word in kubieke meter per minuut, of $(Ns)/(10^4n)$, as s uitgedruk word in liter per minuut.

Ideaal gesien behoort daar geen ontsnapping uit 'n veiligheidskabinet te wees nie, n behoort nul te wees en die beskermingsfaktor behoort oneindig te wees. Geen kabinet met 'n oop voorkant sal egter algehele beskerming verleen nie en die maksimum waarde van die beskermingsfaktor wat beoordeel kan word, hang af van die sensitiwiteit van die toets, d.w.s. die konsentrasie van die toetssuspensie N , die grootte van die monsternemingstempo s , en die kleinste getal partikels wat herwin word en op betroubare wyse van agtergrondkontaminasie onderskei kan word. Praktiese waardes hiervoor is N minstens 3×10^8 , s minstens 50 l/min , en n hoogstens 10, wat 'n minimum bepaalbare waarde van minstens $1,5 \times 10^5$ vir die beskermingsfaktor gee.

(d) Ten einde verwarring met agtergrondkontaminasie te voorkom, moet die toetse uitgevoer word in 'n goed geventileerde kamer en moet dit voorafgegaan word deur 'n vooruitskatting van die agtergrondkontaminasie.

6.9.2 *Materiaal en apparaat:*

(a) *Spoorsuspensie:* 'n Suspensie van spore van *Bacillus subtilis* var globigii (SATCC BAC 35) in gedistilleerde water, gestandaardiseer sodat dit ongeveer 10^8 – 10^9 spore per milliliter bevat.

(b) *Kweekplate:* Petribakkies (met 'n diameter van 90 mm) wat 15–20 ml voedingsagar [kyk (e) hieronder] bevat.

(c) *Spleetipe lugmonsternemers:* Twee spleetipe lugmonsternemers wat elk teen tussen 25 l en 30 l lug per minuut werk.

(d) *Newelaar:* 'n Collison-newelaar wat ses straalstukke het, waarvan die binne-uitlaat 'n diameter van 14 mm het, en wat vanaf 'n druklyn by 70 kPa werk. Die newelaar spruit ongeveer 0,2 ml/min. en laat hoogstens 10 ml/min. vry lug teen 'n snelheid van 0,8 m/s uit.

(e) *Voedingsagar:* 'n Oplossing wat soos volg opgemaak is:

Agar.....	15,0 g
Pepton.....	10,0 g
Beefekstrak.....	5,0 g
Natriumchloried.....	5,0 g

Los die bestanddele in verhitte water op en vul tot 1 l aan. Stel die pH-waarde op 7,2 in. Meet 15-ml-volumes in bottels af en steriliseer 20 minute lank in 'n outoklaaf by 121 °C.

(f) *Silinder*: 'n Silinder met 'n lengte en diameter van onderskeidelik ongeveer 1 m en 60–65 mm, wat 'n gladde oppervlak het en aan albei ente toe is.

6.9.3

Procedure:

(a) Steek die silinder deur die werktoegangsopening van die kabinet om die lugvloei te verstuur (om die operateur se arm na te boots). Plaas die silinder in die middel tussen die sywande en loodreg op die vlak van die opening, sodat dit vanaf die agterkant van die werkruimte tot minstens 250 mm in die kamer in strek. Lig die onderste oppervlak van die silinder tot tussen 65 mm en 75 mm bo die werkvloer.

(b) Plaas die newelaar in die werkruimte met die uitlaat of toepaslike verlenging daarvan hoogstens 100 mm agter die vlak van die opening en na die opening toe gerig, met die spuitas parallel met die werkoppervlak. Maak seker dat die spuitas gelyk met die borand van die opening is.

(c) Plaas twee spleettipe lugmonsternemers buite die kabinet voor die opening, met die inlate daarvan hoogstens 200 mm voor die vlak van die opening. Maak seker dat die inlate gelyk met die bokant van die silinder is, die een regs en die ander links, en elk hoogstens 150 mm van die as van die silinder af.

(d) Maak seker dat die kabinet normaal werk. Stel die monsternemers in werking 30 sekondes voordat die newelaar in werking gestel word en laat hulle vyf minute lank aanhou werk nadat die newelaar afgeskakel is. Stel elke monsternemer in op 'n monsternemingstempo van minstens 25 ℓ lug per minuut. Laat die newelaar minstens vier minute lank loop om die verspreiding van minstens 3×10^8 spore te verseker. Voer 'n kontrolebepaling uit deur die kabinetmotors af te skakel en die hele procedure te herhaal.

(e) Bepaal die toetsdosis soos volg:

Voer voor die spuitprocedure 'n plaattelling uit op tienvoudige reeksoplossings van die spoor-suspensie. Herhaal die proses na afloop van die spuitydperk. Voer na die aanvanklike plaattelling die spuitprocedure uit deur 'n 5-ml-volume V van die spoor-suspensie noukeurig uit te meet en dit vir die toets in die newelaar te plaas. Bepaal die massa van die newelaar (W_1). Bepaal weer die massa van die newelaar (W_2) nadat daar gespuut is, en berei tienvoudige verdunnings van die oorblywende spoor-suspensie in die newelaar, waarvan die volume ($V + W_2 - W_1$) minstens die helfte ($V/2$) van die oorspronklike volume moet wees. Voer voor en na die spuitprocedure 'n plaattelling op die verdunningsreeks uit, inkubeer die plate 24–48 uur lank by 37 °C en tel die kolonies op elke plaat wat 100–300 kolonies na inkubasie bevat.

Bereken aan die hand van hierdie tellings die konsentrasie spore in die aanvanklike suspensie (n_1/ml) en in die finale suspensie (n_2/ml).

(f) Die toetsdosis word dan aangegee as:

$$N - n_2 (W_1 - W_2) - (n_2 - n_1) V$$

(g) Voer hierdie procedure minstens vyf maal uit. Elke lopie moet 'n beskermingsfaktor van minstens 10^5 gee [kyk 6.9.1 (c)].

(h) Herhaal procedure (b), (c) en (d) hierbo, maar plaas die inlate van die spleettipe lugmonsternemers voor die uitlaatopening. Neem 'n monster van die lug terwyl die kabinet in werking is en terwyl die kabinet afgeskakel is. Voer hierdie procedure vyf maal uit. Elke lopie mag hoogstens vyf bykomende kolonies toon op die plate van monsters wat tydens die werking van die kabinet geneem is by vergelyking daarvan met die plate van monsters wat geneem is nadat die kabinetmotors afgeskakel is. (Voer kontrolebepalings op monsters van die omgewingslug uit.)

6.10

TOETS VIR UITWENDIGE KONTAMINASIE.

6.10.1

Beginsel: Die integriteit van die lugversperring by die werktoegangsopening word aangedui deur die meting van die indringing na binne van bakteriespore wat by die opening ingespuut word. Terwyl die kabinet normaal werk, mag hoogstens vyf spore die werkruimte binnedring.

6.10.2

Materiaal en apparaat: Soos in 6.9.2 (die spleettipe lugmonsternemers is nie nodig nie).

6.10.3

Procedure:

(a) Plaas die silinder in die kabinet soos in 6.9.3 (a).

(b) Versprei minstens 12 kweekplate (petribakkies met 'n diameter van 90 mm) eweredig oor die werkvloer van die kabinet.

(c) Plaas die newelaar buite die kabinet, met die uitlaatopening van die newelaar 100 mm voor die middelpunt van die borand van die werktoegangsopening. Die spuitas moet parallel met die vlak van die werkvloer wees en moet na die binnekant van die kabinet gerig wees.

(d) Maak seker dat die kabinet normaal werk. Maak die kweekplate 1 minuut voor die aanvang van die spuitprocedure oop en bedek hulle weer vyf minute na die beëindiging van die spuitprocedure. Laat die newelaar minstens vier minute lank loop om die verspreiding van 'n toetsdosis van minstens 3×10^6 spore te verseker.

(e) In enige toets mag die getal kolonies toetsorganismes wat na 'n inkubasietydperk van 24–48 uur by 37 °C getel word, nie 5 oorskry nie. Voer die toets vyf maal uit.

(f) Voer 'n kontroletoets uit terwyl die motorgedrewe blaser(s) van die kabinet afgeskakel is. Minstens 300 kolonies moet tydens elke toets van hierdie plate herwin word.

- 6.11 TOETS VIR KRUISKONTAMINASIE.
- 6.11.1 *Beginnel:* Bakteriespore word oor die werkruimte gespuit en kontaminasie van die teenoorstaande twee derdes van die kabinet word gemoniteer.
- 6.11.2 *Apparaat en Materiaal:* Soos in 6.9.2 (die spleetteipe lugmonsternemers is nie nodig nie).
- 6.11.3 *Prosedure:*
- (a) Plaas die silinder in die kabinet soos in 6.9.3 (a).
 - (b) Versprei minstens 12 kweekplate (petribakkies met 'n diameter van minstens 90 mm) eweredig oor die regterkantse twee derdes van die werkvloer van die kabinet en minstens 350 mm van die linkerkant af.
 - (c) Plaas die newelaar met sy spuitas 100 mm bo die werkvloer en 50 mm van die linkerkant af. Maak seker dat die spuitas parallel met die vlak van die werkvloer is en dat dit gerig is in die rigting van die wand waar die kweekplate geplaas is.
 - (d) Maak seker dat die kabinet normaal werk. Maak die kweekplate een minuut voor die aanvang van die spuitprosedure oop en bedek hulle weer vyf minute na die beëindiging van die spuitprosedure. Laat die newelaar minstens vier minute lank loop om die verspreiding van 'n toetsdosis van minstens 10^5 spore te verseker.
 - (e) In enige toets mag die getal kolonies toetsorganismes wat na 'n inkubasietydperk van 24-48 uur by 37 °C getel word, nie 5 oorskry nie. Voer die toets drie maal uit.
 - (f) Voer die toetsprosedure in (a)-(e) hierbo nog drie maal met omgekeerde posisies uit (dws met die kweekplate aan die linkerkant en die newelaar aan die regterkant geplaas).
 - (g) Voer 'n kontroletoets uit terwyl die motorgedrewe blaser(s) van die kabinet afgeskakel is. Minstens 300 kolonies moet tydens elke toets van hierdie plate herwin word.
- 6.12 TOETS VIR KORROSIEBESTANDHEID: Volg SABS-metode 155-1975 'Soutmisbestandheid van verflae', gepubliseer by Goewermenskennisgewing No. 463 van 9 Julie 1982.
- 6.13 VOORFILTERTOETSE: Volg die toetsmetodes in SABS 1424-1987 'Filters vir lugversorging en algemene ventilasie', gepubliseer by Goewermenskennisgewing No. 1878 van 4 September 1987.

SCHEDULE

PROPOSED COMPULSORY SPECIFICATION FOR BIOLOGICAL SAFETY CABINETS (CLASSES I, II AND III)

1. SCOPE.

- 1.1 This specification covers requirements for the construction, fittings, installation and performance of three classes (Classes I, II and III) of biological safety cabinets intended to protect both the operator and the environment from the hazards of dangerous microbiological materials and (if so required) organic toxins and non-corrosive volatile organic agents.

Note: Biological safety cabinets are not intended as protection against corrosive chemicals or radio-active materials.

- 1.2 The specification does not cover the actual design of a safety cabinet and shall in no way restrict new design, provided that a biological safety cabinet of new design complies with the requirements for materials, reliability, performance and safety given in this specification.

Note: Safety cabinets of Classes I, II and III must not be confused with laminar flow clean workstations that usually discharge horizontally and vertically towards the operator and that not only provide no operator protection, but may even increase exposure to airborne hazards.

2. DEFINITIONS.

- 2.1 For the purposes of this specification the following definitions shall apply:

Accessible: Able to be exposed for proper and thorough cleaning and visual inspection, with the use of simple tools such as a screwdriver, pliers or an open-end wrench (spanner).

Barrier air (face air): Atmospheric air sucked from the room environment through the work-access aperture of the cabinet, creating an air barrier across the aperture, through which particles cannot escape from the cabinet into outside atmosphere.

Cabinet: Abiological safety cabinet of Classes I, II or III, as applicable.

Cleanable (clean): Accessible and of such material and finish and so manufactured that soil may be removed effectively by normal cleaning methods.

Construction: The manufacture, assembly of subunits (where applicable) and installation of the biological safety cabinet.

Disinfection (decontamination): The removal or inactivation of infectious agents or the removal or neutralizing of toxic agents.

DOP: Di-octylphthalate aerosol.

Enclosed: Having no openings large enough to permit insects or rodents to enter.

Hazard, biohazard, or hazardous materials: Infectious agents presenting a real or potential risk to the well-being of persons, animals or plants, either directly through infection or indirectly through contamination of the environment.

HEPA-filter: A high efficiency particulate air filter.

Readily accessible (easily accessible): Easily exposed for proper and thorough cleaning and visual inspection, without the use of any tool.

Readily removable: Capable of being taken away from the main unit, without the use of any tool.

Removable: Capable of being taken away from the main unit, with the use of simple tools such as a screwdriver, pliers or an open-end wrench (spanner).

Resistant: Descriptive of materials that maintain their original surface characteristics under conditions other than those intended for normal use.

Sealed: Having no openings that will allow the entry or leakage of water or gas.

Smooth: Having a surface free from pits and inclusions.

Toxic: Descriptive of agent that have an adverse physiological effect on biological systems.

Toxins: Agents that have an adverse physiological effect on biological systems.

Work space: That part of the interior of the cabinet, within which manipulation of the hazardous material may safely be carried out.

3. GENERAL REQUIREMENTS.

3.1 CLASS: A cabinet shall be of one of the following classes:

- (a) **Class I:** A partially enclosed cabinet that is so constructed that air flows inwards away from the operator, the exhaust air being filtered through a HEPA-filter before being discharged from the cabinet. The cabinet provides protection for personnel and the environment against minimally hazardous agent, i.e. at risk levels associated with agents that present minimal or no danger to persons, animals or plants, provided the usual precautions in handling microbiological materials are observed.

Note: Class I cabinets are designed to reduce the exposure of laboratory staff and the environment to airborne dispersal of microbiological material during work procedures. These cabinets shall not be used as, or confused with, fume cupboards which are intended for chemical procedures.

- (b) **Class II:** A partially enclosed cabinet that is so constructed that the work space is flushed with a clean, filtered unidirectional flow of air and the escape of particles from the work space is prevented by means of an inward flow of air through the work-access aperture. The cabinet provides protection for personnel and the environment against ordinary or potentially hazardous microbiological agents, i.e. at risk levels associated with agents that cause disease in persons, animals or plants and that can be contained by normal microbiological techniques. The level of competence required of personnel handling material in these cabinets should be that expected of personnel formally trained as microbiologists.

Note: Class II cabinets are designed to reduce the exposure of laboratory staff and the environment to airborne dispersal of infectious materials during work procedures, and at the same time to control airborne contamination that might be detrimental to the experiment.

- (c) **Class III:** A total enclosed, ventilated cabinet of gastight construction that is so constructed that the operator is separated from the work by a physical barrier and that the work space is so flushed with air under negative pressure that the escape of particles from the work space is highly unlikely. The cabinet provides protection for personnel and the environment against special and extremely hazardous microbiological agents, i.e. at risk levels associated with agents that are highly infectious or toxic to persons, animals and plants, and that can cause dangerous disease, or at risk levels associated with agents that cause genetic mutations or that may have a synergistic effect with other materials.

The level of competence required of personnel handling material in these cabinets should be that expected of personnel formally trained as microbiologists and who have also received proper training in the handling of extremely dangerous agents.

Note: Class III cabinets are designed to minimize the exposure of laboratory staff and the environment to airborne dispersal of extremely infectious material during work procedures, and at the same time to control airborne contamination that might be detrimental to the experiment.

3.2 DIMENSIONS.

- 3.2.1 **External dimensions:** The overall dimensions of a cabinet, excluding the readily removable parts, shall be such that it can pass through a standard single doorway of nominal height and width 2,0 m and 0,78 m, respectively, the door opening off a corridor of width 1,5 m.

- 3.2.2 **Work space dimensions:** In the case of Class I and II cabinets, the width of the work space shall not exceed 1 900 mm and the depth shall be in the range 500–700 mm. The height of the work space shall be at least 550 mm. The volume of the work space shall be not less than 0,2 m³ and not more than 0,75 m³.

3.3 OUTER SHELL (MAIN STRUCTURE)—MATERIALS AND CONSTRUCTION.

3.3.1 *General:*

(a) A cabinet shall be constructed of materials that are deemed to be corrosion resistant when tested in accordance with 6.12. However, if stainless steel is used, it shall be of AISI Grade 304 and the requirement for corrosion resistance shall not apply.

(b) The materials shall be impermeable to liquids.

(c) There shall be no cracks and surface defects, including those leading to ineffective mating with gasket surfaces or other sealing devices. All structural joints that are not welded shall be sealed with non-porous materials that are not liable to crack or to become porous. The structural strength of any joint or connection of the cabinet or any of its panels shall be independent of the seal produced by the gasket or sealing material.

3.3.2 *Stability:* The point of instability of the main structure shall not be reached by the application of lateral forces of up to 250 N or by the application of a downward force of up to 50 N on the front edge of the cabinet. The exhaust air duct shall not be used to provide stability.

In the case of a cabinet structure that does not provided this degree of stability, provision shall be made for clamping or bolting the cabinet to the floor or wall.

3.3.3 *Windows:* Windows shall be of laminated glass that complies with the performance requirements of SABS 1263 'Safety and security glazing materials for building', Part II—1987 'Burglar-resistant and vandal-resistant glazing materials', published by Government Notice No. 141 of 5 February 1988, or of other suitable transparent materials that are resistant to ultraviolet rays and have a performance factor equal to or better than that required for the laminated glass.

Note: Laminated safety glass of thickness 6 mm normally complies with this requirement.

3.3.4 *Access panels:* Removable access panels shall be provided for the maintenance or removal (or both) of filters, blowers, motors, lighting, electrical components and plumbing. When panels or covers are in place, the sealing of the access panels or covers shall prevent leakage of contaminated air to the surrounding atmosphere. Physical means to position and support large access panels or covers shall be provided to facilitate safe fitting and removal.

3.3.5 *Tracks and guides:* All tracks and guides for doors, windows, covers and access panels shall be so constructed and installed as to minimize the collection of foreign matter and to facilitate cleaning.

3.4 WORK SPACE—MATERIALS AND CONSTRUCTION.

3.4.1 *General:*

(a) The work space, excluding the viewing window but including the sump and grills, where applicable, shall be constructed entirely of suitable materials that, when tested in accordance with 6.12, are deemed to be corrosion resistant. However, if stainless steel is used, it shall be of AISI Grade 304 and the requirement for corrosion resistance shall not apply.

(b) The materials shall be impermeable to liquids.

(c) The surfaces shall be smoothly finished and easy to clean, and shall be such that glare from the lighting is avoided.

(d) In order to prevent penetration by micro-organisms, all welds, joints, cracks and crevices in the work space shall be effectively sealed with non-porous material that is resistant to most commonly used chemicals and the normal disinfecting processes, and that is not liable to crack or to become porous.

3.4.2 *Internal corners and angles:* All internal corners and angles in the work space shall be free from cracks and crevices and shall be designed to facilitate cleaning.

3.4.3 *Viewing window:*

(a) The work face shall consist of a panel that complies with the requirements of 3.3.3 and that can be opened to allow access to the work space.

(b) The viewing window shall form the front boundary of the clean air environment and shall not disrupt the laminar pattern of air flow. No means shall be provided for holding the viewing window in an open position—it shall close on release and, when secured, shall form a gastight seal.

(c) The size, position and angle of the viewing window shall be such as to provide the operator with a clear view into the work space when he is seated centrally in front of the cabinet.

(d) When a cabinet is tested in accordance with 6.5, all seals around the top and sides of the viewing window shall have a DOP penetration not exceeding 0,03%.

3.4.4 *Work-access aperture (Class I and II cabinets only):* The edges of the work-access aperture shall be so formed as to minimize air turbulence at the entry. The vertical dimension of the aperture shall be in the range 200–250 mm.

3.4.5 *Work-access aperture cover (Class I and II cabinets only):* A cover to fit the work-access aperture shall be provided to seal the cabinet during decontamination. The cover shall be capable of being fixed and sealed to provide a gastight seal, without damage to the outer shell.

3.4.6 *Work space illumination:*

(a) The work space shall be illuminated by fluorescent lamps that comply with the requirements of SABS 1041-1975 'Tubular fluorescent lamps for general service', published by Government Notice No. 463 of 9 July 1982. The lamps and accessories shall be outside the work space. Replacement and maintenance of the lamps and accessories shall be carried out from the outside of the cabinet without compromising the integrity of the work space.

(b) When determined in accordance with 6.2, the average illuminance at the work surface shall be at least 1 000 lux (1 000 lumens per square metre).

(c) All control gear shall be accessible from the outside of the cabinet without the integrity of the plenums or biohazard safety barriers being affected. Control gear shall be so mounted that the cabinet at all times remains gastight and there is no air leakage into the atmosphere [see 3.3.1 (c)].

3.4.7 *Screens:* A screen of screens shall be provided on the return air manifold to prevent any loose material from being drawn from the work space into the motor blower(s) or the filter housings. The screen(s) shall register in position without the need for fastening. The finish of the screen shall be smooth to facilitate cleaning and disinfection.

3.4.8 *Ultraviolet lamps:* Ultraviolet lamps shall **not** be installed as integral parts of the cabinet.

3.4.9 *Gas fittings:*

(a) If the work space of Class I and II cabinets is provided with a supply of flammable gas (e.g. for bunsen burners) this supply shall be controlled by means of a solenoid valve that allows gas to flow only when the motor blowers are switched on.

(b) In order to reduce the explosion hazard, the solenoid valve shall be such that it has to be manually reset after any interruption of the electric current.

(c) Class III cabinets shall **not** be supplied with gas fittings.

(d) Only bunsen burners using low profile type microburners with a level-control which automatically reverts to pilot flame or off-status when not required shall be used in the cabinet, since they produce the least disturbance of air flow patterns.

3.5 AIR FILTERS.

3.5.1 *Recirculating supply and exhaust filters:*

3.5.1.1 *Filter types:* All filters shall be HEPA-filters having a volumetric rate (air flow rate), specified by the manufacturer of the filter, at least equal to or exceeding the maximum necessary for the applicable part of the cabinet. When a filter is tested in accordance with 6.4 at the manufacturer's designed volumetric rate, the filter shall have a DOP penetration not exceeding 0,03%. Manometers shall be provided to monitor the pressure drop across the filters.

3.5.1.2 *Filter frame:*

(a) A filter shall have a frame manufactured from corrosionresistant material, or material protected from corrosion. When the filter frame is tested in accordance with 6.12 for 24 hours, it shall show no sign of corrosion.

(b) The filter frame shall be so constructed that it is capable of resisting the effects of pressure and mechanical stress to which it may be subjected during its normal working life.

(c) If filter separators are used, and are tested as in (a) above, they shall show no sign of corrosion.

3.5.1.3 *Filter seals and sealing materials:* Installed filters shall be so sealed that there is no leakage of air or gas around the seals. When a filter is tested in accordance with 6.4, the seal shall have a DOP penetration not exceeding 0,03.

The filter shall **not** be fixed in place by means of glues or solidifying agents.

3.5.1.4 *Access to filters and sampling ports:*

(a) Access shall be provided to facilitate servicing and determination of the integrity of filters and seals.

(b) Where necessary, sampling ports for 100% datum concentrations of DOP challenge aerosol shall be provided for each HEPA-filter positive-pressure plenum, and the ports shall be connected by a tube of inside diameter at least 15 mm to accessible positions in the negative-pressure plenum.

(c) Each sampling port shall be provided with a sealing cap. Tubes and caps shall not penetrate the outer shell of the cabinet.

3.5.1.5 *Filter sealing plates:* Sealing plates for both the inlet (where applicable) and the exhaust opening shall be provided to facilitate fumigation and disinfection. Where these plates are provided to seal the filters, they shall be fitted externally over the filters and shall provide an effective seal, to ensure that the filters are also decontaminated during fumigation.

3.5.1.6 *Protection:* A removable perforated guard shall be provided in the exhaust opening to protect the HEPA-filter from mechanical damage and shall be so arranged that the discharge of air is not obstructed.

3.5.2 *Prefilters:* In order to extend the life of the filters, a suitable prefilter with an initial arrestance, when determined in accordance with 6.13, of 90% shall be fitted upstream of each HEPA-filter. This prefilter shall not impair the performance of the HEPA-filter.

3.5.3 *Activated carbon filter:*

(a) When organic toxins and non-corrosive volatile organic agents are to be used, an activated carbon filter shall be fitted to the cabinet, downstream of the exhaust HEPA-filter, and it shall in no way restrict the exhaust air flow or impair the performance of the HEPA-filter.

(b) The activated carbon shall be of adequate mass to filter the chemical contaminant(s) from the exhaust air to below the safe level.

(c) The carbon filter shall be readily accessible for easy servicing, maintenance and replacement (see 3.3.4). A notice clearly stating the type of absorbence filter fitted and the date of installation or service shall be fixed to the front of the cabinet or control panel.

(d) When use is made of carbon filters, the air in the cabinet shall be exhaust to outside atmosphere.

3.6 MOTOR BLOWERS.

3.6.1 *Type and control:* A single-motor blower that is directly driven and fitted with variable speed control shall be fitted to the cabinet.

3.6.2 *Blower rating and performance:* When tested in accordance with 6.7 with a positive-pressure increase of at least twice that of a clean air HEPA-filter system imposed upon it, the blower shall be capable of maintaining an air flow velocity of $0,475 \pm 0,025$ m/s for at least 30 minutes.

3.7 EXHAUST SYSTEM.

(a) The cabinet shall be so constructed that the air contained in it may be exhausted to outside atmosphere. The exhaust system shall be such that air cannot flow back into the cabinet.

(b) If necessary, an additional airtight exhaust duct of a length as short as possible but not exceeding 3 m, may be used.

(c) If the use of a short duct is not possible, a separate, additional motor blower shall be fitted as near as possible to the outside discharge end of the external exhaust duct, and a thimble type collector (see Fig. 1) shall be used at the junction between the cabinet duct and the external exhaust duct. The external blower shall be set to ensure excess extraction at all times.

(d) The air extraction system shall be capable of dealing with external wind conditions and duct resistances. Manufacturers shall specify maximum allowable external resistances to air flow.

(e) The duct shall be fitted with an automatic anti-blowback system downstream of the exhaust filters to prevent air flowing back into the cabinet, especially when the fan is switched off. Anti-blowback valves shall be so constructed that the valve seats can easily be inspected and cleaned. The internal components shall be visible at all times. Any microswitches or other electrical components or controls shall be outside the duct.

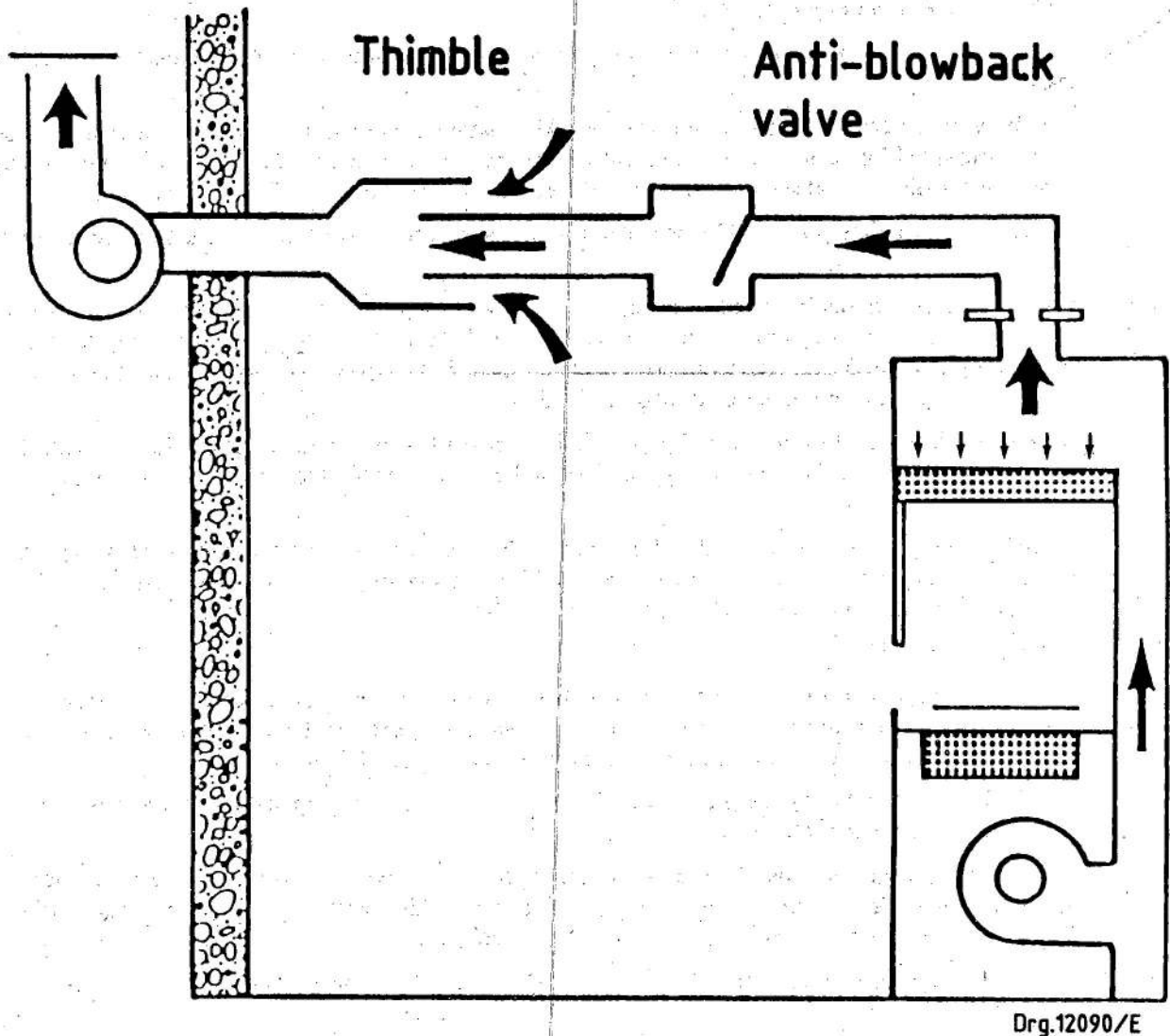


Fig. 1 - Example of a thimble exhaust system used to discharge both cabinet exhaust and laboratory air

3.8 ELECTRICAL SERVICES.

3.8.1 **Wiring:** Electrical wiring shall be shielded from direct exposure to possible ultraviolet radiation, and shall be either—

- (a) polyvinyl chloride (PVC)-insulated wiring that complies with SABS 150-1970 'Polyvinyl chloride (PVC)-insulated electric cables and flexible cords', published by Government Notice No. 463 of 9 July 1982 and amended by Government Notice No. 355 of 20 May 1983 and Government Notice No. 6 of 3 January 1986; or
- (b) rubber-insulated wiring that complies with SABS 168-1978 'Rubber-insulated cables and flexible cords', published by Government Notice No. 463 of 9 July 1982

Wiring that penetrates boundaries of contaminated areas shall be anchored and shall have been made gastight, using non-porous sealants that are not liable to crack or to become porous. Electrical components and wiring, other than the blower motor(s) and the associated wiring, shall not be located within the contaminated air zones. All wiring and electrical components within the clean air area of the work space shall be so mechanically secured that no turbulence will be created. Adhesive tape shall not be used for fixing or looming.

3.8.2 **Controls:** A control enclosure shall form an integral part of the cabinet and shall contain a control panel. The enclosure shall have a cover providing full access to the connections and wiring of the panel. A legible wiring diagram shall be fixed permanently on the inside of the cover. All operator adjustable controls shall be clearly visible and easily accessible to the operator when he is seated centrally in front of the workaccess aperture. All operation controls and electrical components within the control enclosure shall be permanently marked.

- 3.9 NOISE LEVELS: When a cabinet is tested in accordance with 6.8, the noise level emitted by the cabinet during operation shall not exceed 65 dB(A).
- 3.10 VIBRATION: When a cabinet is tested in accordance with 6.3, the vibration velocity in any plane of any work surface during operation of the cabinet shall have an r.m.s. value, in the frequency range 10–250 Hz, not exceeding 0,7 mm/s.
- 3.11 MARKING: For each class of cabinet, the appropriate of the following information shall be prominently, legibly and indelibly displayed on the front of the cabinet:

(a) The designation, i.e.

- (1) "Biological safety cabinet Class I—Protection for personnel against ordinary microbiological agents"; or
 - (2) "Biological safety cabinet Class II—Protection for personnel and product against ordinary microbiological agents"; or
 - (3) "Biological safety cabinet Class III—Protection for the product as well as for personnel and the environment against special and extremely hazardous microbiological agents";
- (b) the manufacturer's name;
- (c) the total volume of the cabinet;
- (d) the words "WARNING: Do not use flammable or explosive and highly volatile liquids in this cabinet";
- (e) the serial number of the cabinet".

4. SPECIFIC REQUIREMENTS.

4.1 CLASS I CABINETS.

4.1.1 General:

- 4.1.1.1 The cabinet shall be a self-contained unit that includes at least a work space, prefilters, HEPA-filters and a blower for HEPA-filtered exhaust air. For handling of organic toxins and non-corrosive volatile organic agents, an activated carbon filter may also be included.
- 4.1.1.2 The cabinet shall be an independent operating unit and shall be independent of any other air-circulation system.
- 4.1.1.3 The exhaust outlet may face in any direction, provided that it is readily accessible.
- 4.1.1.4 The work face of the work space shall include a viewing window and a work-access aperture through which an inward flow of air is maintained.
- 4.1.1.5 All controls associated with the cabinet shall be integral parts of the cabinet.
- 4.1.1.6 In order to contain potentially hazardous materials within the cabinet, the plenum that contains potentially hazardous materials shall be maintained under a negative pressure relative to the pressure in the work room/environment.

Under *no* circumstances shall a Class I cabinet be up-graded to comply with the requirements of a Class III cabinet.

- 4.1.2 *Work floor:* The work floor shall be rigid, flat and constructed in one piece with radiused corners to facilitate cleaning and disinfection. The front edge of the floor shall have a retaining lip of minimum height 10 mm that serves to contain spillage of liquid within the cabinet.
- 4.1.3 *Flow and distribution of air through the work-access aperture:* The cabinet shall be so designed that the velocity of the air flowing into the work-access aperture remains within the specified limits as the locations given below.

When determined in accordance with 6.6, the air velocity shall be in the range 0,7–1,0 m/s, measured for at least one minute and at least at five locations, namely at the geometric centre of the aperture and at each of its four corners, the centre of the measuring device being 50–55 mm from the edge of the aperture.

4.2 CLASS II CABINETS.

4.2.1 General:

- 4.2.1.1 The cabinet shall be a self-contained unit that includes at least a work space, prefilters, HEP-filters and a blower for unidirectional (laminar) HEPA-filtered air flow and HEPA-filtered exhaust air. For handling of organic toxins and non-corrosive volatile organic agents, an activated carbon filter may also be included.
- 4.2.1.2 The cabinet shall be an independent operating unit, and shall be independent of any other air-circulation system.

- 4.2.1.3 The exhaust outlet may face in any direction, provided that it is readily accessible.
- 4.2.1.4 The work face of the work space shall include a viewing window and a work-access aperture through which an inward flow of air is maintained.
- 4.2.1.5 All controls associated with the cabinet shall be integral parts of the cabinet.
- 4.2.1.6 In order to contain potentially hazardous materials within the cabinet, all contaminated zones under positive air pressure shall be surrounded by zones maintained under a negative pressure relative to the pressure in the work room/environment.
- 4.2.2 *Work floor:* The work floor shall be firm, shall not be fastened and shall be readily raised but shall have a location-fixing and position-fixing system, as well as systems to prevent reversed installation. The work floor may be solid or perforated. If the work floor is solid, it shall have around its perimeter, a retaining lip, of minimum height 10 mm, that serves to contain spillage of liquid within the cabinet. All corners of the floor shall be radiused to facilitate cleaning and disinfection (see 3.4.2).
- 4.2.3 *Sump:* The sump, which provides the base of the lower air plenum, shall be watertight and all joints shall be welded, ground flush and dressed. The sump shall be sized to retain fluid to a minimum depth of 10 mm. The floor of the sump shall have all corners radiused to facilitate cleaning and disinfection (see 3.4.2). Any obstructions or attachments shall be fitted in such a way that they are free from cracks and crevices that would adversely affect cleaning and disinfection.
- 4.2.4 *Flow and distribution of air:*
- 4.2.4.1 *Recirculating air and barrier air:* Air shall be recirculated through the work space through HEPA-filters and in a unidirectional (laminar) manner, thus providing contamination-free air for product protection.

An air barrier between the work space and the room shall be created across the full width of the work-access aperture by the induction of atmospheric (room) air downwards into the sump.

- 4.2.4.2 *Velocity and uniformity of air flow in the work space:*

(a) When determined in accordance with 6.6, the average velocity of the laminar flow of air shall be not less than 0,45 m/s and not more than 0,50 m/s. Readings of velocity at different locations within the work space shall be equal to the average figure, subject to a tolerance of $\pm 20\%$.

(b) When a cabinet is tested in accordance with 6.11, no more than five organisms shall be present on the plates of each of the six replicate tests, thus indicating a minimum of cross-contamination and, therefore, an acceptable level of uniformity of air flow.

- 4.2.4.3 *Air barrier integrity:*

(a) When a cabinet is tested in accordance with both 6.5 and 6.10, DOP aerosol and bacterial spores released around the outside perimeter of the work-access aperture and directed at the air barrier shall not enter the work space.

(b) When a cabinet is tested in accordance with 6.9, the cabinet shall offer a protection factor of at least 10^5 .

(c) The mean flow velocity of the air inward through the work-access aperture shall be at least 0,4 m/s when indirectly measured as exhaust air flow velocity in accordance with 6.6.

(d) When a smoke test is carried out in accordance with 6.5.3 (d), it shall demonstrate that the direction of air flow is inwards over the whole area of the work-access aperture.

Note: The proportional adjustment of the quantities of barrier air and the laminar flow of air is critical to the performance of the cabinet.

- 4.2.4.4 *Exhaust air:* A quantity of air equal to that of the barrier air shall be exhausted from the cabinet through the exhaust filter.

4.3 CLASS III CABINETS.

4.3.1 *General:*

- 4.3.1.1 The cabinet shall be a self-contained unit that includes at least a work space, prefilters, HEPA-filters and a blower for HEPA-filtered inlet and exhaust air. Provision shall be made to prevent backward flow of contaminated air through the air intake by the fitting of an inlet HEPA-filter that also provides a supply of sterile air to flush the interior and prevent contamination of the material being handled. For handling of organic toxins and non-corrosive volatile organic agents, an activated carbon filter may also be included in the exhaust ducting.

Under **no** circumstances shall a Class I cabinet be upgraded to comply with the requirements of a Class III cabinet.

- 4.3.1.2 The cabinet shall be an independent operating unit and shall be independent of any other air-circulation system. When a cabinet is tested in accordance with 6.1, it shall be gastight.
- 4.3.1.3 The exhaust outlet may face in any direction, provided that it is readily accessible.
- 4.3.1.4 The work face of the work space shall include a viewing window and a sealed barrier that separates the operator from the work space. This barrier shall be fitted with gloves that are continuous with the barrier and the outer shell of the cabinet and that enable the worker to handle materials inside the cabinet.

- 4.3.1.5 All controls associated with the cabinet shall be operated from outside the cabinet.
- 4.3.1.6 In order to contain potentially hazardous materials within the cabinet, the interior of the cabinet shall always remain under a negative pressure relative to the pressure in the work room/environment. A manometer with a range of 0–500 Pa shall be mounted outside the cabinet to give visual indication of the pressure of the interior negative-pressure plenum.
- 4.3.2 *Glove ports:* Manipulation in the work space shall be carried out by means of glove ports which may also serve as transfer ports and for the attachment of transfer bags. Therefore, a bung that can be fitted internally or externally to provide an efficient and absolute seal of the port shall be provided for each port.
- 4.3.2.1 *Glove port assembly:*
- (a) The glove port assembly shall either be permanently welded to, riveted to or pressed from the front panel of the cabinet, or attached to the front panel of the cabinet by means of fasteners with sealing gaskets.
 - (b) The glove port assembly shall comply with all the physical and chemical requirements for the outer shell of the cabinet, as specified in 3.3.
 - (c) The dimensions of the glove port assembly shall be such as to provide for attachment of standard, commercially available beaded glovebox gauntlets, without undue tension on the rim of the glove. The manufacturer shall specify the glove cuff diameter or shape appropriate to the particular port size.
 - (d) The outer side of the port ring shall be provided with two grooves to accommodate the beaded cuff of the glove and a secondary glove to permit changing gloves without comprising the seal.
 - (e) An efficient means of sealing the glove port assembly shall be provided to ensure an absolute seal of the glove ports to enable fumigation of the cabinet.
- 4.3.2.2 *Gloves (gauntlets):*
- (a) The gloves shall fit either hand equally well and shall have beaded cuffs that are compatible with the diameter and shape of the glove ports.
 - (b) Gloves shall be made of translucent material such that damage to the glove may be readily detected.
 - (c) The gloves shall be easily replaceable from outside the cabinet, by pushing the old glove to the inside of the cabinet and fitting a new glove while the blower is still running.
- 4.3.3 *Filters:* Both the inlet and the exhaust filters of a Class III cabinet shall be HEPA-filters and they shall be of the same size and specification. The manufacturer's designed volumetric rate (air flow rate) shall be equal to or shall exceed the maximum necessary for the cabinet. When a filter is tested in accordance with 6.4 at the manufacturer's designed volumetric rate (air flow rate), the filter shall have a DOP penetration not exceeding 0,03%.
- 4.3.4 *Flow and distribution of air:*
- 4.3.4.1 *Air flow:* When determined in accordance with 6.6, the air flow velocity shall be sufficient to ensure an air flow velocity of at least 0,75 m/s through the ports when all gloves are detached. The air flow through the inlet filter shall be at least 3 m³/min, when the gloves are attached.
- 4.3.4.2 *Cabinet air pressure:* Each inlet filter and each exhaust filter shall be of a size appropriate for passing the specified air flow (at least 3 m³/min through the inlet filter) at a negative pressure in the cabinet of 200 Pa, and this shall be the minimum working pressure.
- 4.3.5 *Work floor:* The work floor shall be rigid, flat and constructed in one piece with radiused corners to facilitate cleaning and disinfection.
- 4.3.6 *Transfer chamber:* A transfer chamber may be fitted to the cabinet to permit the transfer of bulky items into the cabinet. If fitted, the transfer chamber shall be of a suitable size, with doors appropriate to the size of the items in question, and shall be fitted to the side of the cabinet.

The transfer chamber shall be a seamless gastight one-piece chamber with radiused corners to facilitate cleaning. When a transfer chamber fitted to the cabinet is tested in accordance with 6.1, the seams and joints of the doors and of the chamber shall show no sign of gas leakage. All materials used for the construction of the chamber shall comply with the requirements of 3.3.1 the Chamber shall be fitted with in-line HEPA-filters and suitable serrated-tip needle valves to allow partial evacuation of the chamber, when required.

5. INSTALLATION OF A CLASS I, II OR III CABINET.

- 5.1 The cabinet or its components shall be transported and installed in such a manner that damage to any part of the cabinet is prevented and the integrity of the cabinet is ensured. After installation, the cabinet shall comply with all the requirements of the specification, and the appropriate of the tests given in Section 6 shall be performed to ensure that the cabinet complies with the relevant performance and safety requirements.

6. METHODS OF TEST.**6.1 DETERMINATION OF GASTIGHTNESS OF OUTER SHELL (CLASS III CABINETS).**

6.1.1 Principle: The cabinet is sealed and positively pressurized with dichlorodifluoromethane gas. All surfaces and joints are explored with the detector probe for leakage of the gas.

6.1.2 Apparatus:

(a) A gas detector, that is adjusted and calibrated to detect, at a reference leak source, the loss of dichlorodifluoromethane gas at a maximum rate of 14 g per annum.

(b) A manometer, with scale divisions not exceeding 25 Pa and that is capable of registering pressures in the range 200–300 Pa.

(c) A cylinder of dichlorodifluoromethane gas (commercially available as a refrigerant, Freon 12), with a regulator valve, nozzle and connecting hose.

6.1.3 Procedure:

(a) Prepare the cabinet for testing as a closed system, i.e. seal all openings such as the exhaust opening, removable panels and other penetrations. Remove all external covers not essential for the operation of the cabinet.

(b) Attach the manometer to the relevant test area of the cabinet to indicate interior pressure.

(c) Suitably connect the gas cylinder to the test area and release the gas to positively pressurize the cabinet interior to a pressure of 250 ± 5 Pa.

(d) Adjust the sensitivity of the gas detector in accordance with the manufacturer's instructions.

(e) Move the probe of the instrument over the seams, joints, utility penetrations, gaskets and other locations of possible leakage, keeping the probe 7–12 mm from any surface and moving it at a rate of about 0,013 m/s.

6.1.4 Evaluation: Deem the cabinet to be gastight if at no location a gas leak in excess of 14 g per annum is detected.

6.2 DETERMINATION OF ILLUMINANCE.

6.2.1 Principle: Measurements of illuminance are taken at random locations at a specified work level.

6.2.2 Apparatus: A calibrated, cosine and vision-corrected illuminance meter of such range that the illuminance measured is at least one-fifth of the full-scale value.

6.2.3 Procedure:

(a) Operate the lamps in the cabinet for at least two hours.

(b) At eight random locations, measure the illuminance at a height not exceeding 25 mm from the surface of the work floor and record the results obtained at each location.

6.3 DETERMINATION OF VIBRATION.

6.3.1 Principle: Measurements of the vibration velocity are made with a simple vibration meter at selected locations, with and without the cabinet in operation, to permit comparison of the vibration levels under these two conditions. Determination of the net vibration, i.e. that attributable to the cabinet alone, would require vibration frequency analysis.

6.3.2 Apparatus: A vibration meter capable of measuring steady-state vibration velocities in the range 0,05–0,5 mm/s (r.m.s.) in the frequency range 10–250 Hz, subject to a tolerance of $\pm\%$.

6.3.3 Procedure.**6.3.3.1 Test positions:**

(a) *On the horizontal front-to-rear axes:* In order to determine vibration velocity measurements on the horizontal front-to-rear axes, attach the sensing element rigidly to the centre of the leading edge of the work floor.

(b) *On the horizontal side-to-side axes:* In order to determine vibration velocity measurements on the horizontal side-to-side axes, attach the sensing element rigidly to the centre of the (left or right) side of the work floor surface.

6.3.3.2 Measurement:

(a) Ensure that the air flow is as specified (see 4.1.3, 4.2.4 or 4.3.4.1, as applicable) and that the cabinet has been operating normally for at least 10 minutes before any measurements are made.

(b) With the sensing element positioned and attached as given in 6.3.3.1 (a), and the cabinet operating as in (a) above, measure and record the gross vibration velocity.

(c) Switch off the mechanical and electrical systems and measure and record the vibration velocity resulting from ambient conditions.

(d) With the sensing element positioned and attached as given in 6.3.3.1 (b), and the cabinet operating as in (a) above, again take measurements as in (b) and (c) above.

Note: The vibration frequency components of the ambient vibration are usually quite different from those of the cabinet mechanical system and hence the derivation of the net r.m.s. velocity (that attributable to the clean cabinet equipment) from measurements of gross and ambient vibration is not necessarily a simple mathematical subtraction.

6.4 DETERMINATION OF FINAL FILTER INSTALLATION INTEGRITY AND FILTER PERFORMANCE.

6.4.1 *Principle:* A polydisperse aerosol at room temperature is fed into the upstream side of the HEPA-filter installation at a specified flow rate and the downstream surface of the entire filter bank is scanned with a probe nozzle to determine the percentage of penetration.

6.4.2 *Apparatus:*

(a) *An anemometer*, accurate to within $\pm 2\%$.

(b) *DOP generator:* A generator fitted with suitable nozzles and using compressed nitrogen gas at 140 ± 14 kPa, with the free air flow adjusted to a minimum of 30 l/min per nozzle. The DOP shall be used at room temperature and not heated.

Note: Details of a suitable nozzle may be obtained from the South African Bureau of Standards.

(c) *Aerosol photometer.* A light-scattering mass concentration indicator fitted with a probe nozzle. Photometers that have a threshold sensitivity of at least 10^{-3} g/l for DOP particles of diameter 0,3 μm , and that are capable of measuring concentrations in the range of 80-120 g/l are suitable. The test photometer shall have a sample flow rate of 30 ± 3 l/min. The probe inlet shall be of sufficient size to maintain the probe inlet rate at or slightly higher than a test flow of 27,5 l/min through the filter.

6.4.3 *Procedure:*

(a) Using the anemometer, ensure that the air flow through the filter bank is within the operating limits of the cabinet design flow (see 4.1.3, 4.2.4.2 or 4.3.4.1, as applicable). Ensure that the cabinet is operating normally while this procedure is being carried out. Determine air flow by means of the method given in 6.7.

(b) Regulate the generator pressure to 140 ± 14 kPa with a minimum free air flow through the generator of 30 l/nozzle per minute.

(c) For photometers that have—

(1) a linear readout, establish the upstream concentration by introducing the least amount of DOP aerosol required to produce a 100% reading, thus allowing the instrument to be stray-light adjusted to zero on the lowest scale range when the sample air stream is filtered free of aerosol;

(2) a logarithmic readout, adjust the upstream concentration (as determined from the instrument calibration curve) by introducing the least amount of DOP aerosol required to produce a concentration of 1×10^4 above that concentration required to give a reading of one scale division. Avoid prolonged exposure of filters to DOP.

(d) Scan the entire filter bank by passing the probe in slightly overlapping strokes such that the entire filter area is sampled. At a traverse rate not exceeding 5 cm/s, make separate strokes around the entire periphery of the filter bank, along the bonds between the filters and their frames and around the seal between the filter bank and the cabinet. Record any local areas or points where a reading exceeding 0,03% is obtained.

6.5 METHOD FOR THE DETECTION OF LEAKS INTO THE WORK SPACE AND DEMONSTRATION OF THE INTEGRITY OF THE CABINET, THE AIR BARRIER AND THE AIR FILTER.

6.5.1 *Principle:* The vicinity of all construction joints bordering the work space and all openings into the work space are surveyed, while air-generated DOP smoke is directed at a joint in the vicinity of the work space or at the work-access aperture (air barrier). Measurements are made using an aerosol photometer to determine any increase compared with the filter face reading.

Meter readings in excess of 0,03% penetration indicate joint leakage or backstreaming.

6.5.2 *Apparatus:*

(a) *An aerosol photometer* as in 6.4.2 (c).

(b) *A DOP generator* as in 6.4.2 (b).

6.5.3 *Procedure:*

(a) Using the aerosol photometer, measure the ambient DOP level of the room and the work space of the cabinet. If the reading is less than 10^3 above the filter face reading for the aerosol photometer, direct DOP smoke at the ambient (external) side of the joint or work-access aperture while the cabinet is operating normally and the operator's body is positioned at least 200 mm away from the outside edges of the area being surveyed.

(b) Use the photometer to scan all construction joints bordering the work space, with the probe inlet held inside the cabinet, not more than 25 mm away from the joint and moved along the joint at not more than 5 cm/s.

(c) Regard an opening as any open passage from the work space to the ambient side, or at the inside edge of any recirculation slot, or at the joint between cabinet surfaces and any closure panel. Scan the periphery of all openings into the work space, with the probe inlet held inside the work space, not more than 50 mm away from the opening or not more than 25 mm away from the surfaces. Scan the entire perimeter of the opening at not more than 5 cm/s.

Record any photometer reading, and its location, in excess of 0,03% DOP penetration, relative to the 100% measured upstream.

(d) In addition, carry out a simple smoke test to determine the direction of air flow near the work-access aperture. Generate DOP or any other smoke on the ambient side of the aperture so that the smoke cloud is within 150 mm of the entire area of the opening, and note the direction of the air flow.

6.6 DETERMINATION OF VELOCITY AND UNIFORMITY OF AIR FLOW.

6.6.1 *Principle:* Air flow velocity readings are taken at selected locations, using an anemometer, and then the average of the readings is calculated.

6.6.2 *Apparatus:*

(a) An anemometer, accurate to within $\pm 2\%$.

(b) *Manometer.* An inclined-tube liquid-filled or similar manometer with scale divisions not exceeding 25 Pa.

6.6.3 *Procedure:*

(a) Ensure that the cabinet is operating normally. Take and record velocity readings in a plane parallel to and approximately 150 mm downstream of the HEPA-filters or 150 mm from the ceiling of the cabinet.

(b) Take and record velocity readings at 200–225 mm intervals in both directions, starting at a location 75–100 mm from the inner edge of the work surface such that one reading is taken at each intersection of an imaginary square grid having overall dimensions equal to those of the work surface.

(c) Using the manometer, measure and record the pressure drop across the filter system.

(d) Using the anemometer, also determine and record the velocity of the exhaust air at the outlet of the exhaust duct.

6.6.4 *Report:* Include the following details in the report:

(a) The pressure drop across the filter system.

(b) Each velocity reading and its location. The velocity of the exhaust air is equivalent to the velocity of the inlet air (barrier or face air).

(c) The average of the velocity readings taken.

(d) Maximum and minimum velocity readings.

(e) Percentage variations from the average of maximum and minimum readings.

6.7 DETERMINATION OF AIR FLOW VELOCITY UNDER LOADED FILTER CONDITIONS (MOTOR BLOWER TEST).

6.7.1 *Principle:* The air flow velocity is determined after clean filters have been fitted and once again after the additional restrictive device has been fitted to simulate an increase in the air flow resistance to twice the pressure drop across a clean filter system. Maintenance of air flow velocity demonstrates adequate motor blower capacity.

6.7.2 *Apparatus:*

(a) *Restrictive device:* Resistance materials to be added to obtain an increase in pressure drop equal to at least twice the pressure drop of the clean filters.

(b) An anemometer as in 6.6.2 (a).

(c) A manometer as in 6.6.2 (b).

6.7.3 *Procedure:*

(a) With the motor blower of the cabinet operating, measure and record the air flow velocity as in 6.6 and adjust it to that specified. Ensure that prefilters and final HEPA-filters are clean for this test.

(b) Fit the manometer to the upstream side of the final HEPA-filter(s) and measure and record the pressure drop to the downstream side of the filter(s).

(c) Install the restrictive device.

(d) Measure and record the pressure drop of the loaded system and adjust the restrictive device as necessary to achieve the specified increase in pressure drop.

(e) Measure and record the air velocity as in 6.6.

(f) Ensure that the blower maintains the specified air velocity for at least 30 minutes at the increased pressure drop.

6.7.4 *Report:* Include the following details in the report:

(a) The specified air flow velocity with clean filters;

(b) the pressure drop across the final filter system with both filters in a clean condition;

(c) the pressure drop across combined filters and when the restrictive device is in position;

(d) the air flow velocity when the restrictive device is in position.

6.8 DETERMINATION OF NOISE LEVEL.

6.8.1 **Principle:** Noise levels are measured at selected locations near to a cabinet under operating conditions and, if necessary, the background ambient conditions are also recorded.

6.8.2 Apparatus:

(a) **Sound level meter:** A sound level meter that complies with the performance characteristics and accuracy requirements of at least a Type I instrument as given in Subsection 4.1 of SABS 083-1983 'The measurement and assessment of occupational noise for hearing conservation purposes', published by Government Notice No. 356 of 20 May 1983.

(b) **Calibration source:** An acoustic source designed for use with the sound level meter and having a single frequency sound output, the amplitude of which is known to within 0,3 dB at the temperature and barometric pressure at which the calibration check is performed.

6.8.3 Procedure:

(a) Ensure that the cabinet is operating normally. Measure and record the noise level with the meter situated 0,3 m from, as well as 0,3 m above the top edge of, the work-access aperture, or 1 m from any other part of the cabinet including the duct work and discharge point of the extract system, if fitted.

(b) Ensure that the air flow of the cabinet is as specified. Take all measurements with the sound meter set to use the A-weighted network and fast response. Using the acoustic calibrator, check the performance of the sound level meter before and after measurements are made and discard the results if the two checks do not coincide to within 1,0 dB.

6.8.4 Report: Include the following details in the report:

- (a) All operating noise level measurements and their location;
- (b) the identified maximum sound level and its location;
- (c) if relevant, the ambient noise level measurements at locations where indicated.

6.9 DETERMINATION OF THE PROTECTION FACTOR FOR CLASS II CABINETS:

6.9.1 **Principle:** The protection factor is defined by the ratio of the exposure to airborne contamination generated on the open bench to the exposure resulting from the same dispersal within the cabinet.

(a) **Remarks:** The transfer index defines the exposure experienced at a given point as $n(Ns)$, where N is the number of particles liberated and n the number recovered at a sampling rate of s , the sampling being continued to completion. In a room with turbulent ventilation giving completely uniform mixing throughout, the transfer index is equal to $1/V$, where V is the effective volumetric ventilation rate, which includes loss by sedimentation. The transfer index has the dimensions TL^{-3} , i.e. time/length³.

(b) The ratio of the transfer indices in the two situations is the protection factor and is dimensionless. For the reference open-bench conditions, the room ventilation V is taken as 10 m³/min.

(c) The protection factor then becomes $(Ns) / (10n)$ if the sampling rate s is expressed in cubic metres per minute, or $(Ns) / (10^4n)$, if s is expressed in litres per minute.

Ideally, there should be no escape from a safety cabinet, n should be zero and the protection factor infinite. However, no open-fronted cabinet will give complete protection and the maximum value of the protection factor that can be assessed depends on the sensitivity of the test, i.e. the size of the challenge N , the magnitude of the sampling rate, and the smallest number of particles recovered that can reliably be differentiated from background contamination. Practical values for these are N at least 3×10^8 , s at least 50 l/min and n not exceeding 10, which lead to a minimum ascertainable value of at least $1,5 \times 10^5$ for the protection factor.

(d) In order to avoid confusion from background contamination, the tests shall be carried out in a well-ventilated room and shall be preceded by an estimate of the background contamination.

6.9.2 Materials and apparatus:

(a) **Spore suspension:** A suspension of spores of *Bacillus subtilis* var *globigii* (SATCC BAC 35) in distilled water, standardized to contain approximately 10^8 - 10^9 spores per millilitre.

(b) **Culture plates:** Petri dishes (90 mm diameter) containing 15-20 ml of nutrient agar [see (e) below].

(c) **Slit air samplers:** Two slit air samplers, each operating at between 25 l and 30 l of air per minute.

(d) **Nebulizer:** A Collison 6-Jet nebulizer with an internal outlet of diameter 14 mm, operated from a pressure lines at 70 kPa, spraying approximately 0,2 ml/min. and discharging no more than 10 l/min. of free air at a velocity of 0,8 m/s.

(e) *Nutrient agar*: A solution made up as follows:

Agar	15,0 g
Peptone	10,0 g
Beef extract	5,0 g
Sodium chloride	5,0 g

Dissolve the ingredients in heated water and make up to 1 l. Adjust the pH value to 7,2. Dispense 15 ml volumes into bottles and sterilize by autoclaving at 121 °C for 20 min.

(f) *Cylinder*: A cylinder of length and diameter approximately 1 m and 60-65 mm, respectively, that has a smooth surface and is closed at both ends.

6.9.3 Procedure:

(a) Introduce the cylinder through the work-access aperture of the cabinet to disturb the air flow (to simulate an operator's arm). Place the cylinder centrally between the side walls and normal to the plane of the aperture, extending from the back of the work space to protrude at least 250 mm into the room. Raise the lower surface of the cylinder to between 65 mm and 75 mm from the work floor.

(b) Place the nebulizer inside the work space, with its outlet or appropriate extension thereof not more than 100 mm behind the plane of the aperture and directed towards the aperture, with the spray axis parallel to the work surface. Ensure that the spray axis is level with the upper edge of the aperture.

(c) Position two slit air samplers outside the cabinet in front of the aperture, with their inlets not more than 200 mm in front of the plane of the aperture. Ensure that the inlets are level with the top of the cylinder, one to the right and one to the left, and each not more than 150 mm from the axis of the cylinder.

(d) Ensure that the cabinet is operating normally. Start the samples 30 s before starting the nebulizer and continue for at least five minutes after the nebulizer has been turned off. Adjust each sampler to a sample volume of at least 25 l of air per minute. Run the nebulizer for a period of at least four minutes to ensure the dispersal of at least 3×10^8 spores. In order to run a control, switch the motors off and repeat the entire procedure.

(e) Determine the challenge dose as follows:

Before the spraying procedure, carry out a plate count on tenfold serial dilutions of the spore suspension. Repeat the process after the spraying period. After the initial plate count, carry out the spraying procedure by accurately measuring out a 5 ml volume V of the spore suspension and placing it in the nebulizer for the test. Determine the mass of the nebulizer (W_1). After spraying, again determine the mass of the nebulizer (W_2), and prepare tenfold dilutions of the remaining spore suspension in the nebulizer, the volume, $(V + W_2 - W_1)$ of which shall be at least half ($V/2$) of the original volume. Carry out a plate count on the dilution series before and after spraying, incubate the plates at 37 °C for a period of 24-48 hours and count the colonies on each plate containing 100-300 colonies after incubation.

From these counts, calculate the concentration of spores in the initial (n_1/ml) and in the final (n_2/ml) suspension.

(f) The challenge dose is then given as:

$$N = n_2 (W_1 - W_2) - (n_2 - n_1) V$$

(g) Carry out this procedure at least five times. Each run shall give a protection factor of at least 10^5 [see 6.9.1 (c)].

(h) Repeat procedures (b), (c) and (d) above, but place the slit air sampler inlets in front of the exhaust opening. Sample the air with the cabinet in operation and with the cabinet switched off. Carry out this procedure five times. Each run shall show no more than five more colonies on the plates sampled during the operation of the cabinet when compared with the plates sampled after the cabinet motors have been switched off (controls: samples of the ambient air).

6.10 EXTERNAL CONTAMINATION TEST.

6.10.1 *Principle*: The integrity of the air barrier at the work-access aperture is indicated by the measurement of the inward penetration of bacterial spores which are sprayed into the opening. With the cabinet operating normally, no more than five spores shall penetrate the work space.

6.10.2 *Materials and apparatus*: As in 6.9.2 (the slit air samples are not required).

6.10.3 Procedure:

(a) Place the cylinder in the cabinet as given in 6.9.3 (a).

(b) Distribute at least 12 culture plates (petri dishes of diameter 90 mm) evenly over the work floor of the cabinet.

(c) Position the nebulizer outside the cabinet, with the nebulizer's delivery opening 100 mm in front of the centre of the top edge of the work-access aperture. The spray axis shall be parallel to the level of the work floor and directed into the cabinet.

(d) Ensure that the cabinet is operating normally. Uncover the culture plates one minute before spraying begins and cover them again five minutes after spraying stops. Run the nebulizer for a period of at least four minutes to ensure the dispersal of a challenge dose of at least 3×10^6 spores.

(e) In any test, the number of colonies of the test organism counted after incubation at 37 °C for a period of 24–48 hours shall not exceed 5. Carry out the test five times.

(f) Carry out a control test with the cabinet motor blower(s) switched off. At least 300 colonies shall be recovered from these plates during each of the tests.

6.11 CROSS-CONTAMINATION TEST.

6.11.1 *Principle:* Bacterial spores are sprayed across the work space and contamination of the opposite two-thirds of the cabinet is monitored.

6.11.2 *Apparatus and materials:* As in 6.9.2 (the slit air samplers are not required).

6.11.3 *Procedure:*

(a) Place the cylinder in the cabinet as given in 6.9.3 (a).

(b) Distribute at least 12 culture plates (petri dishes of diameter 90 mm) evenly over the right two-thirds of the work floor of the cabinet and at least 350 mm from the left side.

(c) Position the nebulizer with its spray axis 100 mm above the work floor and 50 mm from the left side. Ensure that the spray axis is parallel to the level of the work floor and directed towards the wall where the culture plates are positioned.

(d) Ensure that the cabinet is operating normally. Uncover the culture plates one minute before spraying begins and cover them again five minutes after spraying stops. Run the nebulizer for a period of at least four minutes to ensure the dispersal of a challenge dose of at least 10^5 spores.

(e) In any test, the number of colonies of the test organism counted after incubation at 37 °C for a period of 24–48 hours shall not exceed 5. Carry out the test three times.

(f) Carry out the test procedure in (a)–(e) above three more times, using reversed positions (i.e. placing the culture plates on the left and the nebulizer on the right).

(g) Carry out a control test with the cabinet motor blower(s) switched off. At least 300 colonies shall be recovered from these plates during each of the tests.

6.12 **TEST FOR RESISTANCE TO CORROSION:** Use SABS Method 155–1975 'Resistance to salt fog of paint films', published by Government Notice No. 463 of 9 July 1982.

6.13 **PREFILTER TESTS:** Use the test methods given in SABS 1424–1987 'Filters for air-conditioning and general ventilation', published by Government Notice No. 1878 of 4 September 1987.

DEPARTEMENT VAN JUSTISIE

No. 1286

15 Junie 1990

INSTELLING VAN 'N HOF VIR KLEIN EISE VIR DIE GEBIED UMVOTI

Ek, Daniel Pieter Antonie Schutte, Adjunk-minister van Justisie, kragtens artikel 2 van die Wet op Howe vir Klein Eise, 1984 (Wet No. 61 van 1984) —

(a) stel hierby 'n hof vir die beregting van eise ingevolge genoemde Wet vir die gebied Umvoti bestaande uit die distrikte Kranskop, Umvoti en New Hanover in;

(b) bepaal hierby Greytown as die setel van genoemde hof; en

(c) bepaal hierby Greytown as 'n plek in daardie gebied vir die hou van sittings van genoemde hof.

D. P. A. SCHUTTE,
Adjunk-minister van Justisie.

DEPARTMENT OF JUSTICE

No. 1286

15 June 1990

ESTABLISHMENT OF A SMALL CLAIMS COURT FOR THE AREA OF UMVOTI

I, Daniel Pieter Antonie Schutte, Deputy Minister of Justice, under section 2 of the Small Claims Courts Act, 1984 (Act No. 61 of 1984) —

(a) hereby establish for the area of Umvoti consisting of the Districts of Kranskop, Umvoti and New Hanover, a court for the adjudication of claims in terms of the said Act;

(b) hereby determine Greytown as the seat of the said court; and

(c) hereby determine Greytown as a place in that area for the holding of sessions of the said court.

D. P. A. SCHUTTE,
Deputy Minister of Justice.

DEPARTEMENT VAN NASIONALE OPVOEDING

No. 1311

15 Junie 1990

BURO VIR HERALDIEK

AANSOEK OM REGISTRASIE VAN HERALDIESE VOORSTELLINGS EN 'N NAAM, EN BESWARE DAARTEEN

ARTIKEL 7A EN B VAN DIE HERALDIEKWET, 1962 (WET No. 18 VAN 1962)

Ondergenoemde instansies en persone het kragtens artikel 7 van die Heraldiekwet, 1962 (Wet No. 18 van 1962), aansoek gedoen om die registrasie van hulle heraldiese voorstellings en naam. Enigeen wat teen die registrasie van hierdie heraldiese voorstellings of naam beswaar wil aanteken op grond daarvan dat sodanige registrasie inbreuk sal maak op regte wat hom wettiglik toekom, moet dit binne een maand na die datum van publikasie van hierdie kennisgewing doen op 'n vorm wat van die Staatsheraldikus, Privaatsak X236, Pretoria, 0001, verkrygbaar is.

1. Oos-Vrystaat Diensskietbond (H4/3/1/3356)

Kenteken: Op 'n swart agtergrond, 'n regopgeplaaste goue koringaar, oor die stingel heen twee skuinsgekreiste silwer R1-gewere.

2. Natalspruit-hospitaal (H4/3/1/3366)

Wapen: Verhoogd hoekig deursnede, rooi en groen, oor die snylyn heen 'n hoekige versmalde dwarsbalk, die middelste piek getop met 'n uitkomende krukkruis, alles silwer, in die skildvoet vergesel van 'n goue Latynse kruis, die onderste arm omwonde van twee aansienende silwer slange.

Helmteken: 'n Groen antieke lamp met twee handvatsels, belaaï met 'n goue verkorte kruisie, die silwer vlam voor 'n rooi sestienpuntige ster belaaï met 'n silwer streepring.

Wrong en dekklede: Silwer en groen

3. The Business College (Pretoria) (H4/3/1/3368)

Wapen: In rooi, 'n omgekeerde silwer punt belaaï met drie verkorte streepbalkke, oor elkeen heen onderskeidelik drie, twee en een ruite, alles swart.

Helmteken: Voor twee afgewende regopgeplaaste silwer veerpenne, 'n rooi passer.

Wrong en dekklede: Silwer en rooi

Wapenspreuk: PERFICIO ET CELEBRO

4. Graanveld Primêre Skool (H4/3/1/3377)

Wapen: Deursnede en liewevormig geknobbeld na die skildvoet, silwer en rooi, in die skildhoof drie koringare onderskeidelik skuins regs, regop en skuins links geplaas, die stingels gebonde, alles ook rooi.

Wapenspreuk: NET MY BESTE

5. Kranskop-gesondheidskomitee (H4/3/2/456)

Wapen: Kepersgewys deursnede, die piek kan-teelvormig, goud en groen, in die skildvoet twee besante, paalsgewys geplaas.

Helmteken: 'n Breëkoparend met geslote vlug voor 'n reënboog, alles van natuurlike kleur.

Wrong en dekklede: Goud en groen

Wapenspreuk: SPES IN DEO

DEPARTMENT OF NATIONAL EDUCATION

No. 1311

15 June 1990

BUREAU OF HERALDRY

APPLICATION FOR REGISTRATION OF HERALDIC REPRESENTATIONS AND A NAME, AND OBJECTIONS THERETO

SECTION 7A AND B OF THE HERALDRY ACT, 1962 (ACT No. 18 OF 1962)

The undermentioned bodies and persons have applied in terms of section 7 of the Heraldry Act, 1962 (Act No. 18 of 1962), for the registration of their heraldic representations and name. Anyone wishing to object to the registration of these heraldic representations or name on the grounds that such registration will encroach upon rights to which he is legally entitled should do so within one month of the date of publication of this notice upon a form obtainable from the State Herald, Private Bag X236, Pretoria, 0001.

1. Oos-Vrystaat Diensskietbond (H4/3/1/3356)

Badge: on a background Sable, an ear of wheat erect Or, the slip surmounted by two R1 rifles in saltire Argent.

2. Natalspruit Hospital (H4/3/1/3366)

Arms: Per fess dancetty enhanced, Gules and Vert, over the partition line a barrulet dancetty, the central peak ensigned with a cross potent issuant, Argent, in base a Latin cross Or, the lower limb entwined of two serpents respectant Argent.

Crest: A double handled antique lamp Vert, charged with a crosslet couped Or, the flame Argent in front of a star of sixteen points Gules, charged with a fillet annulet Argent.

Wreath and mantling: Argent and Vert

3. The Business College (Pretoria) (H4/3/1/3368)

Arms: Gules, a pile Argent charged with three barrulets couped, each surmounted by three, two and one lozenges, respectively, Sable.

Crest: In front of two quill pens addorsed erect Argent, a pair of dividers Gules.

Wreath and mantling: Argent and Gules

Motto: PERFICIO ET CELEBRO

4. Graanveld Primary School (H4/3/1/3377)

Arms: Per fess, nowy flory to base, Argent and Gules, in chief three ears of wheat, in bend, erect and in bend sinister respectively, the slips bound, all also Gules.

Motto: NET MY BESTE

5. Kranskop Health Committee (H4/3/2/456)

Arms: Per chevron, the peak escartelly, Or and Vert, in base two bezants in pale.

Crest: A martial eagle close before a rainbow, proper.

Wreath and mantling: Or and Vert

Motto: SPES IN DEO

6. Vaaloewer dorpsdienste (H4/3/2/457)

Wapen: Verhoogd golwend deursnede van groen en golwend gedwarsbalk, silwer en blou; 'n palissadevormige goue skildhoof, elke groen piek belaaï met 'n silwer blokkie.

Helmteken: 'n Groen muurkroon, silwer gemessel, met 'n uitkomende rotsgrond, daarop 'n omsiende visarend, alles van natuurlike kleur.

Dekklede: Silwer en groen

7. Kwanonzame-dorpskomitee (H4/3/2/490)

Wapen: In groen, 'n verhoogde keper, kepersgewys deursnede van goud en silwer, oor die snylyn heen 'n ander van rooi, aan die onderkant swaelstertvormig, in die skildvoet vergesel van 'n opwaarts vlieënde silwer duif met twee goue blaartjies in sy bek.

Helmteken: 'n Groen muurkroon belaaï met 'n dwarsbalk deursnede van goud en silwer, oor die snylyn heen 'n ander van rooi, aan die onderkant swaelstertvormig.

Dekklede: Silwer en groen

Wapenspreuk: PEACE AND PROGRESS

8. Nicolaas Vlok (H4/3/4/365)

Wapen: Kepervormig deursnede, die piek geleë, rooi en goud, in die skildvoet 'n swart adeelaar, rooi gebek, getong en geklou, op die bors belaaï met vyf goue sterre wat die Suiderkruiskonstellasie voorstel.

Helmteken: Op 'n rysende rooi grond, 'n klimmende swart leeu, rooi genaël, getong en gevleuel, wat 'n regopgeplaaste staf getop met 'n fleur de lis, alles goud, vashou.

Wron en Dekklede: Goud en swart

Wapenspreuk: SCIENTIA FORTITUDO

9. Allen Webster Anderson (H4/3/4/385)

Wapen: In swart, 'n silwer uitgeskulpte skuinskruis belaaï met 'n groen afgerukte aansienende hertekop.

Helmteken: 'n Natalse mahonieboom (TRICHILIA DREGEANA) van natuurlike kleur.

Wron en Dekklede: Silwer en swart

Wapenspreuk: COURAGEOUS AND TRUE

10. Michael Alan Woeber (H4/3/4/391)

Wapen: Gevierendeel: I en IV, in silwer, 'n rooi klimmende griffioen met goue bek en kloue; II en III, in rooi, 'n gekroonde klimmende leeu met dubbele stert, alles goud; die figure toegewend.

Helmteken: Uitkomend uit 'n goue helmkroon, 'n halwe rooi griffioen met goue bek en kloue, tussen 'n silwer vlug.

Dekklede: Silwer en rooi

Wapenspreuk: SINE DEO NIL

11. Wine Appreciation Society (Constantia) (H4/3/1/3387)

Naam: The Wine Appreciation Society (Constantia)

6. Vaaloewer Town Services (H4/3/2/457)

Arms: Per fess wavy enhanced Vert and Barry wavy Argent and Azure; a chief urdy Or, each peak Vert charged with a billet Argent.

Crest: A mural crown Vert, masoned Argent, with a rocky mount issuant, thereupon a fish eagle regardant, proper.

Mantling: Argent and Vert

7. Kwanonzame Town Committee (H4/3/2/490)

Arms: Vert, a chevron enhanced, per chevron Or and Argent, over the partition line another, the lower edge dovetailed, Gules, in base a dove ascending Argent, holding in its beak two leaves Or.

Crest: A mural crown Vert, charged with a bar per fess Or and Argent, over the partition line another, the bottom edge dovetailed, Gules.

Mantling: Argent and Vert

Motto: PEACE AND PROGRESS

8. Nicolaas Vlok (H4/3/4/365)

Arms: Per chevron, the peak floretty, Gules and Or, in base an eagle displayed Sable, armed and langued Gules, charged on the breast with five stars Or representing the constellation of the Southern Cross.

Crest: Upon a mount Gules, a lion rampant Sable, armed, langued and winged Gules, holding a staff erect, ensigned with a fleur-de-lis, Or.

Wreath and mantling: Or and Sable

Motto: SCIENTIA FORTITUDO

9. Allen Webster Anderson (H4/3/4/385)

Arms: Sable, on a saltire engrailed Argent, a stag's head caboshed Vert.

Crest: A Natal mahogany tree (TRICHILIA DREGEANA) proper.

Wreath and mantling: Argent and Sable

Motto: COURAGEOUS AND TRUE

10. Michael Alan Woeber (H4/3/4/391)

Arms: Quarterly: I and IV, Argent, a griffin segreant Gules, beaked and forelegged Or; II and III, Gules, a lion rampant double-queued, ducally crowned, Or; the charges combatant.

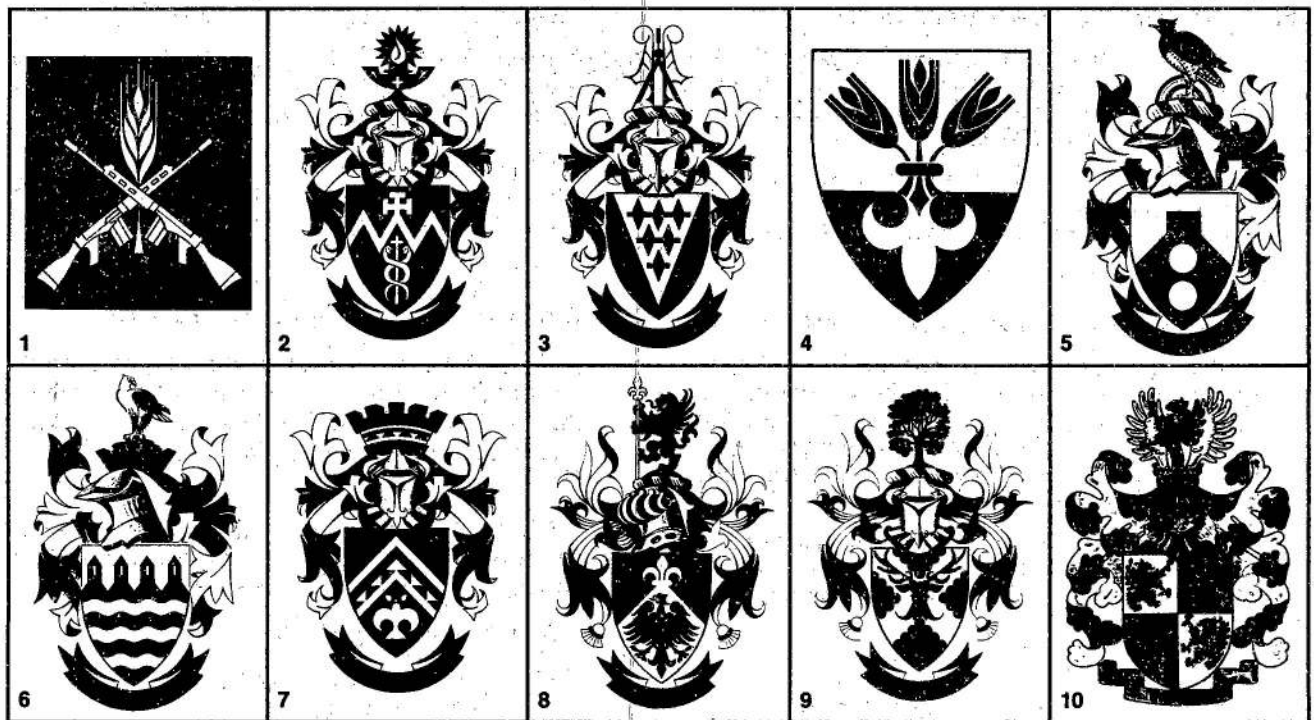
Crest: Issuant from a crest coronet Or, a demi-griffin Gules beaked and forelegged Or between a vol Argent.

Mantling: Argent and Gules

Motto: SINE DEO NIL

11. Wine Appreciation Society (Constantia) (H4/3/1/3387)

Name: The Wine Appreciation Society (Constantia)



DEPARTEMENT VAN ONTWIKKELINGS- HULP

No. 1287

15 Junie 1990

GESONDHEIDSAANGELEENTHEDE: SWART GEBIEDE.—VERKLARING VAN PLAASLIKE BESTURE

Kragtens die bevoegdheid my verleen by artikel 4 (2) van Proklamasie No. R. 34 van 1989 verklaar ek, Christoffel Johannes van der Merwe, Minister van Onderwys en van Ontwikkelingshulp, hierby, vir die doeleindes van die toepassing van artikel 20 van die Wet op Gesondheid, 1977 (Wet No. 63 van 1977), in Swart gebiede, dat—

(a) die Direkteur-generaal van die Departement van Nasionale Gesondheid en Bevolkingsontwikkeling die plaaslike bestuur is ten opsigte van die bevoegdhede, werksaamhede en pligte bedoel in artikel 20 (1) (a), (b) en (c); en

(b) die departementshoofde van die provinsiale administrasies van die Kaap die Goeie Hoop, Natal, die Oranje-Vrystaat en Transvaal die plaaslike besture is ten opsigte van alle ander bevoegdhede, werksaamhede en pligte in onderskeidelik die provinsies die Kaap die Goeie Hoop, Natal, die Oranje-Vrystaat en Transvaal.

Goewermentskennisgewing No. 1014 van 26 Mei 1989 word op die datum van publikasie hiervan herroep.

C. J. VAN DER MERWE,
Minister van Onderwys en van Ontwikkelingshulp.

DEPARTMENT OF AID DEVELOPMENT

No. 1287

15 June 1990

HEALTH MATTERS: BLACK AREAS.—DECLA- RATION OF LOCAL AUTHORITIES

Under the powers vested in me by section 4 (2) of Proclamation No. R. 34 of 1989, I, Christoffel Johannes van der Merwe, Minister of Education and of Development Aid, hereby declare, for the purposes of the application of section 20 of the Health Act, 1977 (Act No. 63 of 1977), in Black areas, that—

(a) the Director-General of the Department of National Health and Population Development shall be the local authority in respect of the powers, functions and duties contemplated in section 20 (1) (a), (b) and (c); and

(b) the heads of the departments of the provincial administrations of the Cape of Good Hope, Natal, the Orange Free State and the Transvaal shall be the local authorities in respect of all other powers, functions and duties in the Provinces of the Cape of Good Hope, Natal, the Orange Free State and the Transvaal, respectively.

Government Notice No. 1014 of 26 May 1989 shall be repealed on the date of publication hereof.

C. J. VAN DER MERWE,
Minister of Education and of Development Aid.

ALGEMENE KENNISGEWINGS**KENNISGEWING 447 VAN 1990****DEPARTEMENT VAN OPENBARE WERKE
EN GRONDSAKE****WET OP REËLING VAN GRONDTITELS, 1979****KENNISGEWING AAN AANSOEKERS OM TOEWYSING EN OORDRAG VAN GROND AANGEWYS.—AFDELING UITENHAGE**

Nademaal die grond in die Bylae hiervan beskryf, deur die Minister van Openbare Werke en Grondsaake aangewys is, kragtens die bevoegdheid hom verleen by artikel 2 (4) (c) van die Wet op Reëling van Grondtitels, 1979 (Wet No. 68 van 1979);

En nademaal die Minister ingevolge die bepalings van artikel 3 (a) van voormelde Wet die Rooiwal Grondverdelingskomitee, Uitenhage ingestel het om met voormelde grond te handel ooreenkomstig die bepalings van die Wet;

Nou daarom, ingevolge die bepalings van artikel 7 (1) van die Wet, word elke persoon wat daarop aanspraak maak dat hy deur erfopvolging of andersins 'n reg verkry het om as 'n eienaar van voormelde grond geregistreer te word en wat nie aldus geregistreer is nie hiermee aangesê om binne die tydperk van twee maande wat volg op die dag waarop hierdie kennisgewing vir die eerste keer in die *Staatskoerant* verskyn, 'n skriftelike aansoek om die toewysing en oordrag aan hom ingevolge die bepalings van voormelde Wet, van 'n onverdeelde aandeel in of 'n bepaalde gedeelte van die grond ten opsigte waarvan hy op bedoelde reg aanspraak maak, in te dien by:

Die voorsitter
Rooiwal Grondverdelingskomitee,
Uitenhage
Dunkirkweg 6
Fernglen
6045

Elke sodanige applikant word verder aangesê om in sodanige aansoek die feite uiteen te sit waarop sy aansoek berus, gestaaf deur beëdigde verklarings van die persone wat daardie feite beweer en deur die stukke wat die applikant in staat is om voor te lê, met inbegrip van enige titelbewys ten opsigte van die betrokke grond wat hy in sy besit het.

J. S. KNOESEN,
Voorsitter Rooiwal Grondverdelingskomitee,
Uitenhage.

BYLAE

Gedeelte 9 (Rooiwal) van die plaas Willige Rivier 254, groot 59,9585 hektaar, geleë in die administratiewe distrik Uitenhage, provinsie die Kaap die Goeie Hoop

(15 Junie 1990)

GENERAL NOTICES**NOTICE 447 OF 1990****DEPARTMENT OF PUBLIC WORKS AND
LAND AFFAIRS****LAND TITLES ADJUSTMENT ACT, 1979****NOTICE TO APPLICANTS FOR ALLOCATION
AND TRANSFER OF DESIGNATED LAND.—
DIVISION OF UITENHAGE**

Whereas the land described in the Schedule hereto has been designated by the Minister of Public Works and Land Affairs, by virtue of powers vested in him by section 2 (4) (c) of the Land Titles Adjustment Act, 1979 (Act No. 68 of 1979);

And whereas the Minister by virtue of section 3 (a) of the said Act established the Rooiwal Land Division Committee Uitenhage to Division Committee Uitenhage to deal with the said land in terms of the Act;

Now therefore, in terms of section 7 (1) of the Act every person who claims to have acquired a right by hereditary succession or otherwise to be registered as an owner in respect of the said land and who is not so registered is hereby called upon to submit, within the period of two months following the day upon which this notice appears in the *Gazette* for the first time, a written application for the allocation and transfer to him in terms of the Act of an undivided share in, or a defined portion of the designated land in respect of which he claims such right, to:

The Chairman
Rooiwal Land Division Committee,
Uitenhage
6 Dunkirk Road
Fernglen
6045

Each such applicant is further called upon to set out in such application the facts upon which his claim is based, supported by sworn statements by the persons alleging such facts, and by such documents as the applicant is able to submit including any title deed in respect of the land in question that he may have in his possession.

J. S. KNOESEN,
Chairman Rooiwal Land Division Committee,
Uitenhage.

SCHEDULE

Portion 9 (Rooiwal) of the farm Willige Rivier 254, in extent 59,9585 hectares; situate in the Adminis hectares; situate in the Administrative District of Uitenhage, Province of the Cape of Good Hope.

(15 June 1990)

KENNISGEWING 458 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****WET OP REËLING VAN GRONDTITELS, 1979****KENNISGEWING VAN VOORNEME OM GROND AAN TE WYS. — AFDELING GEORGE**

Ek, Jacob Albertus van Wyk, Adjunk-minister van Grondsake, handelende namens die Minister van Openbare Werke en Grondsake kragtens die bevoegdheid hom verleen by artikel 2 (2) van die Wet op Reëling van Grondtitels, 1979 (Wet No. 68 van 1979), gee hierby kennis dat ek voornemens is om die grond wat in die Bylae hiervan vermeld word, kragtens artikel 2 (1) van die Wet aan te wys.

Persone wat teen die beoogde aanwysing beswaar wil maak, word versoek om voor of op 13 Julie 1990 hul besware skriftelik by die Direkteur-generaal, Departement van Openbare Werke en Grondsake, Privaatsak X65, Pretoria, 0001, in te dien (verwysing 2/20/2/7).

J. A. VAN WYK,
Adjunk-minister van Grondsake.

BYLAE

Gedeelte 2 van die plaas Boven Lange Valley 189, groot 13,3391 hektaar, geleë in die administratiewe distrik George, provinsie die Kaap die Goeie Hoop.
(15 Junie 1990)

KENNISGEWING 468 VAN 1990**DEPARTEMENT VAN MINERAAL- EN ENERGIESAKE****TERUGTREKKING VAN DIE UITHOU VAN GROND VIR DIE DOEL VAN 'N OPENBARE PAD**

Die Mynkommissaris vir die myndistrik Barberton het die uithou van 'n strook geproklameerde grond vir die doel van 'n openbare pad, vervat in Algemene Kennisgewing 238 van 1923, gepubliseer in *Staatskoerant* No. 1314 van 27 April 1923, teruggetrek vir sover dit betrekking het op 'n sekere gedeelte, ongeveer 2 627 vierkante meter groot, soos getoon op 'n sketskaart waarvan afdrucke onder RMT R94/89 in die Mynbriewekantoor, Johannesburg, en in die kantoor van die Mynkommissaris, Barberton, bewaar word. Gemelde grond is geleë op die plaas Graskop 564 KT, distrik Pelgrimsrus, myndistrik Barberton, provinsie Transvaal.

(19/5/1/2876)

(15 Junie 1990)

KENNISGEWING 469 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****TENDERVERKOPING VAN WAARDEVOLLE STAATSEIENDOM (ORANIA)**

Die volgende Staatseiendom word per tender te koop aangebied:

Eiendom: Gedeelte 8, 'n gedeelte van Gedeelte 2 van die plaas Vluytjeskraal 149, administratiewe distrik Hopetown.

NOTICE 458 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****LAND TITLES ADJUSTMENT ACT, 1979****NOTICE OF INTENTION TO DESIGNATE LAND. — DIVISION OF GEORGE**

I, Jacob Albertus van Wyk, Deputy Minister of Land Affairs, acting on behalf of the Minister of Public Works and Land Affairs under and by virtue of the powers vested in him by section 2 (2) of the Land Titles Adjustment Act, 1979 (Act No. 68 of 1979), hereby give notice that I intend to designate the land specified in the Schedule hereto under section 2 (1) of the said Act.

Persons who wish to object to the intended designation are invited to lodge their objections in writing with the Director-General, Department of Public Works and Land Affairs, Private Bag X65, Pretoria, 0001, on or before 13 July 1990 (reference 2/20/2/7).

J. A. VAN WYK,
Deputy Minister of Land Affairs.

SCHEDULE

Portion 2 of the farm Boven Lange Valley 189, in extent 13,3391 hectares, situate in the Administrative District of George, Province of the Cape of Good Hope.

(15 June 1990)

NOTICE 468 OF 1990**DEPARTMENT OF MINERAL AND ENERGY AFFAIRS****WITHDRAWAL OF RESERVATION OF LAND FOR THE PURPOSES OF A PUBLIC ROAD**

The Mining Commissioner for the Mining District of Barberton has withdrawn the reservation of a strip of proclaimed land for the purpose of a public road, contained in General Notice 238 of 1923, published in *Gazette* No. 1314 of 27 April 1923, in so far as it relates to a certain portion, in extent 2 627 square metres, as shown on a sketch plan copies of which have been filed under RMT R94/89 in the Mining Titles Office, Johannesburg, and in the office of the Mining Commissioner, Barberton. The said land is situate on the farm Graskop 564 KT, District of Pilgrim's Rest, Mining District of Barberton, Province of the Transvaal.

(19/5/1/2876)

(15 June 1990)

NOTICE 469 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****SALE BY TENDER OF VALUABLE STATE PROPERTY (ORANIA)**

The undermentioned State property is offered for sale by tender:

Property: Portion 8, a portion of Portion 2 of the farm Vluytjeskraal 149, Administrative District of Hopetown.

Grootte: 483,2571 hektaar.

Waterregte: 60 hektaar.

Ligging: Op die oewer van die Oranjerivier langs die Hopetown/Petrusville-teerpad.

Status: Landbougrond wat deels in beslag geneem word deur die personeeldorp Orania wat deur die Departement van Waterwese opgerig en bestuur was.

Verbeterings:

'n Groot aantal voorafvervaardigde wonings.

Kantoorblok.

Ontspanningsaal.

Ontspanningsgeriewe soos swembad, tennisbane, ens.

Plaaswoning.

Watersuiwering- en rioolwerke.

Water- en elektrisiteitsverspreidingsnetwerke.

Betonstrate.

Groot aantal ander strukture en verbeterings.

Tenderdokumente en nadere besonderhede kan verkry word by die Direkteur-generaal van Openbare Werke en Grondsake, Privaatsak X65, Pretoria, 0001.

Telefoniese navrae: Mnr. J. C. Joubert [(012) 205-2015].

Besigtiging van eiendom kan gereël word met die plaaslike Ingenieur van die Departement van Waterwese, Jacobsdal (mnr. C. Burger of mnr. J. Wilmans). Telefoon: Jacobsdal 187 of 188.

Sluitingsdatum: 20 Julie 1990 om 12:45.

(15 Junie 1990)

KENNISGEWING 470 VAN 1990

DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE

AGRÉMENT-RAAD VAN SUID-AFRIKA

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat die Agrément-raad van Suid-Afrika die geldigheidsduur van 'n sertifikaat, waarvan besonderhede in onderstaande Bylae verskyn, met ingang van Mei 1990 verleng het.

BYLAE

AGRÉMENT-RAAD VAN SUID-AFRIKA

Sertifikaat 84/148 (Hernuwing) (Geldig tot April 1990)

Naam van produk: Framelock-boustelsel.

Vervaardig deur: Prebuilt Products (Edms.) Bpk.

Die geldigheidsduur van hierdie sertifikaat, wat by Kennisgewing 1278 van 1989, gedateer 13 Oktober 1989, uitgereik is en wat tot April 1990 geldig was, word hierby verleng tot Oktober 1990.

(15 Junie 1990)

KENNISGEWING 471 VAN 1990

DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE

AGRÉMENT-RAAD VAN SUID-AFRIKA

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat die aansoek om 'n MANTAG, waarvan besonderhede in die aangehegte Bylae verskyn, gekanselleer is.

Measuring: 483,257 hectares.

Water right: 60 hectares.

Situation: On the Orange River next to the Hopetown/Petrusville National Road.

Status: Agricultural land taken up partly by the personnel township of Orania which was erected and managed by the Department of Water Affairs.

Improvements:

A large number of prefabricated houses.

Office block.

Recreation hall.

Recreation facilities such as a swimming pool, tennis courts, etc.

Farm house.

Water purification and sewerage works.

Water and electricity distribution networks.

Concrete roads.

Many other structures and improvements.

Tender documents and further particulars are obtainable from the Director-General of Public Works and Land Affairs, Private Bag X65, Pretoria, 0001.

Telephonic enquiries: Mr J. C. Joubert [(012) 205-2015].

Viewing of the property can be arranged with the local engineer of the Department of Water Affairs, Jacobsdal (Mr C. Burger or Mr J. Wilmans). Telephone: Jacobsdal 187 or 188.

Closing date: 12:45 on 20 July 1990.

(15 June 1990)

NOTICE 470 OF 1990

DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS

AGRÉMENT BOARD OF SOUTH AFRICA

(Approval of new building systems and products)

Notice is hereby given that the Agrément Board of South Africa has extended the validity of a certificate, details of which appear in the Schedule hereto, with effect from May 1990.

SCHEDULE

AGRÉMENT BOARD OF SOUTH AFRICA

Certificate 84/148 (Renewal) (Valid until April 1990)

Name of product: Framelock Building System.

Manufactured by: Prebuilt Products (Pty) Ltd.

The validity of this certificate, which was issued under Notice 1278 of 1989, dated 13 October 1989 and which was valid until April 1990, is now extended to October 1990.

(15 June 1990)

NOTICE 471 OF 1990

DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS

AGRÉMENT BOARD OF SOUTH AFRICA

(Approval of new building systems and products)

Notice is hereby given that the application for a MANTAG, details of which appear in the Schedule hereto, has been cancelled.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA***Aansoeker:* Kahano BK.*Onderwerp:* ITW-dakteël.

Die aansoek, waarvan kennisgewing van aanvaarding by Kennisgewing 1446, gedateer 1 Desember 1989, uitgereik is, is gekanselleer.

(15 Junie 1990)

KENNISGEWING 472 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat die aansoek om agrément-sertifisering, waarvan besonderhede in die aangehegte Bylae verskyn, gekanselleer is.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA***Aansoeker:* Concretex Products (Edms.) Bpk.*Onderwerp:* Panelcast-geboue.

Die aansoek, waarvan kennisgewing van aanvaarding by Kennisgewing 874 van 1989, gedateer 28 Julie 1989, uitgereik is, is gekanselleer.

(15 Junie 1990)

KENNISGEWING 473 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat die aansoek om agrément-sertifisering, waarvan besonderhede in die aangehegte Bylae verskyn, gekanselleer is.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA***Aansoeker:* Everite Beperk.*Onderwerp:* Hernuwing van 87/161: Canalit Roofing Elements.

Die aansoek, waarvan kennisgewing van aanvaarding by Kennisgewing 43 van 1990, gedateer 26 Januarie 1990, uitgereik is, is gekanselleer.

(15 Junie 1990)

KENNISGEWING 474 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis word hierby gegee dat die Agrément-raad van Suid-Afrika met ingang van 20 Maart 1990 'n MANTAG uitgereik het waarvan besonderhede in onderstaande Bylae verskyn.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA***Applicant:* Kahano CC.*Subject:* ITW Roof Tile.

The application, notice of acceptance of which was given under Notice 1446, dated 1 December 1989, has been cancelled.

(15 June 1990)

NOTICE 472 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that the application for agrément certification, details of which appear in the Schedule hereto, has been cancelled.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA***Applicant:* Concretex (Pty) Ltd.*Subject:* Panelcast buildings.

The application, notice of acceptance of which was given under Notice 874 of 1989, dated 28 July 1989, has been cancelled.

(15 June 1990)

NOTICE 473 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that the application for agrément certification, details of which appear in the Schedule hereto, has been cancelled.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA***Applicant:* Everite Limited.*Subject:* Renewal of 87/161: Canalit Roofing Elements.

The application, notice of acceptance of which was given under Notice 43 of 1990, dated 26 January 1990, has been cancelled.

(15 June 1990)

NOTICE 474 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that the Agrément Board of South Africa has, with effect from 20 March 1990, issued a MANTAG, details of which appear in the Schedule hereto.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA****MANTAG 1990/M24***Naam van produk:* Combihomes.*Vervaardig deur:* Combihomes (Edms.) Bpk.*Beskrywing:*

Hierdie MANTAG dek die gebruik van die Combihomes-stelsel om eenvoudige, losstaande enkelverdiepingwoonhuise en die gepaardgaande buitegeboue op te rig in uitgesoekte gebiede in al die klimaatstreke van Suid-Afrika.

Die boustelsel bestaan uit groot, voorafgegiete, driedimensionele gewapendebetoneenhede wat elk op sy beurt uit geïntegreerde mure en dakke bestaan, en wat na die terrein vervoer word en langs mekaar op *in situ*-gegiete betonfondament-blokke geplaas word ten einde geboue te vorm. Die soliede, digte gewapendebetonmure en dak is onderskeidelik 65 mm en 90 mm dik. Die dakblad word met twee lae bitumineuse aluminiumverf bedek. Deurkosyne en vensterrame word ingegiet. Stene of hol betonmeseleenhede word gebruik vir die binnemure en die buitevulpaneel wat die oop ent van 'n eenheid moet toemaak. 'n Beton beddinglaag word binne die eenhede gegiet. Buite-mure word op konvensionele strookvoetstukke gebou en die beddinglaag word verdik om die binnemure te akkommodeer.

Die stelsel maak ook daarvoor voorsiening dat die eenhede weg van mekaar geplaas kan word en dat die hele gebou, of slegs die openinge tussen die eenhede, bedek word met 'n houtportaal dak met ligte dakbedekkingsmateriaal. So nie kan 'n konvensionele staandak met houtdakklappe en 'n liggewig dakbedekking oor die eenheid opgerig word, of klipaggregaat, ongeveer 115 mm dik kan op uitdypolistireenbordisolering, wat deur 'n sementvlaklaag beskerm word, bo-op die betondak gelê word. Die mure kan opgegradeer word deur dit aan die binnekant met 12,7 mm dik gipsbord uit te voer.

Hierdie MANTAG bevat gedetailleerde spesifikasies en tekeninge, en eksimplare is verkrygbaar van die Hoofbestuurder, Agrément-raad van Suid-Afrika, Posbus 395, Pretoria, 0001, teen R10 plus AVB per eksimplaar (vir elke amptelike taal).

(15 Junie 1990)

KENNISGEWING 475 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat 'n aansoek om agrément-sertifisering, wat in die aangehegte Bylae vermeld word, tydens die Raadsvergadering gehou op 20 Maart 1990 deur die Agrément-raad van Suid-Afrika aanvaar is.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA****MANTAG 1990/M24***Name of product:* Combihomes.*Manufactured by:* Combihomes (Pty) Ltd.*Description:*

This MANTAG covers the use of the Combihomes system for the construction of simple, detached, single storey houses and related outbuildings in selected areas in all climatic zones in Southern Africa.

The building system comprises large, precast, reinforced concrete three dimensional units each consisting of integral walls and roofs, which are transported to site and placed adjacent to each other on cast *in situ* concrete foundation pads to form buildings. The solid, dense reinforced concrete walls and roof are 65 mm and 90 mm thick, respectively. Two coats of bituminous aluminium paint are applied to the roof slab. Door and window frames are cast in. Brick or hollow concrete masonry units are used for the internal walls and the external infill panel which is required to close the open end of a unit. A concrete surface bed is laid within the units. External walls are built on conventional strip footings and the surface bed is thickened to take the internal walls.

The system also provides for the units to be set apart and the entire building, or only the space between the units covered with a timber portal roof with a lightweight roof covering. Other alternatives are the erection of a conventional timber truss pitched roof with a lightweight converging over the unit, or the laying of stone aggregate approximately 115 mm thick on expanded polystyrene board insulation protected with a cement screed, on top of the concrete roof. The walls may be upgraded by lining them internally with 12,7 mm thick gypsum plasterboard.

This MANTAG contains detailed specifications and drawings, and copies are obtainable from the General Manager, Agrément Board of South Africa, P.O. Box 395, Pretoria, 0001, at R10 plus GST per copy (for each official language).

(15 June 1990)

NOTICE 475 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that an application for agrément certification, as listed in the Schedule hereto, was accepted by the Agrément Board of South Africa at its meeting on 20 March 1990.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA***Aansoeker:* AECI Paints (Edms.) Bpk.*Onderwerp:* Duracrete.

Beskrywing: Hierdie muurbedekking, wat in verskillende kleure beskikbaar is, bestaan uit 'n kombinasie van organiese en anorganiese bind- en vulstowwe, met sekere byvoegings. Dit word gewoonlik aangespuit en is bedoel om pleister en verf te vervang.

(15 Junie 1990)

KENNISGEWING 476 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis geskied hierby dat aansoeke om MANTAGs, wat in die onderstaande Bylae vermeld word, tydens die Raadsvergadering gehou op 20 Maart 1990 deur die Agrément-raad van Suid-Afrika aanvaar is.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA****1. Aansoeker:** Toncoro (Edms.) Bpk.*Onderwerp:* Toncoro.

Beskrywing: Hierdie muurstelsel bestaan uit 90 mm dik enkelwandkleisteenmure. Die buitemure word nie gepleister nie, maar 'n waterdigtingsbymiddel word in die dagha gebruik en die mure word aan die buitekant met 'n patente waterwerende oplossing bespuit.

2. Aansoeker: Corrugated Designs (Edms.) Bpk.*Onderwerp:* Symodule.

Beskrywing: Hierdie modulêre boustelsel bestaan uit 'n strukturele raamwerk van hol, agthoekige kolomme van gegalvaniseerde staal en lipkanaaldakbalke ("dak-kappe") wat gevorm word om 'n dakhelling te verskaf. Gewapende muurpanele van gegalvaniseerde profielstaal, wat in die fabriek 'n deklaag kry, word tussen die kolomme vasgesit. Die voetplate van die kolomme word aan die betonbeddinglaag vasgebout en die dakbedekking bestaan uit geïsoleerde lamelpanele van gegalvaniseerde profielstaal wat in die fabriek 'n deklaag ontvang.

(15 Junie 1990)

KENNISGEWING 477 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis word hierby gegee dat die Agrément-raad van Suid-Afrika met ingang van 20 Maart 1990 'n agrément-sertifikaat uitgereik het waarvan besonderhede in onderstaande Bylae verskyn.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA***Applicant:* AECI Paints (Pty) Ltd.*Subject:* Duracrete.

Description: This wall coating, which is available in different colours, consists of a combination of inorganic and organic binders and fillers, with certain additives. It is usually spray applied and is intended to be used instead of plaster and paint.

(15 June 1990)

NOTICE 476 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that application for MANTAGs, as listed in the Schedule hereto, was accepted by the Agrément Board of South Africa at its meeting on 20 March 1990.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA****1. Applicant:** Toncoro (Pty) Ltd.*Subject:* Toncoro.

Description: This walling system consists of 90 mm thick single-skin burnt clay brick walls. The exterior walls are unplastered, but a waterproofing additive is used in the mortar and the walls are sprayed externally with a proprietary water repellent solution.

2. Applicant: Corrugated Designs (Pty) Ltd.*Subject:* Symodule.

Description: This modular building system comprises a structural framework of hollow octagonal columns of galvanised steel and lipped channel roof beams ("trusses") shaped to provide a roof slope, with factory coated, reinforced wall panels of profiled galvanised steel fixed between the columns. The baseplates of the columns are bolted to the concrete surface bed and the roof covering consists of insulated sandwich panels, of factory coated, profiled galvanised steel.

(15 June 1990)

NOTICE 477 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that the Agrément Board of South Africa has, with effect from 20 March 1990, issued an agrément certificate, details of which appear in the Schedule hereto.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA**

Sertifikaat 90/203 (Hernuwing)

Naam van produk: Prebuilt Wadekor Boustelsel.*Vervaardig deur:* Prebuilt Products (Edms.) Bpk.*Beskrywing:*

Hierdie sertifikaat, wat Sertifikaat 83/110 vervang, dek die gebruik van die boustelsel vir die oprigting van losstaande enkelverdiepingwoonhuise en die gepaardgaande buitegeboue oral in Suid-Afrika. Die boustelsel bestaan uit fabriekvervaardigde GVS-muurpanele wat op 'n konvensionele betonbeddinglaag opgerig word. Die buitemuurpanele, met 'n totale dikte van 100 mm, bestaan uit 'n kern van uitdypolistireenbord tussen twee lae polistireenkraalbeton. Die hele paneel word deur 'n wand van glasversterkte sement (GVS) omhul. Die binnemuurpanele is 80 mm dik en bestaan uit polistireenkraalbeton met 'n GVS-wand aan weerskante.

Die fondamente, betonbeddinglaag, houtdakkonstruksie en dakbedekkingsmateriaal is konvensioneel.

Hierdie sertifikaat bevat gedetailleerde spesifikasies en tekeninge, en eksemplare is verkrygbaar van die Hoofbestuurder, Agrément-raad van Suid-Afrika, Posbus 395, Pretoria, 0001, teen R10 plus AVB per eksemplaar (vir elke amptelike taal).

(15 Junie 1990)

KENNISGEWING 478 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE****AGRÉMENT-RAAD VAN SUID-AFRIKA**

(Goedkeuring van nuwe boustelsels en -produkte)

Kennis word hierby gegee dat die Agrément-raad van Suid-Afrika met ingang van 20 Maart 1990 'n agrément-sertifikaat uitgereik het waarvan besonderhede in onderstaande Bylae verskyn.

BYLAE**AGRÉMENT-RAAD VAN SUID-AFRIKA**

Sertifikaat 90/202 (Hernuwing)

Naam van produk: Selfcure Sanded Cemwash.*Vervaardig deur:* Cape Lime Beperk.

Beskrywing: Hierdie sertifikaat vervang Sertifikaat 86/157. Dit is 'n eenlaag-sementbasisoppervlakbedekking vir buitemure. Die bedekking verskaf 'n getekstureerde, weervaste en dekoratiewe afwerking vir gebruik op *in situ*-gegiete en voorafgegiete betonoppervlakke en gepleisterde of ongepleisterde kleistene of betonstene, of hol betonmeseleenhede.

Hierdie sertifikaat bevat gedetailleerde spesifikasies en tekeninge, en eksemplare is verkrygbaar van die Hoofbestuurder, Agrément-raad van Suid-Afrika, Posbus 395, Pretoria, 0001, teen R10 plus AVB per eksemplaar (vir elke amptelike taal).

(15 Junie 1990)

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA**

Certificate 90/203 (Renewal)

Name or product: Prebuilt Wadekor Building System.*Manufactured by:* Prebuilt Products (Pty) Ltd.*Description:*

This certificate, which replaces Certificate 83/110, covers the use of the building system for the erection of single-storey, detached houses and related outbuildings in all areas of Southern Africa. The building system comprises factory-produced GRC wall panels erected on a conventional concrete surface bed. The external wall panels, which are 100 mm thick overall, consist of a core of expanded polystyrene board, sandwiched between two layers of polystyrene bead concrete, the whole panel encased in a skin of glass reinforced concrete (GRC). The internal wall panels are 80 mm and consist of polystyrene bead concrete with a skin of GRC on both sides.

The foundations, concrete surface bed, timber roof construction and roof covering materials are conventional.

This certificate contains detailed specifications and drawings, and copies are obtainable from the General Manager, Agrément Board of South Africa, P.O. Box 395, Pretoria, 0001, at R10 plus GST per copy (for each official language).

(15 June 1990)

NOTICE 478 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS****AGRÉMENT BOARD OF SOUTH AFRICA**

(Approval of new building systems and products)

Notice is hereby given that the Agrément Board of South Africa has, with effect from 20 March 1990, issued an agrément certificate, details of which appear in the Schedule hereto.

SCHEDULE**AGRÉMENT BOARD OF SOUTH AFRICA**

Certificate 90/202 (Renewal)

Name of product: Selfcure Sanded Cemwash.*Manufactured by:* Cape Lime Limited.

Description: This certificate replaces Certificate 86/157. It is a one-coat, cement-based external wall surface coating, which provides a textured, weather resistant and decorative finish for use on cast *in situ* and precast concrete surfaces and on plastered or unplastered burnt clay or concrete brick, or hollow concrete masonry units.

This certificate contains detailed specifications and drawings, and copies are obtainable from the General Manager, Agrément Board of South Africa, P.O. Box 395, Pretoria, 0001, at R10 plus GST per copy (for each official language).

(15 June 1990)

KENNISGEWING 480 VAN 1990**DEPARTEMENT VAN OPENBARE WERKE EN GRONDSAKE**

DIE WET OP PROFESSIONELE INGENIEURS,
1968 (WET No. 81 VAN 1968)

WYSIGING VAN GELDETARIEF

Kragtens artikel 7 (6) van die Wet op Professionele Ingenieurs, 1968 (Wet No. 81 van 1968), maak ek George Shepstone Bartlett, Minister van Openbare Werke en Grondsake, hierby bekend dat ek, na ooreweging en goedkeuring van 'n ter sake dienende aanbeveling van die Suid-Afrikaanse Raad vir Professionele Ingenieurs, kragtens artikel 7 (3) (b) van genoemde Wet die voorsiening in die Bylae hiervan gemaak het.

Die bepalings vervat in die Bylae sal op die datum van publikasie van hierdie kennisgewing in werking tree en sal ook op alle nuwe projekte en op daardie stadia van 'n projek wat op die datum van publikasie van hierdie kennisgewing nog nie 'n aanvang geneem het nie, van toepassing wees.

BYLAE

1. In hierdie Bylae beteken "die Regulasies" die regulasies afgekondig by Goewermentskennisgewing No. R. 1113 van 11 Junie 1982 soos gewysig by Goewermentskennisgewings Nos. R. 1638 van 30 Julie 1982, R. 1497 van 8 Julie 1983, R. 2396 van 2 November 1984, R. 1737 van 22 Augustus 1986 en R. 2590 van 23 Desember 1988.

2. Regulasies 2 van die regulasies word hierby gewysig—

(a) deur regulasie 2.3.1.1 deur die volgende regulasie te vervang:

"SIVIELE EN STRUKTURELE INGENIEURSDIENSTE.

Die gelde vir die siviele en strukturele ingenieursdienste is soos volg:"

(b) deur regulasie 2.3.1.1.1 deur die volgende regulasie te vervang:

"BASIESE GELDE

Indien die koste van die werke		is die gelde die som van die primêre gelde genoem in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as— (kolom 1)	maar nie meer is nie as— (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	260 000	800	10,00
260 000	475 000	3 400	9,00
475 000	715 000	5 775	8,50
715 000	1 070 000	9 350	8,00
1 070 000	1 785 000	14 700	7,50
1 785 000	2 975 000	23 625	7,00
2 975 000	4 760 000	38 500	6,50
4 760 000	7 140 000	62 300	6,00
7 140 000	13 090 000	98 000	5,50
13 090 000	22 420 000	163 450	5,00
22 420 000	30 940 000	270 550	4,50
30 940 000	52 360 000	347 900	4,25
52 360 000	hoër	478 800	4,00";

NOTICE 480 OF 1990**DEPARTMENT OF PUBLIC WORKS AND LAND AFFAIRS**

PROFESSIONAL ENGINEERS' ACT, 1968
(ACT No. 81 OF 1968)

AMENDMENT OF TARIFF OF FEES

In terms of section 7 (6) of the Professional Engineers' Act, 1968 (Act No. 81 of 1968), I, George Shepstone Bartlett, Minister of Public Works and Land Affairs, hereby make known that, after consideration and approval of a relevant recommendation of the South African Council for Professional Engineers, I have in terms of section 7 (3) (b) of the said Act, made the provisions in the Schedule hereto.

The provisions contained in the Schedule become applicable on the date of publication of this notice and shall also apply to all new projects and to those stages of a project not yet commenced at the date of publication of this notice.

SCHEDULE

1. In this Schedule "the Regulations" means the regulations promulgated under Government Notice No. R. 1113 of 11 June 1982, as amended by Government Notices Nos. R. 1638 of 30 July 1982, R. 1497 of 8 July 1983, R. 2396 of 2 November 1984, R. 1737 of 22 August 1986 and R. 2590 of 23 December 1988.

2. Regulation 2 of the Regulations is hereby amended—

(a) by the substitution for regulation 2.3.1.1 of the following regulation:

"CIVIL AND STRUCTURAL ENGINEERING SERVICES

The fees for the civil and structural engineering services shall be calculated as follows:"

(b) by the substitution for regulation 2.3.1.1.1 of the following regulation:

"BASIC FEES

Where the costs of the works—		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds— (column 1)	but does not exceed— (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	260 000	800	10,00
260 000	475 000	3 400	9,00
475 000	715 000	5 775	8,50
715 000	1 070 000	9 350	8,00
1 070 000	1 785 000	14 700	7,50
1 785 000	2 975 000	23 625	7,00
2 975 000	4 760 000	38 500	6,50
4 760 000	7 140 000	62 300	6,00
7 140 000	13 090 000	98 000	5,50
13 090 000	22 420 000	163 450	5,00
22 420 000	30 940 000	270 550	4,50
30 940 000	52 360 000	347 900	4,25
52 360 000	hoër	478 800	4,00";

(c) deur die tabel vervat in regulasie 2.3.1.1.2 deur die volgende tabel te vervang:

"Indien die koste van die gewapendebetongedeelte van die werke tesame met die koste van die betrokke deel van die voorlopige en algemene items—		is die bykomende gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as—	maar nie meer is nie as—	Primêre gelde—	Sekondêre gelde: Bereken op die totale koste van die gewapendebetongedeelte van die werke teen die volgende persentasies
(kolom 1)	(kolom 2)	(kolom 3)	(kolom 4)
R	R	R	%
0	2 620 000	0	3,25
2 620 000	3 925 000	6 550	3,00
3 925 000	5 235 000	16 262	2,75
5 235 000	8 805 000	29 450	2,50
8 805 000	13 090 000	73 475	2,00
13 090 000	hoër	138 925	1,50";

(d) deur die tabel vervat in regulasie 2.3.1.2.1.2 deur die volgende tabel te vervang:

"Indien die spoorbaanlengte—		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
langer is as—	maar nie langer is nie as—	Primêre gelde	Tarief vir sekondêre gelde bereken op die totale spoorbaanlengte
(kolom 1)	(kolom 2)	(kolom 3)	(kolom 4)
m	m	R	R/m
0	500	350	6,88
500	1 000	1 720	4,14
1 000	2 000	2 370	3,49
2 000	3 000	3 170	3,09
3 000	5 000	4 190	2,75
5 000	10 000	5 990	2,39
10 000	20 000	9 190	2,07
20 000	50 000	15 790	1,74
50 000	hoër	34 290	1,37";

(e) deur regulasie 2.3.1.3 deur die volgende regulasie te vervang:

"MEGANIESE EN ELEKTRIESE INGENIEURSDIENSTE.

Die gelde vir die meganiese ingenieursdienste is soos volg:

Indien die koste van die werke—		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as—	maar nie meer is nie as	Primêre gelde	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies
(kolom 1)	(kolom 2)	(kolom 3)	(kolom 4)
R	R	R	%
0	260 000	850	10,00
260 000	425 000	3 450	9,00
425 000	650 000	5 575	8,50
650 000	1 080 000	8 825	8,00
1 080 000	1 725 000	14 225	7,50
1 725 000	3 020 000	22 850	7,00
3 020 000	432 000	37 950	6,50
4 320 000	6 490 000	59 550	6,00
6 490 000	15 105 000	92 000	5,50
15 105 000	hoër	167 525	5,00;

(c) by the substitution for the table contained in regulation 2.3.1.1.2 of the following table:

"Where the cost of the reinforced concrete portion of the works including the cost of the preliminary and general items—		the additional fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds—	but does not exceed—	Primary fees—	Secondary fees: Calculated on the total cost of the reinforced concrete portion of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
0	2 620 000	0	3,25
2 620 000	3 925 000	6 550	3,00
3 925 000	5 235 000	16 262	2,75
5 235 000	8 805 000	29 450	2,50
8 805 000	13 090 000	73 475	2,00
13 090 000	higher	138 925	1,50";

(d) by the substitution for the table contained in regulation 2.3.1.2.1.2 of the following table:

"Where the length of track—		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds—	but does not exceed—	Primary fees	Rate of secondary fees calculated on the total length of the track
(column 1)	(column 2)	(column 3)	(column 4)
m	m	R	R/m
0	500	350	6,88
500	1 000	1 720	4,14
1 000	2 000	2 370	3,49
2 000	3 000	3 170	3,09
3 000	5 000	4 190	2,75
5 000	10 000	5 990	2,39
10 000	20 000	9 190	2,07
20 000	50 000	15 790	1,74
50 000	higher	34 290	1,37";

(e) by the substitution for regulation 2.3.1.3 of the following regulation:

"MECHANICAL AND ELECTRICAL ENGINEERING SERVICES.

The fees for mechanical engineering services shall be calculated as follows:

Where the cost of the works—		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds—	but does not exceed—	Primary fees	Secondary fees: Calculated on the total cost of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
0	260 000	850	10,00
260 000	425 000	3 450	9,00
425 000	650 000	5 575	8,50
650 000	1 080 000	8 825	8,00
1 080 000	1 725 000	14 225	7,50
1 725 000	3 020 000	22 850	7,00
3 020 000	432 000	37 950	6,50
4 320 000	6 490 000	59 550	6,00
6 490 000	15 105 000	92 000	5,50
15 105 000	higher	167 525	5,00;

Die gelde vir die elektriese ingenieursdienste is soos volg:

"Indien die koste van die werke—		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as— (kolom 1)	maar nie meer is nie as— (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	255 000	850	10,00
255 000	415 000	850	9,00
415 000	630 000	5 475	8,50
630 000	1 050 000	8 625	8,00
1 050 000	1 685 000	13 875	7,50
1 685 000	2 945 000	22 300	7,00
2 945 000	4 210 000	37 025	6,50
4 210 000	6 325 000	58 075	6,00
6 325 000	1 472 000	89 700	5,50
1 472 000	hoër	163 300	5,00"

3. Regulasie 3 van die Regulasies word hierby gewysig deur regulasie 3.3.1.1 deur die volgende regulasie te vervang:

"STRUKTURELE EN SIVIELE INGENIEURSDIENSTE IN VERBAND MET BOU-PROJEKTE.

Ten opsigte van werke wat normale eise aan die tyd van 'n professionele ingenieur stel is die gelde soos volg:

"Indien die koste van die werke—		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as— (kolom 1)	maar nie meer is nie as— (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	260 000	850	10,00
260 000	525 000	3 450	9,00
525 000	13 100 000	8 700	8,00
1 310 000	2 620 000	15 250	7,50
2 620 000	5 235 000	28 350	7,00
5 235 000	13 090 000	54 525	6,50
13 090 000	hoër	119 975	6,00"

4. Regulasie 4 van die Regulasies word hierby gewysig—

(a) deur regulasie 4.3.1.1 deur die volgende regulasie te vervang:

"MEGANIESE EN ELEKTRIESE INGENIEURSDIENSTE

Die gelde vir die meganiese en elektriese ingenieursdienste is soos volg:";

(b) deur regulasie 4.3.1.1.1 deur die volgende regulasie te vervang:

The fees for electrical engineering services shall be calculated as follows:

"Where the cost of the works—		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds— (column 1)	but does not exceed— (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	255 000	850	10,00
255 000	415 000	3 400	9,00
415 000	1 050 000	8 625	8,00
1 050 000	1 685 000	13 875	7,50
1 685 000	2 945 000	22 300	7,00
2 945 000	4 210 000	37 025	6,50
4 210 000	6 325 000	58 075	6,00
6 325 000	14 720 000	89 700	5,50
14 720 000	higher	163 300	5,00"

3. Regulation 3 of the Regulations is hereby amended by the substitution for regulation 3.3.1.1 of the following regulation:

"STRUCTURAL AND CIVIL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS.

In respect of works making normal demands on the time of the professional engineer, the fees shall be:

"Where the cost of the works—		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds— (column 1)	but does not exceed— (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	260 000	850	10,00
260 000	525 000	3 450	9,00
525 000	13 100 000	8 700	8,00
1 310 000	2 620 000	15 250	7,50
2 620 000	5 235 000	28 350	7,00
5 235 000	13 090 000	54 525	6,50
13 090 000	higher	119 975	6,00"

4. Regulation 4 of the Regulations is hereby amended—

(a) by the substitution for regulation 4.3.1.1 of the following regulation:

"MECHANICAL AND ELECTRICAL ENGINEERING SERVICES

The fees for mechanical And electrical engineering work shall be calculated as follows:";

(b) by the substitution for regulation 4.3.1.1.1 of the following regulation:

"BASIESE GELDE — MEGANIES"

"Indien die koste van die werke —"		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as — (kolom 1)	maar nie meer is nie as — (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	130 000	650	10,00
130 000	260 000	1 950	9,00
260 000	650 000	4 550	8,00
650 000	1 300 000	7 800	7,50
1 300 000	3 020 000	14 300	7,00
3 020 000	6 490 000	29 400	6,50
6 490 000	hoër	61 850	6,00;

"BASIESE GELDE — ELEKTRIES"

Indien die koste van die werke in die hoeveelheidslyste —		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as — (kolom 1)	maar nie meer is nie as — (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	125 000	650	10,00
125 000	255 000	1 900	9,00
255 000	630 000	4 450	8,00
630 000	1 265 000	7 600	7,50
1 265 000	2 945 000	13 925	7,00
2 945 000	6 325 000	28 650	6,50
6 325 000	hoër	60 275	6,00";

(c) deur die tabel in regulasie 4.3.3.3.1 deur die volgende tabelle te vervang:

"MEGANIES"

Indien die koste van die werke in die hoeveelheidslyste —		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as — (kolom 1)	maar nie meer is nie as — (kolom 2)	Primêre gelde (kolom 3)	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies (kolom 4)
R	R	R	%
0	260 000	0	3,000
260 000	1 300 000	650	2,750
1 300 000	3 445 000	3 900	2,500
3 445 000	6 890 000	8 206	2,375
6 890 000	10 385 000	16 819	2,250
10 385 000	15 550 000	29 800	2,125
15 550 000	hoër	49 238	2,000;

"BASIC FEE — MECHANICAL"

"Where the cost of the works —"		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds — (column 1)	but does not exceed — (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	130 000	650	10,00
130 000	260 000	1 950	9,00
260 000	650 000	4 550	8,00
650 000	1 300 000	7 800	7,50
1 300 000	3 020 000	14 300	7,50
3 020 000	6 490 000	29 400	6,50
6 490 000	higher	61 850	6,00;

"BASIC FEE — ELECTRICAL"

Where the cost of the works in the schedules of quantities		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds — (column 1)	but does not exceed — (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	125 000	650	10,00
125 000	255 000	1 900	9,00
255 000	630 000	4 450	8,00
630 000	1 265 000	7 600	7,50
1 265 000	2 945 000	13 925	7,00
2 945 000	6 325 000	28 650	6,50
6 325 000	higher	60 275	6,00";

(c) by the substitution for the table contained in regulation 4.3.3.3.1 of the following tables:

"MECHANICAL"

Where the cost of the works in the schedules of quantities		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds — (column 1)	but does not exceed — (column 2)	Primary fees (column 3)	Secondary fees: Calculated on the total cost of the works at the following percentages (column 4)
R	R	R	%
0	260 000	0	3,000
260 000	1 300 000	650	2,750
1 300 000	3 445 000	3 900	2,500
3 445 000	6 890 000	8 206	2,375
6 890 000	10 385 000	16 819	2,250
10 385 000	15 550 000	29 800	2,125
15 550 000	higher	49 238	2,000;

"ELEKTRIES"

Indien die koste van die werke in die hoeveelheidslyste —		is die gelde die som van die primêre gelde gemeld in kolom 3 en die sekondêre gelde bereken ingevolge kolom 4	
meer is as —	maar nie meer is nie as —	Primêre gelde	Sekondêre gelde: Bereken op die totale koste van die werke teen die volgende persentasies
(kolom 1)	(kolom 2)	(kolom 3)	(kolom 4)
R	R	R	%
0	255 000	0	3,000
255 000	1 265 000	650	2,750
1 265 000	3 360 000	3 813	2,500
3 360 000	6 715 000	8 013	2,375
6 715 000	10 120 000	16 406	2,250
10 120 000	15 155 000	29 056	2,125
15 155 000	hoër	48 000	2,000"

(15 Junie 1990)

"ELECTRICAL"

Where the cost of the works in the schedules of quantities		the fees shall be the sum of the primary fees stated in column 3 and the secondary fees calculated in terms of column 4	
exceeds —	but does not exceed —	Primary fees	Secondary fees: Calculated on the total cost of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
0	255 000	0	3,000
255 000	1 265 000	650	2,750
1 265 000	3 360 000	3 813	2,500
3 360 000	6 715 000	8 013	2,375
6 715 000	10 120 000	16 406	2,250
10 120 000	15 155 000	29 056	2,125
15 155 000	higher	48 000	2,000"

(15 June 1990)

KENNISGEWING 483 VAN 1990**UITSLAG VAN TUSSENVERKIESING VIR DIE VOLKSRAAD.—KIESAFDELING UMLAZI**

Ooreenkomstig artikels 108 en 109 van die Kieswet, 1979 (Wet No. 45 van 1979), word die volgende besonderhede betreffende die verkiesing van 'n lid van die Volksraad vir die kiesafdeling Umlazi gehou op 6 Junie 1990 hiermee vir algemene inligting gepubliseer:

NOTICE 483 OF 1990**RESULT OF THE HOUSE OF ASSEMBLY BY-ELECTION.—ELECTORAL DIVISION OF UMLAZI**

In accordance with sections 108 and 109 of the Electoral Act, 1979 (Act No. 45 of 1979), the following particulars relating to the election of a member of the House of Assembly for the Electoral Division of Umlazi held on 6 June 1990 are hereby published for general information:

Kiesafdeling Electoral Division	(a) Naam van verkose persoon (b) Meerderheidstemme van verkose persoon (c) Datum met ingang waarvan verkies verklaar (a) Name of person elected (b) Majority of votes of person elected (c) Date with effect from which declared elected	Stemme uitgebring en politieke party verteenwoordig Votes polled for, and political party represented		Getal. verworpe- stembriewe Number of ballot papers rejected	(a) Totale getal stemme uit- gebring (b) Stempersen- tasie (a) Total number of votes polled (b) Polling percentage	Totale getal kiesers op kieserslys Number of voters on voters' list
		Kandidaat Candidate	Politieke Party Political Party			
Umlazi	(a) P. A. Matthee. (b) 547 (c) 1990-06-06	T. S. Coppen 982 F. S. Hitch- cock 5 215 P. A. Mat- thee 5 762	Demokratiese Party/ Democratic Party Konserwatiewe Party/ Conservative Party Nasionale Party/ National Party	27	(a) 11 986 (b) 59,2%	20 226

(15 Junie 1990)/(15 June 1990)

KENNISGEWING 484 VAN 1990**DEPARTEMENT VAN MANNEKRAG****WET OP ARBEIDSVERHOUDINGE, 1956****VERWYSING VIR VASSTELLING INGEVOLGE ARTIKEL 76**

Hierby word ingevolge artikel 76 (5) van die Wet op Arbeidsverhoudinge, 1956, bekendgemaak dat die Landdroshof, Durban, na aanleiding van verrigtinge in gemelde hof teen die werkgewer mnr. Logan Govender handeldrywende as The Kitchen Queen, verteenwoor-

NOTICE 484 OF 1990**DEPARTMENT OF MANPOWER****LABOUR RELATIONS ACT, 1956****REFERRAL FOR DETERMINATION IN TERMS OF SECTION 76**

It is hereby, in terms of section 76 (5) of the Labour Relations Act, 1956, notified that the Magistrate's Court, Durban, with reference to proceedings in the said court against the employer Mr Logan Govender t/a The Kitchen Queen, represented by Mr Loga

dig deur mnr. Logan Govender, Ranaweg 8, Isipingo, 4110, kragtens artikel 76 (4) gelees met artikel 76 (1) van gemelde Wet, die volgende vrae vir vasstelling na die Nywerheidshof verwys het:

“(1) Of, in die landdrostdistrik Durban, voormelde werkgewer betrokke is of was by die Meubelbedryf soos omskryf—

(a) in die registrasiesertifikaat van die Nywerheidsraad vir die Meubelbedryf, Natal; en

(b) in die Hoofooreenkoms van daardie Raad, gepubliseer by Goewermentskennisgewing No. R. 2620 van 30 November 1984, soos gewysig en verleng; en

(2) of genoemde Ooreenkoms vir voormelde werkgewer en die betrokke werknemer(s) bindend is of was.”

Belanghebbendes word hierby versoek om skriftelike vertoë in verband met die saak by die Nywerheidshof in te dien. Sodanige vertoë, in drievoud, moet binne drie weke na die datum van publikasie hiervan by die Griffier, Nywerheidshof, Privaatsak X54312, Durban, 4000, ingedien word.

J. H. KRUGER,
Griffier: Nywerheidshof.
(15 Junie 1990)

KENNISGEWING 485 VAN 1990

DEPARTEMENT VAN MANNEKRAG

WET OP ARBEIDSVERHOUDINGE, 1956

INTREKKING VAN REGISTRASIE VAN 'N VAKVERENIGING

Ek, Johannes Theodorus Crouse, Assistent-nywerheidsregistrateur, maak hierby kragtens artikel 14 (1) van die Wet op Arbeidsverhoudinge, 1956, bekend dat aangesien ek rede het om te vermoed dat die Garment Workers Industrial Union (Natal) nie as vakvereniging funksioneer nie, sy registrasie ingetrek sal word, tensy redes daarteen binne 'n tydperk van 30 dae vanaf die datum van publikasie van hierdie kennisgewing aangevoer word.

J. T. GROUSE,
Assistent-nywerheidsregistrateur.
(15 Junie 1990)

KENNISGEWING 486 VAN 1990

ADMINISTRASIE: VOLKSRAAD

DEPARTEMENT VAN LANDBOU-ONTWIKKELING

KENNISGEWING VAN VERGADERING VAN SKULDEISERS Kragtens Artikel 22 (1) VAN DIE WET OP LANDBOUKREDIET, 1966

Hierby word 'n vergadering van ondergenoemde applikant en sy skuldeisers op die plek en datum hieronder genoem, belê, met die doel om skuldeisers in staat te stel om hul vorderings teen die applikant te bewys en 'n skikkingsvoorstel van die landboukredietraad te oorweeg.

J. H. RADEMEYER,
Direkteur: Direktoraat Finansiële Bystand,
Departement van Landbou-ontwikkeling.

Govender of 8 Rana Road, Isipingo, 4110, has, in terms of section 76 (4), read with section 76 (1) of the said Act, referred the following questions to the Industrial Court for determination:

“(1) Whether, in the Magisterial District of Durban, the aforementioned employer is or was engaged in the Furniture Manufacturing Industry as defined—

(a) in the Certificate of Registration of the Industrial Council for the Furniture Manufacturing Industry, Natal; and

(b) in the Main Agreement for that Council, published under Government Notice No. R. 2620 of 30 November 1984 as amended and extended; and

(2) whether the said Agreement is or was binding on the aforementioned employer and the employee(s) concerned.”

Interested parties are hereby invited to submit written representations to the Industrial Court in regard to the matter. Such representations must be lodged with the Registrar, Industrial Court, Private Bag X54312, Durban, 4000, in triplicate, within three weeks after the date of publication hereof.

J. H. KRUGER,
Registrar: Industrial Court.
(15 June 1990)

NOTICE 485 OF 1990

DEPARTMENT OF MANPOWER

LABOUR RELATIONS ACT, 1956

CANCELLATION OF REGISTRATION OF A TRADE UNION

I, Johannes Theodorus Crouse, Assistant Industrial Registrar, hereby notify, in terms of section 14 (1) of the Labour Relations Act, 1956, that as I have reason to believe that the Garment Workers Industrial Union (Natal) is not functioning as a trade union, its registration will be cancelled unless cause to the contrary is shown within a period of 30 days from the date of publication of this notice.

J. T. CROUSE,
Assistant Industrial Registrar.
(15 June 1990)

NOTICE 486 OF 1990

ADMINISTRATION: HOUSE OF ASSEMBLY

DEPARTMENT OF AGRICULTURAL DEVELOPMENT

NOTICE OF MEETING OF CREDITORS IN TERMS OF SECTION 22 (1) OF THE AGRICULTURAL CREDIT ACT, 1966

A meeting of the undermentioned applicant and his creditors is hereby convened at the place and date mentioned hereunder for the purpose of enabling creditors to prove their claims against the applicant and of considering a proposal for a compromise by the Agricultural Credit Board.

J. H. RADEMEYER,
Director: Directorate Financial Assistance,
Department of Agricultural Development.

Aansoek van/ Application by	Plek van Byeenkoms/ Place of Meeting	Datum en Tyd/ Date and Time
Thomas Ignatius Potgieter, van die plaas/of the farm Erfpacht, Posbus/P.O. Box 119, Patensie, 6335	Kantoor van die Landdros/Magistrate's Office, Hankey	3 Augustus/August 1990 om/at 09:00.

(15 Junie 1990)/(15 June 1990)

KENNISGEWING 487 VAN 1990**DEPARTEMENT VAN HANDEL EN NYWERHEID**

Hiermee word kennis gegee dat die volgende promesse uitgereik deur die Departement van Handel en Nywerheid aan Tek Corporation (Holdings) (Pty) Limited, soos hieronder uiteengesit, verlore geraak het:

Promesse uitgereik aan Tek Corporation (Holdings) (Pty) Ltd

Promesse No.	Uitreikingsdatum	Vervaldatum	Sigwaarde (R)
3 706	89-04-07	91-04-06	308 828

Na datum van publikasie word bogenoemde promesse as gekanseleer beskou.

Indien die promesse gevind sou word, moet dit asseblief aan die Departement van Handel en Nywerheid, Privaatsak X84, Pretoria, 0001, teruggestuur word.

(15 Junie 1990)

KENNISGEWING 488 VAN 1990**REGSTELLING VAN REGISTRASIE VAN MEDISYNE**

Met verwysing na *Staatskoerant* No. 12419, Kennisgewing 279 gedateer 12 April 1990, word hierby soos volg reggestel:

Saluvite-B6 (V/22/150) op bl. 41 by die opskrif "Hoeveelheid" word reggestel deur te wees "25 mg per tablet".

(15 Junie 1990)

KENNISGEWING 489 VAN 1990**DEPARTEMENT VAN MANNEKRAG****WET OP ARBEIDSVERHOUDINGE, 1956**

Hierby word ingevolge artikel 17 (8) van die Wet op Arbeidsverhoudinge, 1956, vir algemene inligting bekendgemaak dat die President van die Nywerheidshof, behoorlik daartoe gemagtig deur die Minister van Mannekrag, Frederik Floris Johannes Brand as 'n bykomende lid van die Nywerheidshof aangestel het met die doel om sodanige funksies van die hof uit te oefen as wat die President van tyd tot tyd gelas.

(15 Junie 1990)

KENNISGEWING 490 VAN 1990**DEPARTEMENT VAN MANNEKRAG****WET OP ARBEIDSVERHOUDINGE, 1956****AANSOEK OM REGISTRASIE VAN 'N VAKVERENIGING**

Ek, Johannes Theodorus Crouse, Assistent-nywerheidsregistrator, maak ingevolge artikel 4 (2) van die Wet op Arbeidsverhoudinge, 1956, hierby bekend dat 'n aansoek om registrasie as 'n vakvereniging ontvang is

NOTICE 487 OF 1990**DEPARTMENT OF TRADE AND INDUSTRY**

Notice is hereby given that the following promissory note issued by the Department of Trade and Industry to Tek Corporation (Holdings) (Pty) Limited, as set hereunder, has been mislaid.

Promissory note issued to Tek Corporation (Holdings) (Pty) Ltd

Promissory Note No.	Date of issue	Due date	Face value (R)
3 706	89-04-07	91-04-06	308 828

The above-mentioned promissory note will after the date of publication be regarded as cancelled.

Should the promissory note be retrieved, it must please be returned to the Department of Trade and Industry, Private Bag X84, Pretoria, 0001.

(15 June 1990)

NOTICE 488 OF 1990**CORRECTION OF REGISTRATION OF MEDICINES**

With reference to *Government Gazette* No. 12419, Notice 279 dated 12 April 1990, is hereby corrected as follows:

Saluvite-B6 (V/22/150) on page 41 under the heading "Quantity" be corrected as "25 mg per tablet".

(15 June 1990)

NOTICE 489 OF 1990**DEPARTMENT OF MANPOWER****LABOUR RELATIONS ACT, 1956**

It is hereby notified for general information in terms of section 17 (8) of the Labour Relations Act, 1956, that the President of the Industrial Court, duly authorised thereto by the Minister of Manpower, has appointed Frederik Floris Johannes Brand to the Industrial Court to be an additional member for the purpose of performing such functions of the Court as the President may from time to time direct.

(15 June 1990)

NOTICE 490 OF 1990**DEPARTMENT OF MANPOWER****LABOUR RELATIONS ACT, 1956****APPLICATION FOR REGISTRATION OF A TRADE UNION**

I, Johannes Theodorus Crouse, Assistant Industrial Registrar, do hereby, in terms of section 4 (2) of the Labour Relations Act, 1956, give notice that an application for registration as a trade union has been re-

van die African Miners and Allied Workers' Union. Besonderhede van die aansoek word in onderstaande tabel verstrek.

Enige geregistreerde vakvereniging wat teen die aansoek beswaar maak, word versoek om binne een maand na die datum van publikasie van hierdie kennisgewing sy beswaar skriftelik by my in te dien, p/a die Departement van Mannekrag, Mannekraggebou 123A, Schoemanstraat 215, Pretoria (posadres: Privaatsak X117, Pretoria, 0001).

TABEL

Naam van vakvereniging: African Miners and Allied Workers' Union.

Datum waarop aansoek ingedien is: 19 Januarie 1990.

Belange en gebied ten opsigte waarvan aansoek gedoen word: Alle werkers in diens in die Mynbedryf in die landdrostdistrikte Durban, Fochville, Johannesburg, Kaapstad, Kimberley, Klerksdorp, Krugersdorp, Nigel, Oberholzer, Pretoria, Roodepoort, Swartruggens en Westonaria en die provinsie die Oranje-Vrystaat.

Vir die doeleindes hiervan beteken —

“Mynbedryf” die bedryf waarin werkgewers en hul werknemers met mekaar geassosieer is met die doel om delfstowwe te soek, te win, te ekstraheer, te prosesseer, te affineer of te raffineer; en sluit daardie ondernemings, sake, dienste en werksaamhede wat bykomstig is by of gepaard gaan met die Mynbedryf.

Posadres van applikant: Posbus 7570, Johannesburg, 2000.

Kantooradres van applikant: Derde Verdieping, Kantoor 314, Harley Chambers, Jeppestraat 187, Johannesburg.

Die aandag word gevestig op onderstaande vereistes van artikel 4 van die Wet:

(a) Die mate waarin 'n beswaarmakende vakvereniging verteenwoordigend is, word ingevolge subartikel (4) bepaal volgens die feite soos hulle bestaan het op die datum waarop die aansoek ingedien is, en wat die lidmaatskap betref, word alleen lede wat ingevolge artikel 1 (2) van die Wet op voormelde datum volwaardige lede was, in aanmerking geneem.

(b) Die prosedure voorgeskryf by subartikel (2) moet gevolg word in verband met 'n beswaar wat ingedien word.

J. T. CROUSE,
Assistent-nywerheidsregistrateur.
(15 Junie 1990)

KENNISGEWING 491 VAN 1990

DEPARTEMENT VAN VERVOER

WET OP LUGDIENSTE, 1949 (WET No. 51 VAN 1949), SOOS GEWYSIG

Hierby word ingevolge die bepalings van artikel 5 (a) en (b) van Wet No. 51 van 1949 en regulasie 5 van die Regulasies vir Burgerlugdienste, 1964, vir algemene inligting bekendgemaak dat die Nasionale Vervoer-kommissie die aansoeke waarvan besonderhede in die Bylaes hieronder verksyn, sal aanhoor.

ceived from the African Miners and Allied Workers' Union. Particulars of the application are reflected in the subjoined table.

Any registered trade union which object to the application is invited to lodge its objection in writing with me, c/o the Department of Manpower, 123A Manpower Building, 215 Schoeman Street, Pretoria (postal address: Private Bag X117, Pretoria, 0001), within one month of the date of publication of this notice.

TABLE

Name of trade union: African Miners and Allied Workers' Union.

Date on which application was lodged: 19 January 1990.

Interests and area in respect of which application is made: All workers engaged in the Mining Industry in the Magisterial Districts of Cape Town, Durban, Fochville, Johannesburg, Kimberley, Klerksdorp, Krugersdorp, Nigel, Oberholzer, Pretoria, Roodepoort, Swartruggens and Westonaria and the Province of the Orange Free State.

For the purposes hereof —

“Mining Industry” shall mean the industry in which employers and their employees are associated for the purpose of searching for, winning, extracting, processing or refining minerals; and shall mean those undertakings, enterprises, services and operations which are ancillary or incidental to the Mining Industry.

Postal address of applicant: P.O. Box 7570, Johannesburg, 2000.

Office address of applicant: Third Floor, Office 314, Harley Chambers, 187 Jeppe Street, Johannesburg.

Attention is drawn to the following requirements of section 4 of the Act:

(a) The representativeness of any trade union which objects to the application shall in terms of subsection (4) be determined on the facts as they existed at the date on which the application was lodged and, as far as membership is concerned, only members who were in good standing in terms of section 1 (2) of the Act as at the aforesaid date shall be taken into consideration.

(b) The procedure laid down in subsection (2) must be followed in connection with any objection lodged.

J. T. CROUSE,
Assistant Industrial Registrar.
(15 June 1990)

NOTICE 491 OF 1990

DEPARTMENT OF TRANSPORT

AIR SERVICES ACT, 1949 (ACT No. 51 OF 1949), AS AMENDED

Pursuant to the provisions of section 5 (a) and (b) of Act No. 51 of 1949 and regulation 5 of the Civil Air Services Regulations, 1964, it is hereby notified for general information that the applications, details of which appear in the Schedules hereto, will be heard by the National Transport Commission.

Vertoë ingevolge artikel 6 (1) van Wet No. 51 van 1949 ter ondersteuning of bestryding van 'n aansoek moet die Direkteur-generaal: Vervoer (Direktoraat Burgerlugvaart), Privaatsak X193, Pretoria, 0001, en die aansoeker binne 21 dae na die datum van publikasie hiervan bereik en daarin moet gemeld word of die persoon of persone wat aldus vertoë rig, van plan is om die verrigtings by te woon of om daar verteenwoordig te word.

Die Kommissie sal reël dat kennis van die datum, tyd en plek van die verrigtings skriftelik gegee word aan die aansoeker en al die persone wat aldus vertoë gerig het en wat verlang om aldus verteenwoordig of teenwoordig te wees.

BYLAE A

LYS VAN AANSOEKE OM DIE TOESTAAN VAN LISENSIES

(A) Naam en adres van applikant. (B) Naam waaronder die lugdiens geëksploteer gaan word. (C) Besonderhede van lugdiens. (i) Gebiede wat bedien gaan word. (ii) Roete(s) wat bedien gaan word. (iii) Basis(se). (iv) Soort verkeer wat vervoer gaan word. (v) Frekwensie en roosters waarvolgens die diens geëksploteer gaan word. (vi) Soort opleiding wat verskaf gaan word. (vii) Besonderhede en beskrywing van soort werk wat onderneem gaan word. (viii) Tariefskaal. (D) Lugvaartuie wat gebruik gaan word.

(A) Algoa Choppers (Edms.) Bpk., Posbus 257, Uitenhage, 6230. (B) Algoa Choppers (Edms.) Bpk. (C) Handelslugdiens. (vii) Geografiese opname, lugfotografie, Metro-nooddienste, onderhangende en ophyswerk, lugambulansdiens en burgerverdediging. (viii) Bell Jet Ranger III R1 150 per uur, Enstrom 280 FX R650 per uur, Hughes 300C R600 per uur, Robinson R22 R450 per uur. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA en ZS-HEN, enige Hughes 300C en Robinson R22-lugvaartuig op voorwaarde dat sodanige lugvaartuig ZS-geregistreer en C-gekatégoriseer is.

(A) Algoa Choppers (Edms.) Bpk., Posbus 257, Uitenhage, 6230. (B) Algoa Choppers (Edms.) Bpk. (C) Vliegopleidingslugdiens. (iii) Port Elizabeth. (vi) *Ab initio*-opleiding tot handelsgradering, aanpassings na soort. (viii) Bell Jet Ranger III R1 150 per uur, Enstrom 280 FX R650 per uur, Hughes 300C R600 per uur, Robinson R22 R450 per uur. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA en ZS-HEN, enige Hughes 300C en Robinson R22-lugvaartuig op voorwaarde dat sodanige lugvaartuig ZS-geregistreer en E-gekatégoriseer is.

(A) Algoa Choppers (Edms.) Bpk., Posbus 257, Uitenhage, 6230. (B) Algoa Choppers (Edms.) Bpk. (C) Nie-vasgestelde lugvervoerdiens. (i) Oos-Kaap- en Grensgebied. (iii) Port Elizabeth. (vi) Passasiers en vrag. (viii) Bell Jet Ranger III R1 150 per uur, Enstrom 280 FX R650 per uur, Hughes 300C R600 per uur, Robinson R22 R450 per uur. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA en ZS-HEN, enige Hughes 300C en Robinson R22-lugvaartuig op voorwaarde dat sodanige lugvaartuig ZS-geregistreer en A-gekatégoriseer is.

(A) F.W. Hangars BK, Posbus 1006, Rosevelt Park, 2129. (B) Foster Webb Air Charter. (C) Nie-vasgestelde lugvervoerdiens. (i) Suid-Afrika en buurstate insluitende *inter alia* Botswana, Swaziland, Mosambiek, Namibië, Zimbabwe, Zambië en Lesotho. (iii) Lanseria-lughawe. (iv) Passasiers. (viii) Beech King Air B200 R4 per km insluitende vlieënier, Cessna C414 R2,75 per km insluitende vlieënier, Beech Baron

Representations in accordance with section 6 (1) of Act No. 51 of 1949 in support of, or in opposition to, an application, should reach the Director-General: Transport (Directorate Civil Aviation), Private Bag X193, Pretoria, 0001, and the applicant within 21 days of the date of publication hereof stating whether the party or parties making such representation intend to be present or represented at the hearing.

The Commission will cause notice of the time, date and place of the hearing to be given in writing to the applicant and all parties who have made representations as aforesaid and who desire to be present or represented at the hearing.

SCHEDULE A

SCHEDULE OF APPLICATIONS FOR THE GRANT OF LICENCES

(A) Name and address of applicant. (B) Name under which the air service is to be operated. (C) Particulars of air service. (i) Area to be served. (ii) Route(s) to be served. (iii) Base(s). (iv) Types and classes of traffic to be conveyed. (v) Frequency and time tables to which the service will be operated. (vi) Types of training to be provided. (vii) Particulars and description of types of work to be undertaken. (viii) Tariff of charges. (D) Aircraft to be used.

(A) Algoa Choppers (Pty) Ltd, P.O. Box 257, Uitenhage, 6230. (B) Algoa Choppers (Pty) Ltd. (C) Aerial Work Air Service. (vii) Geographical survey, aerial photography, metro emergency, slinging and winching, aerial ambulance and civil defence. (viii) Bell Jet Ranger III R1 150 per hour, Enstrom 280 FX R650 per hour, Hughes 300C R600 per hour, Robinson R22 R450 per hour. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA and ZS-HEN, any Hughes 300C and Robinson R22-aircraft provided such aircraft is ZS-registered and categorised C.

(A) Algoa Choppers (Pty) Ltd, P.O. Box 257, Uitenhage, 6230. (B) Algoa Choppers (Pty) Ltd. (C) Flying Training Air Service. (iii) Port Elizabeth. (vi) *Ab initio* training to commercial rating, conversion to type. (viii) Bell Jet Ranger III R1 150 per hour, Enstrom 280 FX R650 per hour, Hughes 300C R600 per hour, Robinson R22 R450 per hour. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA and ZS-HEN, any Hughes 300C and Robinson R22-aircraft provided such aircraft is ZS-registered and categorised E.

(A) Algoa Choppers (Pty) Ltd, P.O. Box 257, Uitenhage, 6230. (B) Algoa Choppers (Pty) Ltd. (C) Non-scheduled Air Transport Service. (i) Eastern Cape and Border areas. (iii) Port Elizabeth. (vi) Passengers and freight. (viii) Bell Jet Ranger III R1 150 per hour, Enstrom 280 FX R650 per hour, Hughes 300C R600 per hour, Robinson R22 R450 per hour. (D) Enstrom 280 FX ZS-HWB, Bell 206B ZS-HWA and ZS-HEN, any Hughes 300C and Robinson R22-aircraft provided such aircraft is ZS-registered and categorised A.

(A) F.W. Hangars CC, P.O. Box 1006, Rosevelt Park, 2129. (B) Foster Webb Air charter. (C) Non-scheduled Air Transport Service. (i) South Africa and neighbouring countries including *inter alia* Botswana, Swaziland, Mozambique, Namibia, Zimbabwe, Zambia and Lesotho. (iii) Lanseria Airport. (iv) Passengers. (viii) Beech King Air B100 R4 per km inclusive pilot, Cessna C414 R2,75 per km inclusive pilot, Beech

BE-58 R2,20 per km insluitende vlieënier, Cessna 210N R1,70 per km insluitende vlieënier. (D) Enige King Air 100, Beech Baron 58, Cessna 210, Cessna 414 op voorwaarde dat sodanige lugvaartuig ZS-geregistreer en A-gekatégoriseer is.

(A) The University of Cape Town Flying Association, Posbus 23433, Claremont, 7735. (B) The University of Cape Town Flying Association. (C) Vliegopleidingslugdiens. (iii) D. F. Malanlughawe. (vi) *Ab initio* tot die standaard van handelsvlieënier. (viii) en (D):

Lugvaartuig	Tarief (R)	
	Enkelstuur	Dubbelstuur
Piper PA-28-151 ZS-JGP	95,00-110,00	133,00-148,00
Piper PA-28-161 ZS-LIP	140,00-165,00	180,00-212,00
Cessna 172 RG ZS-KSS	180,00-212,00	220,00-259,00
Piper PA-38-112 ZS-KKU	105,00-123,50	145,00-170,50
Piper PA-38-112 ZS-KKC	105,00-123,50	145,00-170,50
Piper PA J3C ZS-BCV	—	150,00 —

BYLAEB

LYS VAN AANSOEKE OM DIE HERNUWING VAN LISENSIES

(A) Naam en adres van applikant. (B) Naam waaronder die lugdiens geëksploteer word. (C) Soort lugdiens ten opsigte waarvan hernuwing aangevra word en die nommer en datum van bestaande lisensie. (D) Besonderhede van lisensie. (i) Gebied wat bedien gaan word. (ii) Roete(s) en frekwensie(s) wat bedien gaan word. (iii) Uitgangsbasis(se). (iv) Soort verkeer wat vervoer gaan word. (v) Soort opleiding wat verskaf gaan word. (vi) Soort werk wat onderneem gaan word. (vii) Tariefskaal. (E) Lugvaartuie wat gebruik gaan word.

(A) Avex Air Training (Edms.) Bpk., Posbus 2259, Halfweghuis, 1685. (B) Avex Air Training (Edms.) Bpk. (C) Vliegopleidingslugdienslisensie F955 gedateer 29 Oktober 1987. (D) (iii) Randlughawe en Grand Central. (v) Tot die standaard van handelsvlieënierslisensie, instrument-, instrukteur-, meermotor-, nagvlieg- en sleepgradering. (vii) en (E):

Lugvaartuig	Tarief (R/uur)	
	Enkelstuur	Dubbelstuur
Piper PA-38-112 ZS-KFD, ZS-KFU en ZS-KHP	100	140
Piper PA-28-181 ZS-KWT	137	177
Piper PA-28R-200 ZS-ICV	144	184
Piper PA-30 ZS-EVB	160	195
Piper PA-28-161 ZS-KFF	130	170
Cessna P206C ZS-HAL	50 (slegs instrukteur).	
Piper PA-28-150 ZS-MEB		

(A) Comair (Charter) (Edms.) Bpk., Posbus 2245, Johannesburg, 2000. (B) Comair Charter (Edms.) Bpk. (C) Nie-vasgestelde-lugvervoerdienslisensie N227 gedateer 27 Julie 1989. (D) (i) Afrika suid van die ewenaar. (iii) Rand- en Lanseria lughawe. (iv) Passasiers en vrag. (vii) en (E):

Lugvaartuig	Tarief (R/km)
Beech 95-B55 ZS-JPH, ZS-ING, ZS-IMO, ZS-YLP	2,00-2,40
Beech E55 ZS-JFK, ZS-EGE, ZS-KGU, ZS-IHT, ZS-JFX	2,00-2,40
Beech B55 ZS-WLO	2,00-2,40
Beech B58 ZS-IBZ, ZS-JYD, ZS-KCD, ZS-INW, ZS-KAI, ZS-TBZ, ZS-FBT, ZS-GLS, ZS-IHX, ZS-GSB, ZS-KAH	2,05-2,45
Beech B60 ZS-JFC	2,20-2,60
Beech B90 ZS-IHZ, Beech C90 ZS-LFL, ZS-KAM, ZS-KZI	3,40-3,90
Beech 90 ZS-LFN, ZS-BEN, Beech 65-A90 ZS-IRJ	3,40-3,90
Beech F90 ZS-KLZ, Beech A100 ZS-XGB	3,40-3,90
Beech 200 ZS-XGD, ZS-KCB, ZS-KGW	3,68-4,00
Piper PA-34-200T ZS-LLW, ZS-JIG, ZS-KKJ, ZS-JZZ	1,60-1,90
Piper PA-31-325 ZS-JNR	2,40-3,00

Baron BE-58 R2,20 per km inclusive pilot, Cessna 210N R1,70 per km inclusive pilot. (D) Any King Air 100, Beech Baron 58, Cessna 210, Cessna 414 provided such aircraft is ZS-registered and categorised A.

(A) The University of Cape Town Flying Association, P.O. Box 23433, Claremont, 7735. (B) The University of Cape Town Flying Association. (C) Flying Training Air Service. (iii) D. F. Malan Airport. (vi) *Ab initio* to the standard of commercial pilot. (viii) and (D):

Aircraft	Tariff (R)	
	Solo	Dual
Piper PA-28-151 ZS-JGP	95,00-110,00	133,00-148,00
Piper PA-28-161 ZS-LIP	140,00-165,00	180,00-212,00
Cessna 172 RG ZS-KSS	180,00-212,00	220,00-259,00
Piper PA-38-112 ZS-KKU	105,00-123,50	145,00-170,50
Piper PA-38-112 ZS-KKC	105,00-123,50	145,00-170,50
Piper PA J3C ZS-BCV	—	150,00 —

SCHEDULE B

SCHEDULE OF APPLICATIONS FOR RENEWAL OF LICENCES

(A) Name and address of applicant. (B) Name under which the air service is being operated. (C) Class of air service in respect of which renewal is sought and number and date of existing licence. (D) Particulars of licence. (i) Area to be served. (ii) Route(s) and frequencies to be served. (iii) Base(s). (iv) Types and classes of traffic to be conveyed. (v) Types of training to be provided. (vi) Types of work to be undertaken. (vii) Tariff of charges. (E) Aircraft to be used.

(A) Avex Air Training (Pty) Ltd, P.O. Box 2259, Halfway House, 1685. (B) Avex Air Training (Pty) Ltd. (C) Flying Training Air Service Licence F955 dated 29 October 1987. (D) (iii) Rand Airport and Grand Central. (v) Up to the standard of commercial pilot licence, instrument, instructor, multi-engine, night flying and tug rating. (vii) and (E):

Aircraft	Tariff (R/hour)	
	Solo	Dual
Piper PA-38-112 ZS-KFD, ZS-KFU and ZS-KHP	100	140
Piper PA-28-181 ZS-KWT	137	177
Piper PA-28R-200 ZS-ICV	144	184
Piper PA-30 ZS-EVB	160	195
Piper PA-28-161 ZS-KFF	130	170
Cessna P206C ZS-HAL	50 (instructor only).	
Piper PA-28-150 ZS-MEB		

(A) Comair (Charter) (Pty) Ltd, P.O. Box 2245, Johannesburg, 2000. (B) Comair Charter (Pty) Ltd. (C) Non-scheduled Air Transport Service Licence N227 dated 27 July 1989. (D) (i) Africa south of the equator. (iii) Rand and Lanseria Airport. (iv) Passengers and freight. (vii) and (E):

Aircraft	Tariff (R/km)
Beech 95-B55 ZS-JPH, ZS-ING, ZS-IMO, ZS-YLP	2,00-2,40
Beech E55 ZS-JFK, ZS-EGE, ZS-KGU, ZS-IHT, ZS-JFX	2,00-2,40
Beech B55 ZS-WLO	2,00-2,40
Beech B58 ZS-IBZ, ZS-JYD, ZS-INW, ZS-KCD, ZS-KAI, ZS-TBZ, ZS-FBT, ZS-GLS, ZS-IHX, ZS-GSB, ZS-KAH	2,05-2,45
Beech B60 ZS-JFC	2,20-2,60
Beech B90 ZS-IHZ, Beech C90 ZS-LFL, ZS-KAM, ZS-KZI	3,40-3,90
Beech 90 ZS-LFN, ZS-BEN, Beech 65-A90 ZS-IRJ	3,40-3,90
Beech F90 ZS-KLZ, Beech A100 ZS-XGB	3,40-3,90
Beech 200 ZS-XGD, ZS-KCB, ZS-KGW	3,68-4,00
Piper PA-34-200T ZS-LLW, ZS-JIG, ZS-KKJ, ZS-JZZ	1,60-1,90
Piper PA-31-325 ZS-JNR	2,40-3,00

Lugvaartuig	Tarief (R/km)
Cessna 340 ZS-JON.....	2,60-3,10
Cessna 402B ZS-JOI, ZS-JNB, ZS-IYF, ZS-JNK, ZS-ALV.....	2,60-3,10
Cessna 402C ZS-LMU, ZS-KNW.....	2,60-3,10
Cessna 421D ZS-BJD.....	2,40-3,00
Cessna 414A ZS-KXW.....	2,30-2,95
Cessna 425 ZS-LDR, ZS-KXB.....	3,10-3,50
Cessna 550 ZS-LHU, ZS-LEE, ZS-MBX.....	4,00-4,50
Cessna 500 ZS-RCC.....	4,10-4,60
Cessna 501 3D-ADH.....	4,10-4,60
Cessna 210M ZS-KER, Cessna T210M ZS-KVC.....	1,45-1,65
Cessna 210N ZS-KRA, ZS-LBM, ZS-LMK.....	1,45-1,65
Cessna 210L ZS-IYB, ZS-ONY.....	1,45-1,65
Gates Learjet 3D-ADC.....	4,40-5,00

(A) Metro-D (Edms.) Bpk., Posbus 1032, Nelspruit, 1200. (B) Metavia Airlines Charter. (C) Nie-vasgestelde-lugvervoerdienlisensie N220 gedateer 30 Julie 1987. (C) (i) Republiek van Suid-Afrika en Mosambiek. (iii) Nelspruit en Komatipoort. (vii) en (E):

Lugvaartuig	Tarief (R/km)
Piper PA-32-300 ZS-CJR, ZS-FYL.....	1,70-1,90
Cessna 310Q ZS-RAH.....	1,70-1,90
Beech 95-B55 ZS-IBD.....	1,70-1,90
Piper PA-23-250 ZS-SWD, ZS-IPO.....	1,70-1,90
Cessna 402B ZS-JCG, ZS-ILB.....	2,20-2,50
Piper PA-31-350 ZS-MHE.....	
Piper PA-34-200T ZS-JUH.....	1,85
Cessna 401B ZS-JGW.....	2,25
Aero Commander 840.....	3,00

Twee lugvaartuie met maksimum sitplek vir tot en met 50 passasiers of 'n maksimum vragkapasiteit van tot en met 5 000 kg—Hierdie lugvaartuie mag nie gebruik word op enige roete wat deur 'n ander lugvervoerder geëksploteer word nie sonder die voorafverkryging van goedkeuring.

Een lugvaartuig met maksimum sitplek vir tot en met nege passasiers.....

1,90-2,40

(A) Theron Airways (Edms.) Bpk., Posbus 50860, Randburg, 2125. (B) Theron Airways. (C) Vasgestelde-lugvervoerdienlisensie S905 gedateer 26 Maart 1987. (ii) Lanseria—Wonderboom—Ellisras en retoer: Sewe retoervlугte per week, Maandae tot Sondag uitgebrei na Messina, Louis Trichardt en Pietersburg, Maandae tot Vrydae met die byvoeging van Thabazimbi, Alldays en Tshipise as versoekstoppe. Lanseria—Wonderboom—Thohoyandou vyf retoervlугte per week. (iii) Lanserialughawe. (iv) Passasiers en vrag. (vii):

Sektor	Enkel (R)	Dubbel (R)
Lanseria na:		
Wonderboom.....	66	132
Thabazimbi.....	66	132
Ellisras.....	90	180
Alldays.....	140	280
Messina.....	160	320
Tshipise.....	175	350
Louis Trichardt.....	190	380
Wonderboom—Thohoyandou.....	220	440
Wonderboom na:		
Lanseria.....	66	132
Thabazimbi.....	66	132
Ellisras.....	90	180
Alldays.....	140	280
Messina.....	160	320
Tshipise.....	175	350
Louis Trichardt.....	190	380
Thabazimbi na:		
Lanseria.....	66	132
Wonderboom.....	66	132
Ellisras.....	66	132
Alldays.....	135	270
Messina.....	160	320
Tshipise.....	170	340
Louis Trichardt.....	180	360

Aircraft	Tariff (R/km)
Cessna 340 ZS-JON.....	2,60-3,10
Cessna 402B ZS-JOI, ZS-JNB, ZS-IYF, ZS-JNK, ZS-ALV.....	2,60-3,10
Cessna 402C ZS-LMU, ZS-KNW.....	2,60-3,10
Cessna 421D ZS-BJD.....	2,40-3,00
Cessna 414A ZS-KXW.....	2,30-2,95
Cessna 425 ZS-LDR, ZS-KXB.....	3,10-3,50
Cessna 550 ZS-LHU, ZS-LEE, ZS-MBX.....	4,00-4,50
Cessna 500 ZS-RCC.....	4,10-4,60
Cessna 501 3D-ADH.....	4,10-4,60
Cessna 210M ZS-KER, Cessna T210M ZS-KVC.....	1,45-1,65
Cessna 210N ZS-KRA, ZS-LBM, ZS-LMK.....	1,45-1,65
Cessna 210L ZS-IYB, ZS-ONY.....	1,45-1,65
Gates Learjet 3D-ADC.....	4,40-5,00

(A) Metro-D (Pty) Ltd, P.O. Box 1032, Nelspruit, 1200. (B) Metavia Airlines Charter. (C) Non-scheduled Air Transport Service Licence N220 dated 30 July 1987. (C) (i) Republic of South Africa and Mozambique. (iii) Nelspruit and Komatipoort. (vii) and (E):

Aircraft	Tariff (R/km)
Piper PA-32-300 ZS-CJR, ZS-FYL.....	1,70-1,90
Cessna 310Q ZS-RAH.....	1,70-1,90
Beech 95-B55 ZS-IBD.....	1,70-1,90
Piper PA-23-250 ZS-SWD, ZS-IPO.....	1,70-1,90
Cessna 402B ZS-JCG, ZS-ILB.....	2,20-2,50
Piper PA-31-350 ZS-MHE.....	
Piper PA-34-200T ZS-JUH.....	1,85
Cessna 401B ZS-JGW.....	2,25
Aero Commander 840.....	3,00

Two aircraft with a maximum seating capacity of up to 50 passengers or a maximum cargo capacity of up to 5 000 kg—These aircraft are not to be used on any route operated by another carrier without obtaining their prior permission.

One aircraft with a maximum seating capacity of up to nine passengers.....

1,90-2,40

(A) Theron Airways (Pty) Ltd, P.O. Box 50860, Randburg, 2125. (B) Theron Airways. (C) Scheduled Air Transport Service Licence S905 dated 26 March 1987. (ii) Lanseria—Wonderboom—Ellisras and return: Seven return flights per week, Mondays to Sundays extended to Messina, Louis Trichardt and Pietersburg, Mondays to Fridays with the addition of Thabazimbi, Alldays and Tshipise as request stops. Lanseria—Wonderboom—Thohoyandou five return flights per week. (iii) Lanseria Airport. (iv) Passengers and freight. (vii):

Sektor	Single (R)	Return (R)
Lanseria to:		
Wonderboom.....	66	132
Thabazimbi.....	66	132
Ellisras.....	90	180
Alldays.....	140	280
Messina.....	160	320
Tshipise.....	175	350
Louis Trichardt.....	190	380
Wonderboom—Thohoyandou.....	220	440
Wonderboom to:		
Lanseria.....	66	132
Thabazimbi.....	66	132
Ellisras.....	90	180
Alldays.....	140	280
Messina.....	160	320
Tshipise.....	175	350
Louis Trichardt.....	190	380
Thabazimbi to:		
Lanseria.....	66	132
Wonderboom.....	66	132
Ellisras.....	66	132
Alldays.....	135	270
Messina.....	160	320
Tshipise.....	170	340
Louis Trichardt.....	180	360

Sektor	Enkel (R)	Dubbel (R)
<i>Ellisras na:</i>		
Lanseria	90	180
Wonderboom.....	90	180
Thabazimbi	66	132
Alldays.....	75	150
Messina	110	220
Tshipise	155	310
Louis Trichardt	165	330
<i>Alldays na:</i>		
Lanseria	140	280
Wonderboom.....	140	280
Thabazimbi	135	270
Ellisras	75	150
Messina	80	160
Tshipise	90	180
Louis Trichardt	105	210
<i>Messina na:</i>		
Lanseria	160	320
Wonderboom.....	160	320
Thabazimbi	160	320
Ellisras	110	220
Alldays.....	80	160
Tshipise	40	80
Louis Trichardt	55	110
<i>Tshipise na:</i>		
Lanseria	175	350
Wonderboom.....	175	350
Thabazimbi	170	340
Ellisras	155	310
Alldays.....	90	180
Messina	40	80
Louis Trichardt	50	100

(E) Piper PA-31-350 ZS-JHN, Beech 36 ZS-FRP, Cessna T210L ZS-AVB, Learjet 23 N418LJ, Cessna 210 N732ZR, Cessna 310Q ZS-BRO, Cessna T310Q ZS-TAR, Piper PA-31-325 ZS-JNR, Cessna 402B ZS-LOX, Cessna 402C ZS-LKH, Cessna 421C ZS-JRR, Cessna 421B ZS-KMB en ZS-BJD, Beech 58 ZS-JPF, Beech 95-B55 ZS-YLP en ZS-KKZ, Beech 200 7QYTC, Beech C90 ZS-LFL, Cessna 210N ZS-KRA en ZS-LMK, Cessna T210N ZS-KUP, Piper PA-34-200T ZS-KKJ en ZS-KBX, Cessna 210L ZS-LTV, ZS-IYB en ZS-IVN, Cessna 210K ZS-IAP, Cessna 210M ZS-KER en Cessna 404 ZS-LUI, Beech 58 ZS-INW, ZS-KAI, ZS-HMG, ZS-BSP, ZS-GOS, ZS-OMR en ZS-JHX, Cessna 402B ZS-IYF en ZS-JNK, Cessna 425 ZS-KXL, ZS-KST en ZS-KVX, Beech 200 ZS-LKA, ZS-JPD, ZS-LFW en ZS-XGD, Beech C90 ZS-MCA en ZS-LFL, Cessna 421C ZS-KOR, Cessna 404 ZS-KVH, Cessna 402C ZS-KNW, Cessna 414A ZS-KRD, Cessna 210N ZS-LBM, Cessna 441 ZS-KPB, Cessna 310Q ZS-IDZ, Beech E55 ZS-EGE, Beech 95-B55 ZS-FRT, Beech B90 ZS-BEN, Beech A100 ZS-XGB, Beech 65-A90 ZS-IRJ, Piper PA-42 ZS-LCA, Piper PA-31-350 ZS-JHN en Beech F90 ZS-KLZ.

BYLAED

LYS VAN AANSOEKE OM DIE VERANDERING OF WYSIGING VAN LISENSIES

(A) Naam en adres van applikant. (B) Naam waaronder die lugdiens geëksploiteer word. (C) Besonderhede betreffende die lisensie en die verandering of wysiging daarvan of die voorwaardes daarvan ten opsigte waarvan aansoek gedoen is.

Sektor	Single (R)	Return (R)
<i>Ellisras to:</i>		
Lanseria	90	180
Wonderboom.....	90	180
Thabazimbi	66	132
Alldays.....	75	150
Messina	110	220
Tshipise	155	310
Louis Trichardt	165	330
<i>Lanseria to:</i>		
<i>Alldays to:</i>		
Lanseria	140	280
Wonderboom.....	140	280
Thabazimbi	135	270
Ellisras	75	150
Messina	80	160
Tshipise	90	180
Louis Trichardt	105	210
<i>Messina to:</i>		
Lanseria	160	320
Wonderboom.....	160	320
Thabazimbi	160	320
Ellisras	110	220
Alldays.....	80	160
Tshipise	40	80
Louis Trichardt	55	110
<i>Tshipise to:</i>		
Lanseria	175	350
Wonderboom.....	175	350
Thabazimbi	170	340
Ellisras	155	310
Alldays.....	90	180
Messina	40	80
Louis Trichardt	50	100

(E) Piper PA-31-350 ZS-JHN, Beech 36 ZS-FRP, Cessna T210L ZS-AVB, Learjet 23 N418LJ, Cessna 210 N732ZR, Cessna 310Q ZS-BRO, Cessna T310Q ZS-TAR, Piper PA-31-325 ZS-JNR, Cessna 402B ZS-LOX, Cessna 402C ZS-LKH, Cessna 421C ZS-JRR, Cessna 421B ZS-KMB and ZS-BJD, Beech 58 ZS-JPF, Beech 95-B55 ZS-YLP and ZS-KKZ, Beech 200 7QYTC, Beech C90 ZS-LFL, Cessna 210N ZS-KRA and ZS-LMK, Cessna T210N ZS-KUP, Piper PA-34-200T ZS-KKJ and ZS-KBX, Cessna 210L ZS-LTV, ZS-IYB and ZS-IVN, Cessna 210K ZS-IAP, Cessna 210M ZS-KER and Cessna 404 ZS-LUI, Beech 58 ZS-INW, ZS-KAI, ZS-HMG, ZS-BSP, ZS-GOS, ZS-OMR and ZS-JHX, Cessna 402B ZS-IYF and ZS-JNK, Cessna 425 ZS-KXL, ZS-KST and ZS-KVX, Beech 200 ZS-LKA, ZS-JPD, ZS-LFW and ZS-XGD, Beech C90 ZS-MCA and ZS-LFL, Cessna 421C ZS-KOR, Cessna 404 ZS-KVH, Cessna 402C ZS-KNW, Cessna 414A ZS-KRD, Cessna 210N ZS-LBM, Cessna 441 ZS-KPB, Cessna 310Q ZS-IDZ, Beech E55 ZS-EGE, Beech 95-B55 ZS-FRT, Beech B90 ZS-BEN, Beech A100 ZS-XGB, Beech 65-A90 ZS-IRJ, Piper PA-42 ZS-LCA, Piper PA-31-350 ZS-JHN and Beech F90 ZS-KLZ.

SCHEDULE D

LIST OF APPLICATIONS FOR THE ALTERATION, MODIFICATION OR AMENDMENT TO LICENCES

(A) Name and address of applicant. (B) Name under which the air service is operated. (C) Particulars of the licence and of the alteration, modification or amendment thereto or the conditions thereof which has been applied for.

(A) Border Aircraft Finance Co. (Edms.) Bpk., Pk. Jan Smutslughawe, 1627. (B) Border Aircraft Finance Co. (Edms.) Bpk. (C) Vasgestelde-lugvervoerdien-lisensie S899. Onder "Tariefskaal" skrap huidige vir die volgende roete en voeg by:

"Roete"	Tarief (R)	
	Enkel	Retoer
Oos-Londen na:		
Umtata.....	132	264."

(A) Border Aircraft Finance Co. (Edms.) Bpk., Pk. Jan Smutslughawe, 1627. (B) Border Aircraft Finance Co. (Edms.) Bpk. (C) Vasgestelde-lugvervoerdien-lisensie S899. Onder "Tariefskaal" skrap huidige vir die volgende roete en voeg by:

"Roete"	Tarief (R)	
	Enkel	Retoer
Oos-Londen/Port Elizabeth.....	121	242

Normale vrag: R20 minimum vir die eerste 5 kg. R2,50 per kg daarna.

Lewendehawe: Bybetaling van 50%. Minimum van R40 + R3,75 per kg.

Spoevrag: R30 per besending (alleenlik dokumente—geen kommersiële waarde).

Oorgewigbagasie: R5 per kg."

(A) Citi Air (Edms.) Bpk., Pk. Jan Smutslughawe, 1627. (B) Magnum Airlines Bpk. (C) Vasgestelde-lugvervoerdien-lisensie S266. Onder "Tariefskaal" skrap huidige vir die volgende roetes en voeg by:

"Roete"	Tarief (R)	
	Enkel	Retoer
Durban/Richardsbaai.....	120	240
Durban/Bloemfontein.....	235	470"

(A) Citi Air (Edms.) Bpk., Pk. Jan Smutslughawe, 1627. (B) Magnum Airlines. (C) Vasgestelde-lugvervoerdien-lisensie S266. Onder "Tariefskaal" skrap huidige vir die volgende roete en voeg by: "Durban/Bloemfontein; R215 enkel en R430 retoer. *Normale vrag:* R20 minimum vir die eerste 5 kg, R2,50 per kg daarna. *Lewendehawe:* Bybetaling van 50%, minimum van R40 + R3,75 per kg. *Spoevrag:* R30 per besending (dokumente alleenlik—geen kommersiële waarde). *Oorgewigbagasie:* R5 per kg".

(A) S. J. R. Kennard-Davis, Privaatsak X43, Port Alfred, 6170. (B) 43 Air School. (C) Vliegopleidings-lugdiens-lisensie F354. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by: "Piper PA-28-140 ZS-FEK R180-R200 per uur".

(A) S. J. R. Kennard-Davis, Privaatsak X43, Port Alfred, 6170. (B) 43 Air School. (C) Nie-vasgestelde-lugvervoerdien-lisensie N355. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by: "Piper PA-28-180 ZS-ISU R1,00-R1,50 per km".

(A) S. J. R. Kennard-Davis, Privaatsak X43, Port Alfred, 6170. (B) 43 Air School. (C) Vliegopleidings-lugdiens-lisensie F354. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by: "Piper PA-28-180 ZS-ISU R180-R200 per uur".

(A) S. J. R. Kennard-Davis, Privaatsak X43, Port Alfred, 6170. (B) 43 Air School. (C) Vliegopleidings-lugdiens-lisensie F354. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by: "Piper PA-28-140 ZS-IEO, R180-R200 per uur".

(A) Lanet (Edms.) Bpk., Posbus 2753, Rivonia, 2128. (B) Lanet (Edms.) Bpk. (C) Nie-vasgestelde-lugvervoerdien-lisensie N312. Onder "Naam waar- onder die lugdiens geëksploteer word" skrap huidige en voeg by: "Execujet".

(A) Border Aircraft Finance Co. (Pty) Ltd, P.O. Jan Smuts Airport, 1627. (B) Border Aircraft Finance Co. (Pty) Ltd. (C) Scheduled Air Transport Service Licence S899. Under "Tariff of charges" delete existing for the following route and add:

"Route"	Tariff (R)	
	Single	Return
East London to:		
Umtata.....	132	264."

(A) Border Aircraft Finance Co. (Pty) Ltd, P.O. Jan Smuts Airport, 1627. (B) Border Aircraft Finance Co. (Pty) Ltd. (C) Scheduled Air Transport Service Licence S899. Under "Tariff of charges" delete existing for the following route and add:

"Route"	Tariff (R)	
	Single	Return
East London/Port Elizabeth.....	121	242

Normal cargo: R20 minimum for the first 5 kgs. R2,50 per kg thereafter.

Livestock: Surcharge of 50%. Minimum of R40 + R3,75 per kg.

Express cargo: R30 per consignment (documents only—no commercial value).

Excess baggage: R5 per kg."

(A) Citi Air (Pty) Ltd, P.O. Jan Smuts Airport, 1627. (B) Magnum Airlines. (C) Scheduled Air Transport Service Licence S266. Under "Tariff of charges" delete existing for the following routes and add:

"Route"	Tariff (R)	
	Single	Return
Durban/Richards Bay.....	120	240
Durban/Bloemfontein.....	235	470"

(A) Citi Air (Pty) Ltd, P.O. Jan Smuts Airport, 1627. (B) Magnum Airlines. (C) Scheduled Air Transport Service Licence S266. Under "Tariff of charges" delete existing for the following route and add: "Durban/Bloemfontein; R215 single and R430 return. *Normal cargo:* R20 minimum for the first 5 kg, R2,50 per kg thereafter. *Livestock:* Surcharge of 50%, minimum of R40 + R3,75 per kg. *Express cargo:* R30 per consignment (documents only—no commercial value). *Excess baggage:* R5 per kg".

(A) S. J. R. Kennard-Davis, Private Bag X43, Port Alfred, 6170. (B) 43 Air School. (C) Flying Training Air Service F354. Under "Aircraft to be used" en "Tariff of charges" add: "Piper PA-28-140 ZS-FEK R180-R200 per hour".

(A) S. J. R. Kennard-Davis, Private Bag X43, Port Alfred, 6170. (B) 43 Air School. (C) Non-scheduled Air Transport Service Licence N355. Under "Aircraft to be used" and "Tariff of charges" add: "Piper PA-28-180 ZS-ISU R1,00-R1,50 per km".

(A) S. J. R. Kennard-Davis, Private Bag X43, Port Alfred, 6170. (B) 43 Air School. (C) Flying Training Air Service Licence F354. Under "Aircraft to be used" and "Tariff of charges" add: "Piper PA-28-180 ZS-ISU R180-R200 per hour".

(A) S. J. R. Kennard-Davis, Private Bag X43, Port Alfred, 6170. (B) 43 Air School. (C) Flying Training Air Service Licence F354. Under "Aircraft to be used and "Tariff of charges" add: "Piper PA-28-140 ZS-IEO, R180-R200 per hour".

(A) Lanet (Pty) Ltd, P.O. Box 2753, Rivonia, 2128. (B) Lanet (Pty) Ltd. (C) Non-scheduled Air Transport Service Licence N312. Under "Name under which the air service is operated" delete existing and add: "Execujet".

(A) Magnum Airlines Bpk., Pk. Jan Smuts lughawe, 1627. (B) Magnum Airlines Bpk. (C) Vasgestelde-lugvervoerdienslisensie S750. Onder "Tariefskaal" skrap huidige vir die volgende roete en voeg by: "Newcastle/Ladysmith — R65 enkel en R100 retoer".

(A) Magnum Airlines Bpk., Pk. Jan Smuts lughawe, 1627. (B) Magnum Airlines Bpk. (C) Vasgestelde-lugvervoerdienslisensie S750. Onder "Tariefskaal" skrap huidige vir die volgende roetes en voeg by:

"Roete"	Tarief (R)	
	Enkel	Retoer
Johannesburg/Nelspruit.....	180	360
Johannesburg/Pietersburg.....	180	360
Johannesburg/Welkom.....	150	300
Johannesburg/Bloemfontein.....	179	358
Bloemfontein/Welkom.....	72	144

Normale vrug: R20 minimum vir die eerste 5 kg. R2,50 per kg daarna.

Lewendehawe: Bybetaling van 50%. Minimum van R40 + R3,75 per kg.

Spoedvrug: R30 per besending (dokumente alleenlik — geen kommersiële waarde).

Oorgewigbagasie: R5,00 per kg".

(A) Metavia Airlines (Edms.) Bpk., Posbus 1032, Nelspruit, 1200. (B) Metavia Airlines. (C) Vasgestelde-lugvervoerdienslisensie S209. Onder "Lugvaartuie wat gebruik gaan word" voeg by: "Piper PA-34-200T ZS-MRV".

(A) Metro-D (Edms.) Bpk., Posbus 1032, Nelspruit, 1200. (B) Metavia Airlines Charter. (C) Nie-vasgestelde-lugvervoerdienslisensie N220. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by: "Piper PA-34-200T ZS-MRV, R2,00–R2,50 per km".

(A) National Airways and Finance Corporation (Edms.) Bpk., Posbus 18016, Randlughawe, 1419. (B) National Airways Corporation (E.C.). (C) Nie-vasgestelde-lugvervoerdienslisensie N657. Onder "Lugvaartuie wat gebruik gaan word" en "Tariefskaal" voeg by:

"Soort lugvaartuig"	Tarief (clkm)
Cessna 401, 402-reeks.....	240–280
Piper PA-31-reeks.....	240–280
Beech King Air-reeks.....	330–390
Piper PA-23-reeks.....	230–260

Enige van bogenoemde soort lugvaartuie op voorwaarde dat die lugvaartuig ZS-geregistreer en A-gekatégoriseer is".

(A) J. H. Rautenbach and Sons (Edms.) Bpk., Posbus 20022, Durban-Noord, 4016. (B) J. H. Rautenbach and Sons (Edms) Bpk., (C) Handelslugdienslisensie W204. Onder "Lugvaartuie wat gebruik gaan word" skrap: "Piper PA-36-285 ZS-KWG en Marsh S-2T N4904" en voeg by: "Ayres S-2R-331 ZS-LTM".

(A) Safair Freighters (Edms.) Bpk., Posbus 938, Kempton Park, 1620. (B) Safair Freighters (Edms.) Bpk. (C) Nie-vasgestelde-lugvervoerdKmp-ton Park, 1620. (B) Safair Freighters (Edms.) inslisensie N525. Onder "Tariefskaal" skrap huidige en voeg by: "R8 700 tot R10 100 per blokuur vir 'n Lockheed L382G-lugvaartuig, en R15 500 tot R20 900 per blokuur vir 'n Boeing 707-lugvaartuig, ahangende van die roete wat gevlieg word, verskaffing van fasiliteite en soos van tyd tot tyd kontraktueel ooreengekom. Algemene vrug van die Republiek van Suid-Afrika na die Comore en retoer R8 700 tot R10 100 per blokuur".

(15 Junie 1990)

(A) Magnum Airlines Ltd, P.O. Jan Smuts Airport, 1627. (B) Magnum Airlines Ltd. (C) Scheduled Air Transport Service Licence S750. Under "Tariff of charges" delete existing for the following route and add: "Newcastle/Ladysmith — R65 single and R100 return".

(A) Magnum Airlines Ltd, P.O. Jan Smuts Airport, 1627. (B) Magnum Airlines Ltd. (C) Scheduled Air Transport Service Licence S750. Under "Tariff of charges" delete existing for the following routes and add:

"Route"	Tariff (R)	
	Single	Return
Johannesburg/Nelspruit.....	180	360
Johannesburg/Pietersburg.....	180	360
Johannesburg/Welkom.....	150	300
Johannesburg/Bloemfontein.....	179	358
Bloemfontein/Welkom.....	72	144

Normal cargo: R20 minimum for the first 5 kg. R2,50 per kg thereafter.

Livestock: Surcharge of 50%. Minimum of R40 + R3,75 per kg.

Express cargo: R30 per consignment (documents only — no commercial value).

Excess baggage: R5 per kg".

(A) Metavia Airlines (Pty) Ltd, P.O. Box 1032, Nelspruit, 1200. (B) Metavia Airlines. (C) Scheduled Air Transport Service Licence S209. Under "Aircraft to be used" add: "Piper PA-34-200T ZS-MRV".

(A) Metro-D (Pty) Ltd, P.O. Box 1032, Nelspruit, 1200. (B) Metavia Airlines Charter. (C) Non-scheduled Air Transport Service Licence N220. Under "Aircraft to be used" and "Tariff of charges" add: "Piper PA-34-200T ZS-MRV, R2,00–R2,50 per km".

(A) National Airways and Finance Corporation (Pty) Ltd, P.O. Box 18016, Rand Airport, 1419. (B) National Airways Corporation (E.C.). (C) Non-scheduled Air Transport Service Licence N657. Under "Aircraft to be used" and "Tariff of charges" add:

"Aircraft Type"	Tariff (clkm)
Cessna 401, 402 series.....	240–280
Piper PA-31 series.....	240–280
Beech King Air series.....	330–390
Piper PA-23 series.....	230–260

Any of the above-mentioned types of aircraft provided such aircraft is ZS-registered and categorised A".

(A) J. H. Rautenbach and Sons (Pty) Ltd, P.O. Box 20022, Durban North, 4016. (B) J. H. Rautenbach and Sons (Pty) Ltd., (C) Aerial Work Air Service Licence W204. Under "Aircraft to be used" delete: "Piper PA-36-285 ZS-KWG and Marsh S-2T N4904" and add: "Ayres S-2R-331 ZS-LTM".

(A) Safair Freighters (Pty) Ltd, P.O. Box 938, Kempton Park, 1620. (B) Safair Freighters (Pty) Ltd. (C) Non-scheduled Air Transport Service Licence N525. Under "Tariff of charges" delete existing and add: "R8 700 to R10 100 per block hour for a Lockheed L382G aircraft, and R15 500 to R20 900 per block hour for Boeing 707 aircraft, depending on the route flown, facilities provided and as contractually agreed upon from time to time. General freight from the Republic of South Africa to the Comores and return R8 700 to R10 100 per block hour".

(15 June 1990)

DIE STAATSDRUKKER

AMPTELIKE PUBLIKASIES ONTVANG
GEDURENDE APRIL 1990(Alle binnelandse pryse is onderhewig aan 13% algemene
verkoopbelasting)

RP-VERSLAE

- RP 88/1989**—Registrateur van Effektetrustmaatskappyeverslag vir die jaar geëindig 31 Desember 1988. ISBN 0-621-12906-2. Plaaslik **R4,50**; buitelandse **R5,60**.
- RP 91/1989**—Verslag van die Direkteur-generaal: Waterwese vir die tydperk 1 April 1988 tot 31 Maart 1989. ISBN 0-621-12918-6. Plaaslik **R58,00**; buitelandse **R72,50**.
- RP 93/1989**—Provinsiale Administrasie van die Kaap die Goeie Hoop: Verslag vir die tydperk 1 April 1988 tot 31 Maart 1989. ISBN 0-621-12573-3. Plaaslik **R22,00**; buitelandse **R27,50**.
- RP 34/1990**—Verslag van die Departement van Mineraal- en Energiesake insluitende Verslae van die Staatsmyningengineur, die Geologiese Opname en die Mineraleburo vir die jaar geëindig 31 Desember 1989. ISBN 0-621-12948-8. Plaaslik **R28,70**; buitelandse **R35,90**.
- RP 38/1990**—Vyfde Verslag van die Openbare Beleggingskommissaris vir die boekjaar geëindig 31 Maart 1989. ISBN 0-621-12959-3. Plaaslik **R13,00**; buitelandse **R16,25**.
- RP 47/1990**—Verslag: Direktoraat Justisie 1 Julie 1988–30 Junie 1989. ISBN 0-621-12983-6. Plaaslik **R18,25**; buitelandse **R22,80**.
- RP 49/1990**—Raad vir die Omgewing: Jaarverslag, 1989: Sesde Verslag: 1 Oktober 1988 tot 30 September 1989. ISBN 0-621-12987-9. Plaaslik **R15,60**; buitelandse **R19,50**.
- RP 50/1990**—Departement van Onderwys en Opleiding: Jaarverslag, 1989. ISBN 0-621-12988-7. Plaaslik **R26,40**; buitelandse **R33,00**.
- RP 56/1990**—Verslag van die Raad van Suid-Afrikaanse Vervoerdienste vir die jaar geëindig 31 Desember 1989. ISBN 0-621-12586-5. Plaaslik **R24,10**; buitelandse **R30,15**.
- RP 63/1990**—Departement van Binnelandse Sake: Jaarverslag, 1989. ISBN 0-621-12006-0. Plaaslik **R5,20**; buitelandse **R6,50**.
- RP 69/1990**—Jaarverslag van die Kommissaris van die Suid-Afrikaanse Polisie, 1989. ISBN 0-621-13014-1. Plaaslik **R4,00**; buitelandse **R4,95**.

STATISTIESE VERSLAE

- Verslag No. 03-09-01 (1988)—Sterfgevälle: Blankes, Kleurlinge en Asiërs, 1988. ISBN 0-621-12945-3. Plaaslik **R6,00**; buitelandse **R7,50**.
- Verslag No. 71-11-01 (1988)—Geregistreeerde voertuie soos op 30 Junie 1988. ISBN 0-621-12915-1. Plaaslik **R6,00**; buitelandse **R7,50**.

DIVERSE PUBLIKASIES

- WPD—'90**: Memorandum deur die Minister van Beplanning en Provinsiale Sake waarin besonderhede uiteengesit word van die Boudienste en Padkonstruksie vir 1990–91 ten opsigte van die Rekening vir Provinsiale Dienste: Oranje-Vrystaat. ISBN 0-621-12967-4.
- W.P.E.—1990**: Witskrif oor die Organisasie en Werksaamhede van die Suid-Afrikaanse Polisie, 1990. ISBN 0-621-13018-4. Plaaslik **R4,15**; buitelandse **R5,15**.
- Patentjoernaal* insluitende Handelsmerke, Modelle en Outeursreg in Rolprente, Vol. 23, Maart 1990, No. 3. ISSN 0031-286X. Plaaslik **R1,00**; buitelandse **R1,25**.
- Gebinde deel van die *Staatskoerant* vir die maand November 1989. Plaaslik **R30,00**; buitelandse **R37,50**.

THE GOVERNMENT PRINTER

OFFICIAL PUBLICATIONS RECEIVED
DURING APRIL 1990

(All local prices are liable to 13% general sales tax)

RP REPORTS

- RP 88/1989**—Registrar of Unit Trust Companies Report for the year ended 31 December 1988. ISBN 0-621-12906-2. Local **R4,50**; other countries **R5,60**.
- RP 91/1989**—Report of the Director-General: Water Affairs for the period 1 April 1988 to 31 March 1989. ISBN 0-621-12918-6. Local **R58,00**; other countries **R72,50**.
- RP 93/1989**—Provincial Administration of the Cape of Good Hope: Report for the period 1 April 1988 to 31 March 1989. ISBN 0-621-12573-3. Local **R22,00**; other countries **R27,50**.
- RP 34/1990**—Report of the Department of Mineral and Energy Affairs including Reports of the Government Mining Engineer, the Geological Survey and the Minerals Bureau for the year ended 31 December 1989. ISBN 0-621-12949-6. Local **R28,70**; other countries **R35,90**.
- RP 38/1990**—Fifth Report of the Public Investment Commissioners for the financial year ended 31 March 1989. ISBN 0-621-12959-3. Local **R13,00**; other countries **R16,25**.
- RP 47/1990**—Report: Directorate of Justice 1 July 1988–30 June 1989. ISBN 0-621-12983-6. Local **R18,25**; other countries **R22,80**.
- RP 49/1990**—Council for the Environment: Annual Report, 1989: Sixth Report: 1 October 1988 to 30 September 1989. ISBN 0-621-12987-9. Local **R15,60**; other countries **R19,50**.
- RP 50/1990**—Department of Education and Training: Annual Report, 1989. ISBN 0-621-12988-7. Local **R26,40**; other countries **R33,00**.
- RP 56/1990**—Report of the South African Transport Services Board for the year ended 31 December 1989. ISBN 0-621-12586-5. Local **R24,10**; other countries **R30,15**.
- RP 63/1990**—Department of Home Affairs: Annual Report, 1989. ISBN 0-621-12006-0. Local **R5,20**; other countries **R6,50**.
- RP 69/1990**—Annual Report of the Commissioner of the South African Police, 1989. ISBN 0-621-13014-1. Local **R4,00**; other countries **R4,95**.

STATISTICAL REPORTS

- Report No. 03-09-01 (1988)—Deaths: Whites, Coloureds and Asians, 1988. ISBN 0-621-12945-3. Local **R6,00**; other countries **R7,50**.
- Report No. 71-11-01 (1988)—Registered vehicles as at 30 June 1988. ISBN 0-621-12915-1. Local **R6,00**; other countries **R7,50**.

MISCELLANEOUS PUBLICATIONS

- WPD—'90**: Memorandum by the Minister of Planning and Provincial Affairs Setting out Particulars of the Building Services and Road Construction for 1990–91 in Respect of the Account for Provincial Services: Orange Free State. ISBN 0-621-12967-4.
- W.P.E.—1990**: White Paper on the Organization and Functions of the South African Police, 1990. ISBN 0-621-13018-4. Local **R4,15**; other countries **R5,15**.
- Patent Journal* including Trade Marks, Designs and Copyright in Cinematograph Films, Vol. 23 March 1990, No. 3. ISBN 0031-286X. Local **R1,00**; other countries **R1,25**.
- Bound volumes of the *Government Gazette* for November 1989. Local **R30,00**; other countries **R37,50**.

KAARTE

(Gedruk vanaf 1 April 1990 tot 30 April 1990)

1:50 000 Nuwe kaarte	Datum van inligting	Gedruk
2630BB—Lochiel (3).....	1985	1990-04-25
2630CB—Sheepmoor (2).....	1985	1990-04-25
2630CD—Panbult (2).....	1985	1990-04-25
2822CB—Witsand (2).....	1982	1990-04-25
3222DA—Moerbeifontein (2)...	1987	1990-04-25
1:50 000 Herdrukke		
2214CB/DA—Swakopmund (1)	1981	1990-04-26
2731BB/2732AA—Ingwavuma (2)...	1980	1990-04-26
1:250 000 Nuwe kaarte		
3122—Victoria West (2).....	September 1989	1990-04-05
3124—Middelburg (2).....	September 1989	1990-04-05
3126—Queenstown (3).....	Mei 1989	1990-04-05
1:250 000 Topo-herdruk		
3322—Oudtshoorn (3).....	Oktober 1989	1990-04-26
1:500 000 Lug		
1722—Katima Mulilo (1).....	1982	1990-04-26
1:1 000 000 Lug		
3397—Bloemfontein.....	Januarie 1990	1990-03-29
3421—Port Elizabeth.....	Maart 1990	1990-04-10
3422—Kaapstad.....	Januarie 1990	1990-03-29

MAPS

(Printed during 1 April 1990 to 30 April 1990)

1:50 000 New maps	Date of information	Date printed
2630BB—Lochiel (3).....	1985	1990-04-25
2630CB—Sheepmoor (2).....	1985	1990-04-25
2630CD—Panbult (2).....	1985	1990-04-25
2822CB—Witsand (2).....	1982	1990-04-25
3222DA—Moerbeifontein (2)...	1987	1990-04-25
1:50 000 Reprints		
2214CB/DA—Swakopmund (1)	1981	1990-04-26
2731BB/2732AA—Ingwavuma (2)	1980	1990-04-26
1:250 000 New maps		
3122—Victoria West (2).....	September 1989	1990-04-05
3124—Middelburg (2).....	September 1989	1990-04-05
3126—Queenstown (3).....	May 1989	1990-04-05
1:250 000 Topo reprint		
3322—Oudtshoorn (3).....	October 1989	1990-04-26
1:500 000 Air		
1722—Katima Mulilo (1).....	1982	1990-04-26
1:1 000 000 Air		
3397—Bloemfontein.....	January 1990	1990-03-29
3421—Port Elizabeth.....	March 1990	1990-04-10
3422—Kaapstad.....	January 1990	1990-03-29

DIE BLOMPLANTE VAN AFRIKA

Hierdie publikasie word uitgegee as 'n geïllustreerde reeks, baie na die aard van Curtis se "Botanical Magazine". Die doel van die werk is om die skoonheid en variasie van vorm van die flora van Afrika aan die leser bekend te stel, om belangstelling in die studie en kweek van die inheemse plante op te wek, en om plantkunde in die algemeen te bevorder.

Die meeste van die illustrasies word deur kunstenaars van die Navorsingsinstituut vir Plantkunde gemaak, dog die Redakteur verwelkom geskikte bydraes van 'n wetenskaplike en kunsstandaard afkomstig van verwante inrigtings.

Onder huidige omstandighede word twee dele van die werk in een omslag gepubliseer, maar met onreëlmatige tussenpose; elke deel bevat 10 kleurplate. Intekengeld bedra R15 per uitgawe van twee dele (buitelands R16 per uitgawe); Vier dele per band. Vanaf band 27 is die prys per band in rexine gebind R40; in luukse rexine gebind R45. (Buitelands, rexine gebind R45; luukse band R50).

Verkrygbaar van die Direkteur, Afdeling Landbouinligting, Privaatsak X144, Pretoria.

Verkoopbelasting moet by binnelandse bestellings ingesluit word.

THE FLOWERING PLANTS OF AFRICA

This publication is issued as an illustrated serial, much on the same lines as Curtis's Botanical Magazine, and for imitating which no apology need be tendered.

The desire and object of the promoters of the publication will be achieved if it stimulates further interest in the study and cultivation of our indigenous plants.

The illustrations are prepared mainly by the artists at the Botanical Research Institute, but the Editor welcomes contributions of suitable artistic and scientific merit from kindred institutions.

Each part contains 10 plates. Two parts are published in one cover and costs R15 per issue of two parts (other countries R16 per issue). Two, three or four parts may be published annually, depending on the availability of illustrations. A volume consists of four parts. From Volume 27, the price per volume is: Rexine binding, R40; de luxe binding R45 (other countries, rexine binding R45; de luxe binding R50).

Obtainable from the Director, Division of Agricultural Information, Private Bag X144, Pretoria.

Sales tax must accompany inland orders.

BELANGRIK!!

Plasing van tale:

Staatskoerante

1. Hiermee word bekendgemaak dat die omruil van tale in die *Staatskoerant* jaarliks geskied met die eerste uitgawe in Oktober.
2. Vir die tydperk 1 Oktober 1989 tot 30 September 1990 word Afrikaans EERSTE geplaas.
3. Hierdie reëling is in ooreenstemming met dié van die Parlement waarby koerante met Wette ens. die taalvolgorde deurgaans behou vir die duur van die sitting.
4. *Dit word dus van u, as adverteerder, verwag om u kopie met bogenoemde reëling te laat strook om onnodige omskakeling en stylredigering in ooreenstemming te bring.*

—oOo—

IMPORTANT!!

Placing of languages:

Government Gazettes

1. Notice is hereby given that the interchange of languages in the *Government Gazette* will be effected annually from the first issue in October.
2. For the period 1 October 1989 to 30 September 1990, Afrikaans is to be placed FIRST.
3. This arrangement is in conformity with Gazettes containing Act of Parliament etc. where the language sequence remains constant throughout the sitting of Parliament.
4. *It is therefore expected of you, the advertiser, to see that your copy is in accordance with the above-mentioned arrangement in order to avoid unnecessary style changes and editing to correspond with the correct style.*

BELANGRIKE AANKONDIGING*Sluitingstye VOOR VAKANSIEDAE vir***WETLIKE KENNISGEWINGS
GOEWERMENSKENNISGEWINGS 1990***Die sluitingstyd is stiptelik 15:00 op die volgende dae:*

- ▶ **29 Maart**, Donderdag, vir die uitgawe van Donderdag **5 April**
- ▶ **4 April**, Woensdag, vir die uitgawe van Donderdag **12 April**
- ▶ **11 April**, Woensdag, vir die uitgawe van Vrydag **20 April**
- ▶ **26 April**, Donderdag, vir die uitgawe van Vrydag **4 Mei**
- ▶ **17 Mei**, Donderdag, vir die uitgawe van Vrydag **25 Mei**
- ▶ **23 Mei**, Woensdag, vir die uitgawe van Vrydag **1 Junie**
- ▶ **4 Oktober**, Donderdag, vir die uitgawe van Vrydag **12 Oktober**
- ▶ **18 Desember**, Dinsdag, vir die uitgawe van Vrydag **28 Desember**
- ▶ **21 Desember**, Vrydag, vir die uitgawe van Vrydag **4 Januarie**

Laat kennisgewings sal in die daaropvolgende uitgawe geplaas word. Indien 'n laat kennisgewing wel, onder spesiale omstandighede, aanvaar word, sal 'n dubbeltarief gehef word

Wanneer 'n APARTE Staatskoerant verlang word moet die kopie drie kalenderweke voor publikasie ingedien word

IMPORTANT ANNOUNCEMENT*Closing times PRIOR TO PUBLIC HOLIDAYS for***LEGAL NOTICES
GOVERNMENT NOTICES 1990***The closing time is 15:00 sharp on the following days:*

- ▶ **29 March**, Thursday, for the issue of Thursday **5 April**
- ▶ **4 April**, Wednesday, for the issue of Thursday **12 April**
- ▶ **11 April**, Wednesday, for the issue of Friday **20 April**
- ▶ **26 April**, Thursday, for the issue of Friday **4 May**
- ▶ **17 May**, Thursday, for the issue of Friday **25 May**
- ▶ **23 May**, Wednesday, for the issue of Friday **1 June**
- ▶ **4 October**, Thursday, for the issue of Friday **12 October**
- ▶ **18 December**, Tuesday, for the issue of Friday **28 December**
- ▶ **21 December**, Friday, for the issue of Friday **4 January**

Late notices will be published in the subsequent issue. If, under special circumstances, a late notice is being accepted, a double tariff will be charged

The copy for a SEPARATE Government Gazette must be handed in not later than three calendar weeks before date of publication

LYS VAN VASTE TARIWE EN VOORWAARDES VIR DIE PUBLIKASIE VAN WETLIKE KENNISGEWINGS IN DIE STAATSKOERANT VANAF 1 MEI 1990

LIST OF FIXED TARIFF RATES AND CONDITIONS FOR THE PUBLICATION OF LEGAL NOTICES IN THE GOVERNMENT GAZETTE FROM 1 MAY 1990

WETLIKE KENNISGEWINGS • LEGAL NOTICES

LYS VAN VASTE TARIWE

<i>Gestandaardiseerde kennisgewings</i>	<i>Tarief per plasing</i>
	R
Besigheidskennisgewings	11,00
Boedelwettekennisgewings: Vorms J 297, J 295, J 193 en J 187	5,00
Derdeparty-assuransie-eise om skadevergoeding Vorm MVA	5,00
Insolvensiewet- en maatskappywettekennisgewings: J 28, J 29, Vorms 1 tot 9	9,00
L.W.—Vorms 2 en 9—bykomstige verklarings volgens woordetal-tabel, toegevoeg tot die basiese tarief.	
Naamsverandering (twee plasings)	44,00
Onopgeëiste geld—slegs in die buitengewone Staatskoerant, sluitingsdatum 15 Januarie (per inskrywing van 'n "naam, adres en bedrag")	2,00
Slagterskennisgewings	11,00
Slumopruimingshofkennisgewings, per taal, per perseel	9,00
Verlore lewensversekeringspolisvorm VL	5,00
Nie-gestandaardiseerde kennisgewings	
Dranklisensie-kennisgewings in buitengewone Staatskoerant:	
(i) Transvaal verskyn voorlaaste Vrydag in Junie. Sluitingsdatum vir indiening eerste Vrydag in Junie	15,00
(ii) Kaap verskyn voorlaaste Vrydag in November. Sluitingsdatum vir indiening eerste Vrydag in November	15,00
(iii) OVS verskyn voorlaaste Vrydag in Januarie. Sluitingsdatum vir indiening eerste Vrydag in Januarie	15,00
(iv) Natal verskyn voorlaaste Vrydag in April. Sluitingsdatum vir indiening eerste Vrydag in April	15,00
Laat aansoek vir plasing in gewone Staatskoerant	95,00
Geregtelike en ander openbare verkope:	
Geregtelike verkope	40,00
Openbare veilinge, verkope en tenders:	
Tot 75 woorde	12,00
76 tot 250 woorde	31,00
251 tot 350 woorde (meer as 350 woorde bereken volgens woordetal-tabel)	48,00
Handelsmerke in Namibië (volgens sentimeter tarief vir departemente)	
Likwidateurs en ander aangesteltes se kennisgewings	15,00
Maatskappykennisgewings:	
Kort kennisgewings: Vergaderings, besluite, aanbod van skikking, omskepping van maatskappy, vrywillige likwidasies, ens.; sluiting van oordrag- of lederegisters en/of verklaring van dividende	22,00
Verklaring van dividende met profytstate, notas ingesluit	47,00
Lang kennisgewings: Oordragte, veranderings met betrekking tot aandele of kapitaal, aflettings, besluite, vrywillige likwidasies	73,00
Orders van die Hof:	
Voorlopige en finale likwidasies of sekwestrasies	29,00
Verlagings of veranderings in kapitaal, samesmeltings, aanbod van skikking	73,00
Geregtelike besture, kurator bonis en soortgelyke en uitgebreide bevels nisi	73,00
Verlenging van keurdatum	9,00
Tersydestelling en afwysings van petisies (J 158)	9,00

LIST OF FIXED TARIFF RATES

<i>Standardised notices</i>	<i>Rate per insertion</i>
	R
Administration of Estates Acts notices: Forms J 297, J 295, J 193 and J 187	5,00
Business notices	11,00
Butcher's notices	11,00
Change of name (two insertions)	44,00
Insolvency Act and Company Acts notices: J 28, J 29, Forms 1 to 9	9,00
N.B.—Forms 2 and 9—additional statements according to word count table, added to the basic tariff.	
Lost life insurance policies Form VL	5,00
Slum Clearance Court notices, per language per premises	9,00
Third party insurance claims for compensation Form MVA	5,00
Unclaimed moneys—only in the extraordinary Government Gazette, closing date 15 January (per entry of "name, address and amount")	2,00
Non-standardised notices	
Company notices:	
Short notices: Meetings, resolutions, offer of compromise, conversion of company, voluntary windings-up; closing of transfer or members' registers and/or declaration of dividends	22,00
Declaration of dividend with profit statements, including notes	47,00
Long notices: Transfer, changes with respect to shares or capital, redemptions, resolutions, voluntary liquidations	73,00
Liquidator's and other appointees' notices	15,00
Liquor Licence notices in extraordinary Gazette:	
(i) Transvaal appear on last Friday but one in June. Closing date for acceptance first Friday in June	15,00
(ii) Cape appear on last Friday but one in November. Closing date for acceptance first Friday in November	15,00
(iii) OVS appear on last Friday but one in January. Closing date for acceptance first Friday in January	15,00
(iv) Natal appear on last Friday but one in April. Closing date for acceptance first Friday in April	15,00
Late applications for publication in ordinary Government Gazette	95,00
Orders of the Court:	
Provisional and final liquidations or sequestrations	29,00
Reductions or changes in capital, mergers, offer of compromise	73,00
Judicial managements, curator bonis and similar and extensive rules nisi	73,00
Extension of return date	9,00
Supersessions and discharge of petitions (J 158)	9,00
Sales in executions and other public sales:	
Sales in execution	40,00
Public auctions, sales and tenders:	
Up to 75 words	12,00
76 to 250 words	31,00
251 to 350 words (more than 350 words—calculate in accordance with word count table)	48,00
Trade Marks in Namibia (according to centimetre tariff for department)	

WOORDETAL-TABEL

Vir algemene kennisgewings wat nie onder bovermelde opskrifte met vaste tariewe ressorteer nie en wat 1 600 of minder woorde beslaan, moet die tabel van woordetal-tariewe gebruik word. Kennisgewings met meer as 1 600 woorde, of waar twyfel bestaan, moet vooraf ingestuur word soos in die Voorwaardes par. 10 (2), voorgeskryf:

Aantal woorde in kopie Number of words in copy	Een plasing One insertion	Twee plasinge Two insertions	Drie plasinge Three insertions
	R	R	R
1- 100.....	16,00	22,00	26,00
101- 150.....	23,00	33,00	40,00
151- 200.....	31,00	44,00	53,00
201- 250.....	39,00	55,00	66,00
251- 300.....	46,00	66,00	79,00
301- 350.....	54,00	77,00	92,00
351- 400.....	62,00	88,00	106,00
401- 450.....	69,00	99,00	119,00
451- 500.....	77,00	110,00	132,00
501- 550.....	85,00	121,00	145,00
551- 600.....	92,00	132,00	158,00
601- 650.....	100,00	143,00	172,00
651- 700.....	108,00	154,00	185,00
701- 750.....	116,00	165,00	198,00
751- 800.....	123,00	176,00	211,00
801- 850.....	130,00	187,00	224,00
851- 900.....	138,00	198,00	238,00
901- 950.....	146,00	209,00	251,00
951-1 000.....	154,00	220,00	264,00
1 001-1 300.....	200,00	286,00	343,00
1 301-1 600.....	246,00	352,00	422,00

WORD COUNT TABLE

For general notices which do not belong under above-mentioned headings with fixed tariff rates and which comprise 1 600 or less words, the rates of the word count table must be used. Notices with more than 1 600 words, or where doubt exists, must be sent in before publication as prescribed in par. 10 (2) of the Conditions:

AANSOEKE OM OPENBARE PADVERVOERPERMITTE***Sluitingstye vir die aanname van kennisgewings***

Kennisgewings moet nie later as 15:00 op die Vrydag, twee kalenderweke voor datum van publikasie, ingedien word nie.

APPLICATIONS FOR PUBLIC ROAD CARRIER PERMITS***Closing times for the acceptance of notices***

Notices must be handed in not later than 15:00 on the Friday, two calendar weeks before the date of publication.

THE ONDERSTEPSPOORT JOURNAL OF VETERINARY RESEARCH

Die "Onderstepoort Journal of Veterinary Research" word deur die Staatsdrukker, Pretoria, gedruk en is verkrygbaar van die Direkteur, Afdeling Landbou-inligting, Privaatsak X144, Pretoria, 0001, aan wie ook alle navrae in verband met die tydskrif gerig moet word.

Hierdie publikasie is 'n voortsetting van die "Reports of the Government Veterinary Bacteriologist of the Transvaal" wat terugdateer tot 1903 en waarvan 18 verskyn het tot 1932. Dit is gevolg deur 52 volumes van die "Onderstepoort Journal". Tans bestaan elke volume uit vier nommers wat teen R5 per kopie of R20 per jaar plus AVB binnelands en R6,25 per kopie of R25 per jaar buitelands van bogenoemde adres posvry verkrygbaar is (lugposbestellings: R10 per kopie of R40 per jaar).

Direkteure van laboratoriums ens. wat begerig is om publikasies om te ruil moet in verbinding tree met die Direkteur, Navorsingsinstituut vir Veeartsenykunde, Pk. Onderstepoort, 0110, Republiek van Suid-Afrika.

THE ONDERSTEPSPOORT JOURNAL OF VETERINARY RESEARCH

The Onderstepoort Journal of Veterinary Research is printed by the Government Printer, Pretoria, and is obtainable from the Director, Division of Agricultural information, Private Bag X144, Pretoria, 0001, to whom all communications should be addressed.

This publication is a continuation of the Reports of the Government Veterinary Bacteriologist of the Transvaal which date back to 1903 and of which 18 have appeared up to 1932. These were followed by 52 volumes of the Onderstepoort Journal. At present each volume comprises four numbers which are obtainable from the above address at R5 per copy or R20 per annum plus GST local or other countries R6,25 per copy or R25 per annum (air mail: R10 per copy or R40 per annum).

Directors of laboratories etc. desiring to exchange publications are invited to communicate with the Director, Veterinary Research Institute, P.O. Onderstepoort, 0110, Republic of South Africa.

Alle Proklamasies, Goewermetskennisgewings, Algemene Kennisgewings en Raadskennisgewings gepubliseer word vir verwysingsdoelendes in die volgende inhoudsopgawe ingesluit wat dus 'n weeklikse indeks voorstel. Laat uself deur die Koerantnommers in die regterhandse kolom lei:

INHOUD

en weeklikse Indeks

No.	Bladsy No.	Koerant No.
PROKLAMASIES		
94	Wet op Groepsgebiede (36/1966): (1) Wysiging van Proklamasie No. 350 van 1966 kragtens artikel 33; en (2) Proklamering van 'n Gekleurde Groepsgebied kragtens artikel 23, te Kakamas, distrik Gordonia, provinsie die Kaap die Goeie Hoop	1 12517
R. 95	Kommissiewet (8/1947): Kommissie van Ondersoek na Staatsbystand aan die East Rand Proprietary Mines Ltd	1 12515
99	Wet op Skadelike Sakepraktyke (71/1988): Aanstelling van lede van 'n spesiale hof	2 12517
GOEWERMENTS- EN ALGEMENE KENNISGEWINGS		
Administrasie: Volksraad		
<i>Goewermetskennisgewing</i>		
1310	Ordonnansie op die Transvaalse Raad vir die Ontwikkeling van Buitestedelike Gebiede, 1943: Instelling van die Vaaloewer Plaaslike Gebiedskomitee	2 12517
<i>Algemene Kennisgewing</i>		
486	Wet op Landboukrediet (28/1966): Vergadering van skuldeisers: Hankey	54 12517
Beplanning en Provinsiale Sake, Departement van		
<i>Goewermetskennisgewing</i>		
1288	Wet op die Ontwikkeling van Swart Gemeenskappe (4/1984): Omskrywing van grond aangewys as 'n ontwikkelingsgebied: Distrik Klerksdorp, Transvaal	3 12517
Binnelandse Sake, Departement van		
<i>Goewermetskennisgewings</i>		
1245	Wet op Publikasies (42/1974): Afgekeurde video	1 12500
1246	do.: Afgekeurde rolprent	1 12500
1247	do.: Publikasies of voorwerpe: Voorwaardes	1 12500
1248	do.: do.: do.	2 12500
1249	do.: do.: do.	2 12500
1250	do.: do.: do.	2 12500
1251	do.: do.: Ongewenste publikasies of voorwerpe: Lys P90/22	3 12500
1252	do.: do.: Tersydestelling van verklaring dat publikasies ongewens is	3 12500
1253	do.: do.: Vrystelling van artikel 9 (4)	3 12500
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