

Statement of Principles

CEREBROVASCULAR ACCIDENT

No. 66 of 2015

for the purposes of the

Veterans' Entitlements Act 1986 and Military Rehabilitation and Compensation Act 2004

Title

1. This Instrument may be cited as Statement of Principles concerning cerebrovascular accident No. 66 of 2015.

Determination

- 2. The Repatriation Medical Authority under subsection **196B(3)** and **(8)** of the *Veterans' Entitlements Act 1986* (the VEA):
 - (a) revokes Instrument No. 52 of 2006 concerning cerebrovascular accident, as amended; and
 - (b) determines in its place this Statement of Principles.

Kind of injury, disease or death

- **3.** (a) This Statement of Principles is about **cerebrovascular accident** and **death from cerebrovascular accident**.
 - (b) For the purposes of this Statement of Principles, "cerebrovascular accident" means a rapid loss of brain function, caused by neuronal death or dysfunction due to impairment of the blood supply to the brain, and comprises cerebral ischaemia or intracerebral haemorrhage presenting clinically as a transient ischaemic attack, transient symptoms with infarction, or stroke. This definition excludes subclinical or asymptomatic cerebrovascular disease identified by neuroimaging ("silent stroke"), subarachnoid haemorrhage, subdural

haemorrhage, extradural haemorrhage, vascular dementia, and inherited diseases of the cerebral vasculature.

- (c) Cerebrovascular accident attracts ICD-10-AM code I61, I63, I64, G45.0, G45.1, G45.2, G45.8, G45.9 or G46.
- (d) In the application of this Statement of Principles, the definition of **"cerebrovascular accident"** is that given at paragraph 3(b) above.

Basis for determining the factors

4. On the sound medical-scientific evidence available, the Repatriation Medical Authority is of the view that it is more probable than not that **cerebrovascular accident** and **death from cerebrovascular accident** can be related to relevant service rendered by veterans or members of the Forces under the VEA, or members under the *Military Rehabilitation and Compensation Act 2004* (the MRCA).

Factors that must be related to service

5. Subject to clause 7, at least one of the factors set out in clause 6 must be related to the relevant service rendered by the person.

Factors

- 6. The factor that must exist before it can be said that, on the balance of probabilities, cerebrovascular accident or death from cerebrovascular accident is connected with the circumstances of a person's relevant service is:
 - (a) having hypertension within the five years before the clinical onset of cerebrovascular accident; or
 - (b) having a hypertensive emergency or crisis at the time of the clinical onset of cerebrovascular accident; or
 - (c) an inability to undertake any physical activity greater than three METs for at least the seven years before the clinical onset of cerebrovascular accident; or
 - (d) drinking an average of at least 300 grams of alcohol per week, for at least the one year before the clinical onset of cerebrovascular accident; or
 - (e) binge drinking within the seven days before the clinical onset of cerebrovascular accident; or
 - (f) having an infection from the specified list, involving the brain, within the four weeks before the clinical onset of cerebrovascular accident; or
 - (g) being infected with human immunodeficiency virus before the clinical onset of cerebrovascular accident; or
 - (h) having an inflammatory connective tissue disease from the specified list, causing cerebral vasculitis, at the time of the clinical onset of cerebrovascular accident; or

- (i) having primary angiitis of the central nervous system or a systemic vasculitis from the specified list, involving the cerebral vessels, at the time of the clinical onset of cerebrovascular accident; or
- (j) having a specified non-inflammatory disease of the cerebral vessels at the time of the clinical onset of cerebrovascular accident; or
- (k) having a haematological disease from the specified list at the time of the clinical onset of cerebrovascular accident; or
- (1) being pregnant within the six weeks before the clinical onset of cerebrovascular accident; or
- (m) using a drug or a drug from a class of drugs from the specified list within the 72 hours before the clinical onset of cerebrovascular accident; or
- (n) being treated with a selective serotonin reuptake inhibitor or another serotonergic drug for at least two weeks, or taking an overdose of an individual serotonergic drug, within the four weeks before the clinical onset of cerebrovascular accident; or
- (o) having heat stroke at the time of the clinical onset of cerebrovascular accident; or
- (p) being envenomated by a snake, scorpion, box jellyfish, bee, hornet or wasp within the three days before the clinical onset of cerebrovascular accident; or
- (q) being in an atmosphere with a visible tobacco smoke haze in an enclosed space for at least 10 000 hours before the clinical onset of cerebrovascular accident, where the last exposure to that atmosphere occurred within the five years before the clinical onset of cerebrovascular accident; or
- (r) having diabetes mellitus at the time of the clinical onset of cerebrovascular accident; or
- (s) having a cardiac condition with potential to give rise to a cerebral embolus within the four weeks before the clinical onset of cerebrovascular accident; or
- (t) having a non-cardiac cause of cerebral arterial embolism at the time of the clinical onset of cerebrovascular accident; or
- (u) having deep vein thrombosis in the presence of a potential route of paradoxical embolism from the specified list at the time of the clinical onset of cerebrovascular accident; or
- (v) undergoing a procedure from the specified list within the four weeks before the clinical onset of cerebrovascular accident; or
- (w) having septicaemia, or an injury or illness requiring admission to an intensive care unit or artificial ventilation, within the 14 days before the clinical onset of cerebrovascular accident; or
- (x) having a malignant neoplasm, excluding non-melanotic malignant neoplasm of the skin, at the time of the clinical onset of cerebrovascular accident; or

- (y) having cirrhosis of the liver or chronic liver disease at the time of the clinical onset of cerebrovascular accident; or
- (z) having chronic renal disease requiring renal transplantation or dialysis before the clinical onset of cerebrovascular accident; or
- (aa) experiencing a moderate to severe traumatic brain injury within the four weeks before the clinical onset of cerebrovascular accident; or
- (bb) being obese for at least five years before the age of 70 years, within the ten years before the clinical onset of cerebrovascular accident; or
- (cc) for males, having a waist to hip circumference ratio exceeding 1.0 for at least five years before the age of 70 years, within the ten years before the clinical onset of cerebrovascular accident; or
- (dd) for females, having a waist to hip circumference ratio exceeding 0.9 for at least five years before the age of 70 years, within the ten years before the clinical onset of cerebrovascular accident; or
- (ee) having clinically significant depressive disorder within the one year before the clinical onset of cerebrovascular accident; or
- (ff) for cerebral ischaemia only:
 - (i) where smoking has not ceased before the clinical onset of cerebrovascular accident:
 - A. smoking an average of at least five cigarettes per day, or the equivalent thereof in other tobacco products, for at least the one year before the clinical onset of cerebrovascular accident; or
 - B. smoking at least one pack-year of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident; or
 - (ii) where smoking has ceased before the clinical onset of cerebrovascular accident:
 - A. smoking at least one pack-year but less than five packyears of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident, and the clinical onset of cerebrovascular accident has occurred within ten years of smoking cessation; or
 - B. smoking at least five pack-years but less than 20 packyears of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident, and the clinical onset of cerebrovascular accident has occurred within 15 years of smoking cessation; or
 - C. smoking at least 20 pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident; or

- (iii) having dyslipidaemia before the age of 70 years, within the twenty years before the clinical onset of cerebrovascular accident; or
- (iv) being treated with intravenous immunoglobulin within the 72 hours before the clinical onset of cerebrovascular accident; or
- (v) ingesting a combined oral contraceptive pill for a continuous period of at least the 21 days before the clinical onset of cerebrovascular accident; or
- (vi) for postmenopausal females only, receiving hormone replacement therapy for a continuous period of at least 21 days within the two years before the clinical onset of cerebrovascular accident; or
- (vii) being treated with tamoxifen for a continuous period of at least the 21 days before the clinical onset of cerebrovascular accident; or
- (viii) using a drug belonging to the non-steroidal anti-inflammatory class of drugs, excluding aspirin, paracetamol and topical nonsteroidal anti-inflammatory drugs, for a continuous period of at least 30 days before the clinical onset of cerebrovascular accident, where the last dose of the drug was taken within the seven days before the clinical onset of cerebrovascular accident; or
- (ix) having carotid arterial disease, or occlusion or stenosis of the vertebral artery, basilar artery, aortic arch or ascending aorta due to atherosclerosis, dissection or other pathological process involving that artery, at the time of the clinical onset of cerebrovascular accident; or
- (x) having a subarachnoid haemorrhage within the two weeks before the clinical onset of cerebrovascular accident; or
- (xi) having a hypercoagulable state as specified at the time of the clinical onset of cerebrovascular accident; or
- (xii) experiencing an acute hypotensive episode within the 24 hours before the clinical onset of cerebrovascular accident; or
- (xiii) having sleep apnoea at the time of the clinical onset of cerebrovascular accident; or
- (xiv) undergoing a course of therapeutic radiation for cancer, where the head, neck or mediastinum was in the field of radiation, before the clinical onset of cerebrovascular accident; or
- (xv) having received a cumulative equivalent dose of at least 1.0 sievert of ionising radiation to the head, neck or mediastinum before the clinical onset of cerebrovascular accident; or
- (xvi) having hyperhomocysteinaemia at the time of the clinical onset of cerebrovascular accident; or

- (xvii) having trauma to the neck or the base of the skull within the four weeks before the clinical onset of cerebrovascular accident; or
- (xviii) having active migraine at the time of the clinical onset of cerebrovascular accident; or
- (gg) for intracerebral haemorrhage only:
 - (i) where smoking has not ceased before the clinical onset of cerebrovascular accident:
 - A. smoking an average of at least 15 cigarettes per day, or the equivalent thereof in other tobacco products, for at least the one year before the clinical onset of cerebrovascular accident; or
 - B. smoking at least two pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident; or
 - (ii) where smoking has ceased before the clinical onset of cerebrovascular accident:
 - A. smoking at least two pack-years but less than ten packyears of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident, and the clinical onset of cerebrovascular accident has occurred within five years of smoking cessation; or
 - B. smoking at least ten pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of cerebrovascular accident, and the clinical onset of cerebrovascular accident has occurred within ten years of smoking cessation; or
 - (iii) having a lipid profile as specified before the age of 70 years, within the ten years before the clinical onset of cerebrovascular accident; or
 - (iv) undergoing anticoagulant therapy at the time of the clinical onset of cerebrovascular accident; or
 - (v) taking aspirin on at least three days per week for a continuous period of at least four weeks before the clinical onset of cerebrovascular accident, where the last dose of aspirin was taken within the seven days before the clinical onset of cerebrovascular accident; or
 - (vi) undergoing thrombolytic therapy at the time of the clinical onset of cerebrovascular accident; or
 - (vii) having a haematological disorder from the specified list of haematological disorders that are associated with an excessive bleeding tendency, at the time of the clinical onset of cerebrovascular accident; or

- (viii) bleeding of an intracerebral space occupying lesion at the time of the clinical onset of cerebrovascular accident; or
- (ix) bleeding from a cerebral aneurysm or a cerebral vascular malformation at the time of the clinical onset of cerebrovascular accident; or
- (hh) inability to obtain appropriate clinical management for cerebrovascular accident.

Factors that apply only to material contribution or aggravation

7. Paragraph 6(hh) applies only to material contribution to, or aggravation of, cerebrovascular accident where the person's cerebrovascular accident was suffered or contracted before or during (but not arising out of) the person's relevant service.

Inclusion of Statements of Principles

8. In this Statement of Principles if a relevant factor applies and that factor includes an injury or disease in respect of which there is a Statement of Principles then the factors in that last mentioned Statement of Principles apply in accordance with the terms of that Statement of Principles as in force from time to time.

Other definitions

9. For the purposes of this Statement of Principles:

"a cardiac condition with potential to give rise to a cerebral embolus" means:

- (a) a prosthetic mitral or aortic valve;
- (b) acute myocardial infarction;
- (c) atrial fibrillation and atrial flutter;
- (d) atrial septal aneurysm;
- (e) calcification of the mitral or aortic valve;
- (f) cardiac hydatid cysts;
- (g) cardiomyopathy;
- (h) congestive cardiac failure;
- (i) endocarditis;
- (j) ischaemic, valvular, arrhythmogenic and hypertensive cardiomyopathy;
- (k) Lambl's excrescences of the mitral or aortic valve;
- (l) left atrial aneurysm or dilatation;
- (m) left ventricular aneurysm;
- (n) left ventricular dyskinesia;
- (o) mitral valve prolapse;
- (p) primary or secondary cardiac tumours;
- (q) regurgitation of the mitral or aortic valve;
- (r) rheumatic heart disease;
- (s) sick sinus syndrome;
- (t) stenosis of the mitral or aortic valve;
- (u) thrombus within the left atrium or left ventricle; or
- (v) valvulitis of the mitral or aortic valve;

"a drug or a drug from a class of drugs from the specified list" means:

- (a) amphetamines and amphetamine-type substances, excluding methylphenidate;
- (b) cocaine; or
- (c) heroin;

"a haematological disease from the specified list" means:

- a) thrombotic thrombocytopaenic purpura; or
- b) sickle cell disease or sickle cell trait;

"a haematological disorder from the specified list of haematological disorders that are associated with an excessive bleeding tendency" means:

- (a) aplastic anaemia;
- (b) idiopathic thrombocytopaenic purpura;
- (c) disseminated intravascular coagulation;
- (d) essential thrombocythaemia;
- (e) Hodgkin's lymphoma;
- (f) inherited or acquired coagulation protein disorder, including haemophilia;
- (g) leukaemia;
- (h) myeloma;
- (i) non-Hodgkin's lymphoma;
- (j) post-transfusion purpura;
- (k) qualitative platelet defects associated with coagulation defect;
- (l) thrombocytopaenia; or
- (m) Vitamin K deficiency;

"a hypercoagulable state as specified" means:

- (a) acquired activated protein C resistance;
- (b) acquired antithrombin III deficiency;
- (c) acquired dysfibrinogenaemia;
- (d) acquired protein C deficiency;
- (e) acquired protein S deficiency;
- (f) antiphospholipid antibody syndrome;
- (g) disseminated intravascular coagulation;
- (h) haemolytic uraemic syndrome;
- (i) heparin-induced thrombocytopaenia;
- (j) hyperfibrinogenaemia;
- (k) hyperproteinaemia;
- (l) hyperviscosity syndrome;
- (m) myeloproliferative disease;
- (n) nephrotic syndrome; or
- (o) paroxysmal nocturnal haemoglobinuria;

"a hypertensive emergency or crisis", also known as malignant hypertension, means a sudden and severe increase in blood pressure to a diastolic blood pressure greater than or equal to 120 mm Hg or a systolic blood pressure greater than or equal to 180 mm Hg, or of a sufficient degree to cause acute impairment to one or more organ systems; "a lipid profile as specified" means evidence of a persistently abnormal lipid profile after the accurate evaluation of serum lipids following a 12 hour overnight fast, and estimated on a minimum of two occasions as:

- (a) a total cholesterol level less than or equal to 4.5 millimoles per litre (mmol/L); or
- (b) a low density lipoprotein cholesterol level less than 1.5 mmol/L;

"a non-cardiac cause of cerebral arterial embolism" means:

- (a) aortic arch atherosclerosis;
- (b) decompression sickness;
- (c) pulmonary barotrauma;
- (d) severe bone trauma; or
- (e) thrombus formation within the pulmonary vein, or arteries supplying the affected area of the brain;

"a potential route of paradoxical embolism from the specified list" means:

- (a) atrial septal defect;
- (b) patent foramen ovale;
- (c) pulmonary arteriovenous fistula; or
- (d) ventricular septal defect;

"a procedure from the specified list" means:

- (a) cardiac surgery or cardiac catheterisation;
- (b) catheterisation of or injection into the arteries supplying the brain;
- (c) major surgical procedure involving general or regional anaesthesia, including orthopaedic surgery or neurosurgery; or
- (d) surgery involving the arteries supplying the brain, including carotid endarterectomy;

"a specified non-inflammatory disease of the cerebral vessels" means:

- (a) cerebral amyloid angiopathy;
- (b) cerebral arteriolosclerosis (fibrinoid necrosis, lipohyalinosis, microatheroma microaneurysms, segmental arterial disorganisation);
- (c) cerebral venous thrombosis;
- (d) Moyamoya disease;
- (e) Susac's syndrome (retinocochleocerebral vasculopathy); or
- (f) Sneddon's syndrome;

"a systemic vasculitis from the specified list" means:

- (a) Behcet's disease;
- (b) eosinophilic granulomatosis with polyangiitis (Churg Straus syndrome);
- (c) giant cell (temporal) arteritis;
- (d) Henoch-Schönlein purpura;
- (e) mucocutaneous lymph node syndrome (Kawasaki disease);
- (f) microscopic polyangiitis;
- (g) polyarteritis nodosa;
- (h) Takayasu's arteritis;
- (i) thromboangiitis obliterans (Buerger's disease); or
- (j) Wegener's granulomatosis;

"**alcohol**" is measured by the alcohol consumption calculations utilising the Australian Standard of ten grams of alcohol per standard alcoholic drink;

"an acute hypotensive episode" means a sudden drop in blood pressure of a sufficient degree to cause cerebral hypoperfusion;

"an infection from the specified list" means:

- (a) cerebral abscess;
- (b) cerebral helminthic infection (cysticercosis, schistosomiasis, sparganosis);
- (c) cerebral malaria;
- (d) encephalitis;
- (e) infectious vasculitis;
- (f) intracerebral fungal infection (aspergillosis, coccidioidomycosis, Cryptococcus, histoplasmosis or mucormycosis);
- (g) meningitis (syphilis, tuberculosis, fungal, bacterial, herpes zoster);
- (h) neurosyphilis;
- (i) tuberculosis; or
- (j) Varicella-zoster virus infection;

"an inflammatory connective tissue disease from the specified list" means:

- (a) ankylosing spondylitis;
- (b) dermatomyositis;
- (c) inclusion body myositis;
- (d) polymyositis;
- (e) rheumatoid arthritis;
- (f) scleroderma (progressive systemic sclerosis);
- (g) Sjogren's syndrome; or
- (h) systemic lupus erythematosus;

"an intracerebral space occupying lesion" means one of the following entities occupying a delimited area within the brain:

- (a) abscess;
- (b) cyst;
- (c) neoplasm; or
- (d) tuberculoma;

"anticoagulant therapy" means therapeutic administration of a pharmacological agent which suppresses, delays or attenuates blood coagulation (such as heparin, warfarin or dicumarol), but excludes antiplatelet therapy (such as aspirin, clopidogrel, ticlopidine or monoclonal antibodies and recombinant and chemically synthesised peptides that block platelet adhesion or aggregation);

"being obese" means having a Body Mass Index (BMI) of 30 or greater.

The BMI = W/H^2 and where:

W is the person's weight in kilograms; and

H is the person's height in metres;

"**binge drinking**" means drinking an excessive amount of alcohol in a short amount of time, resulting in a blood alcohol concentration exceeding 0.08 (8 grams/100 millilitres). This typically involves the consumption of four or more standard alcoholic drinks for a woman or five or more standard alcoholic drinks for a man within a two hour time period;

"**cerebral ischaemia**" means a reduction or interruption of blood supply to an area of the cerebrum, diencephalon, brain stem or cerebellum, leading to dysfunction of the brain tissue in that area; and which presents as an ischaemic stroke, transient symptoms with infarction, or transient ischaemic attack;

"chronic liver disease" means progressive destruction of the liver parenchyma resulting in abnormal liver function which has been present for at least six months;

"cigarettes per day, or the equivalent thereof in other tobacco products" means either cigarettes, pipe tobacco or cigars, alone or in any combination where one tailor-made cigarette approximates one gram of tobacco; or one gram of cigar, pipe or other smoking tobacco;

"clinically significant" means sufficient to warrant ongoing management, which may involve regular visits (for example, at least monthly), to a psychiatrist, counsellor or general practitioner;

"cumulative equivalent dose" means the total dose of ionising radiation received by the particular organ or tissue. The formula used to calculate the cumulative equivalent dose allows doses from multiple types of ionising radiation to be combined, by accounting for their differing biological effect. The unit of equivalent dose is the sievert. For the purposes of this Statement of Principles, the calculation of cumulative equivalent dose excludes doses received from normal background radiation, but includes therapeutic radiation, diagnostic radiation, cosmic radiation at high altitude, radiation from occupation-related sources and radiation from nuclear explosions or accidents;

"death from cerebrovascular accident" in relation to a person includes death from a terminal event or condition that was contributed to by the person's cerebrovascular accident;

"dyslipidaemia" generally means evidence of a persistently abnormal lipid profile after the accurate evaluation of serum lipids following a 12 hour overnight fast, and estimated on a minimum of two occasions as:

- (a) a total cholesterol level greater than or equal to 5.5 millimoles per litre (mmol/L);
- (b) a triglyceride level greater than or equal to 2.0 mmol/L; or
- (c) a high density lipoprotein cholesterol level less than 1.0 mmol/L;

"having active migraine" means having at least one migraine headache per year;

"heat stroke" means central nervous system and multiple organ dysfunction from complications of hyperthermia;

"hormone replacement therapy" means administration of oestrogen preparations often in combination with progesterone to offset a hormone deficiency following surgically induced or naturally occurring menopause;

"hyperhomocysteinaemia" means a condition characterised by an excess of homocysteine in the blood;

"**ICD-10-AM code**" means a number assigned to a particular kind of injury or disease in The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), Eighth Edition, effective date of 1 July 2013, copyrighted by the Independent Hospital Pricing Authority, and having ISBN 978-1-74128-213-9;

"intracerebral haemorrhage", also known as haemorrhagic stroke, means bleeding within the ventricles or parenchyma of the cerebrum, diencephalon, brain stem or cerebellum, including haemorrhagic transformation of cerebral ischaemia, and excludes extra-axial haemorrhage (epidural, subdural and subarachnoid haemorrhage);

"MET" means a unit of measurement of the level of physical exertion. 1 MET = 3.5 ml of oxygen/kg of body weight per minute or, 1.0 kcal/kg of body weight per hour, or resting metabolic rate;

"**nephrotic syndrome**" means a kidney disease characterised by massive proteinuria with varying degrees of oedema, hypoalbuminaemia, lipiduria and hyperlipidaemia;

"pack-year of cigarettes, or the equivalent thereof in other tobacco products" means a calculation of consumption where one pack-year of cigarettes equals twenty tailor-made cigarettes per day for a period of one calendar year, or 7 300 cigarettes. One tailor-made cigarette approximates one gram of tobacco or one gram of cigar or pipe tobacco by weight. One packyear of tailor-made cigarettes equates to 7.3 kilograms of smoking tobacco by weight. Tobacco products mean cigarettes, pipe tobacco or cigars, smoked alone or in any combination;

"relevant service" means:

- (a) eligible war service (other than operational service) under the VEA;
- (b) defence service (other than hazardous service and British nuclear test defence service) under the VEA; or
- (c) peacetime service under the MRCA;

"terminal event" means the proximate or ultimate cause of death and includes:

- (a) pneumonia;
- (b) respiratory failure;
- (c) cardiac arrest;
- (d) circulatory failure; or
- (e) cessation of brain function;

"thrombolytic therapy" means therapeutic administration of а pharmacological agent in order to dissolve a thrombus, retard fibrin deposition on established thrombi or prevent the formation of new thrombi, and includes agents such as streptokinase, urokinase, tissue plasminogen activator, proacyl-SK-plasminogen, anistreplase, urokinase. alteplase, defibrotide. duteplase, lanoteplase, monteplase, nasaruplase, saruplase, staphylokinase or reteplase;

"trauma to the neck or the base of the skull" means:

- (a) a non-penetrating injury, involving extension, rotation, hyperflexion or compression of the neck;
- (b) a penetrating injury to the neck or the base of the skull;

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- (c) an injury resulting in fracture or dislocation of the cervical spine; or
- (d) foreign body penetration or blunt injury of an artery within the head, neck or chest.

Application

10. This Instrument applies to all matters to which section 120B of the VEA or section 339 of the MRCA applies.

Date of effect

11. This Instrument takes effect from 1 June 2015.

Dated this first day of May 2015

The Common Seal of the Repatriation Medical Authority was affixed at the direction of:

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PROFESSOR NICHOLAS SAUNDERS AO CHAIRPERSON