



Australian Government
Repatriation Medical Authority

Statement of Principles
concerning

MALIGNANT NEOPLASM OF THE LUNG

No. 92 of 2014

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 malignant neoplasm of the lung No. 92 of 2014.

Determination

2. The Repatriation Medical Authority under subsection **196B(2)** and **(8)** of the *Veterans' Entitlements Act 1986* (the VEA):
 - (a) revokes Instrument No. 17 of 2006 concerning malignant neoplasm of the lung; and
 - (b) determines in its place this Statement of Principles.

Kind of injury, disease or death

3.
 - (a) This Statement of Principles is about **malignant neoplasm of the lung** and **death from malignant neoplasm of the lung**.
 - (b) For the purposes of this Statement of Principles, "**malignant neoplasm of the lung**" means a primary malignant neoplasm arising from the respiratory epithelium of the trachea, bronchus, bronchioles or alveoli. This definition excludes soft tissue sarcoma, non-Hodgkin's lymphoma, Hodgkin's lymphoma, carcinoid tumour and mesothelioma.
 - (c) Malignant neoplasm of the lung attracts ICD-10-AM code C33 or C34.

- (d) In the application of this Statement of Principles, the definition of **"malignant neoplasm of the lung"** is that given at paragraph 3(b) above.

Basis for determining the factors

4. The Repatriation Medical Authority is of the view that there is sound medical-scientific evidence that indicates that **malignant neoplasm of the lung** and **death from malignant neoplasm of the lung** can be related to relevant service rendered by veterans, members of Peacekeeping Forces, 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 as a minimum exist before it can be said that a reasonable hypothesis has been raised connecting **malignant neoplasm of the lung** or **death from malignant neoplasm of the lung** with the circumstances of a person's relevant service is:
- (a) smoking at least one half of a pack-year of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of malignant neoplasm of the lung, where smoking commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
 - (b) being in an atmosphere with a visible tobacco smoke haze in an enclosed space:
 - (i) for at least 5 000 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first exposure to that atmosphere commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
 - (c) inhaling respirable asbestos fibres in an enclosed space:
 - (i) at the time material containing respirable asbestos fibres was being applied, removed, dislodged, cut or drilled; and
 - (ii) where the first inhalation of respirable asbestos fibres commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
 - (d) inhaling respirable asbestos fibres in an open environment:
 - (i) for a cumulative period of at least 1 000 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) at the time material containing respirable asbestos fibres was being applied, removed, dislodged, cut or drilled; and
 - (iii) where the first inhalation of respirable asbestos fibres commenced at least five years before the clinical onset of malignant neoplasm of the lung; or

- (e) being:
 - (i) on land in Vietnam; or
 - (ii) at sea in Vietnamese waters; or
 - (iii) on board a vessel and consuming potable water supplied on that vessel, when the water supply had been produced by evaporative distillation of estuarine Vietnamese waters;
 for a cumulative period of at least 30 days, at least five years before the clinical onset of malignant neoplasm of the lung; or
- (f) inhaling, ingesting or having cutaneous contact with a chemical agent contaminated by 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD):
 - (i) for a cumulative period of at least 1 000 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first exposure occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (g) being within 100 metres of an industrial coke oven for a cumulative period of at least 4 500 hours, at least five years before the clinical onset of malignant neoplasm of the lung; or
- (h) being heavily exposed to diesel engine exhaust for a cumulative period of at least 10 000 hours, at least five years before the clinical onset of malignant neoplasm of the lung; or
- (i) being exposed to mustard gas at least five years before the clinical onset of malignant neoplasm of the lung; or
- (j) drinking at least 350 kilograms of alcohol within a continuous 25 year period before the clinical onset of malignant neoplasm of the lung; or
- (k) having received a cumulative equivalent dose of at least 0.1 sievert of ionising radiation to the lung, at least five years before the clinical onset of malignant neoplasm of the lung; or
- (l) being exposed to at least 20 Working Level Months of radon in an enclosed space, before the clinical onset of malignant neoplasm of the lung, where the first exposure to radon occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (m) having a pulmonary disease from the specified list at least five years before the clinical onset of malignant neoplasm of the lung; or
- (n) working as a painter for a cumulative period of at least 5 000 hours before the clinical onset of malignant neoplasm of the lung, where the first inhalation occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (o) inhaling respirable crystalline silica dust in an enclosed space:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) at the time material containing crystalline silica was being produced, excavated, drilled, cut or ground, or used in construction, manufacturing, cleaning or blasting; and

- (iii) where the first inhalation of respirable crystalline silica dust commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
- (p) inhaling respirable crystalline silica dust in an open environment:
 - (i) for a cumulative period of at least 3 000 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) at the time material containing crystalline silica was being produced, excavated, drilled, cut or ground, or used in construction, manufacturing, cleaning or blasting; and
 - (iii) where the first inhalation of respirable crystalline silica dust commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
- (q) inhaling fumes, vapours or dusts of a metal or metalloid from the specified list:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of fumes, vapours or dusts occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (r) inhaling fumes of bis(chloromethyl)ether or chloromethyl methyl ether:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of fumes occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (s) having berylliosis at the time of the clinical onset of malignant neoplasm of the lung; or
- (t) smoking at least ten joint-years of cannabis, or the equivalent in other cannabis products, before the clinical onset of malignant neoplasm of the lung, where smoking commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
- (u) being exposed to arsenic as specified before the clinical onset of malignant neoplasm of the lung, where the first exposure to arsenic occurred at least ten years before the clinical onset of malignant neoplasm of the lung; or
- (v) inhaling smoke from the combustion of coal, wood, charcoal or another solid biomass fuel while in an enclosed space with a visible smoke haze:
 - (i) for a cumulative period of at least 7 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of smoke commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
- (w) inhaling ambient polluted air as specified:

- (i) for a cumulative period of at least 35 000 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of ambient polluted air occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (x) inhaling soot, whilst engaged in the cleaning of chimneys or flues:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of soot occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (y) inhaling mist from a strong inorganic acid:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of mist from a strong inorganic acid commenced at least five years before the clinical onset of malignant neoplasm of the lung; or
- (z) inhaling fumes in an enclosed space, while working in a specified industry or manufacturing process generating high concentrations of volatile polycyclic aromatic hydrocarbons:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of fumes occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (aa) inhaling fumes of a chemical substance from the specified list involving exposure to high levels of volatile polycyclic aromatic hydrocarbons:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of fumes occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (bb) inhaling fumes generated during iron and steel founding or in rubber production, while in an enclosed space in immediate proximity to production facilities:
 - (i) for a cumulative period of at least 1 500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (ii) where the first inhalation of fumes occurred at least five years before the clinical onset of malignant neoplasm of the lung; or
- (cc) receiving MOPP at least five years before the clinical onset of malignant neoplasm of the lung; or
- (dd) in current smokers only, receiving 20 milligrams of beta-carotene supplement daily for a continuous period of at least three years, before the clinical onset of malignant neoplasm of the lung; or
- (ee) being infected with human immunodeficiency virus before the clinical onset of malignant neoplasm of the lung; or

- (ff) having scleroderma at least three years before the clinical onset of malignant neoplasm of the lung; or
- (gg) inability to obtain appropriate clinical management for malignant neoplasm of the lung.

Factors that apply only to material contribution or aggravation

- 7. Paragraph 6(gg) applies only to material contribution to, or aggravation of, malignant neoplasm of the lung where the person's malignant neoplasm of the lung 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 chemical substance from the specified list" means:

- (a) coal tar pitch or concentrated coal tar distillates;
- (b) creosote; or
- (c) molten bitumen during roofing and mastic-asphalt work;

"a metal or metalloid from the specified list" means:

- (a) arsenic and inorganic arsenic compounds;
- (b) beryllium and beryllium compounds;
- (c) cadmium and cadmium compounds;
- (d) cobalt metal with tungsten carbide;
- (e) hexavalent chromium (chromium VI) compounds; or
- (f) mixtures that include nickel metal and nickel compounds;

"a pulmonary disease from the specified list" means:

- (a) bacterial pneumonia;
- (b) chronic obstructive pulmonary disease; or
- (c) pulmonary tuberculosis;

"a specified industry or manufacturing process" means:

- (a) aluminium production;
- (b) coal gasification; or
- (c) coke production;

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

"ambient polluted air as specified" means air with annual average levels of:

- (a) particulates with an aerodynamic diameter $<2.5 \mu\text{m}$ (PM_{2.5}) exceeding $30 \mu\text{g}/\text{m}^3$; or

- (b) particulates with an aerodynamic diameter $<10 \mu\text{m}$ (PM10) exceeding $50 \mu\text{g}/\text{m}^3$;

"being:

- (i) **on land in Vietnam; or**
(ii) **at sea in Vietnamese waters;"** means service in at least one of the areas and at the times described in Items 4 and 8 of Schedule 2 of the VEA;

"being exposed to arsenic as specified" means:

- (a) consuming drinking water with an average arsenic concentration of at least 50 micrograms per litre for a cumulative period of at least ten years;
(b) consuming drinking water resulting in a cumulative total arsenic exposure equivalent to having consumed drinking water containing at least 50 micrograms per litre for at least ten years; or
(c) having clinical evidence of chronic arsenic toxicity;

"being heavily exposed to diesel engine exhaust" means:

- (a) being an occupant in an enclosed diesel powered vehicle cabin contaminated with diesel fumes;
(b) repairing or servicing diesel engines; or
(c) working in an enclosed space where diesel powered engines or motors are being operated;

"berylliosis" (synonymous with chronic beryllium disease) means a granulomatous disease usually involving the lungs, but which may involve the skin or other structures, and is induced by a delayed hypersensitivity reaction to beryllium fumes;

"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 malignant neoplasm of the lung" in relation to a person includes death from a terminal event or condition that was contributed to by the person's malignant neoplasm of the lung;

"estuarine Vietnamese waters" means at least one of the waterways or harbours in the relevant areas described in Items 4 and 8 of Schedule 2 of the VEA;

"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;

"inhaling, ingesting or having cutaneous contact with a chemical agent contaminated by 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD)" means:

- (a) decanting or spraying;
- (b) cleaning or maintaining equipment used to apply;
- (c) being sprayed with;
- (d) handling or sawing timber treated with;
- (e) being in an environment shrouded in dust from timber treated with; or
- (f) using cutting oils contaminated with;

one of the following chemicals:

- (i) 2,4,5-trichlorophenoxyacetic acid;
- (ii) 2,4,5-trichlorophenoxypropionic acid;
- (iii) 2,4,5-trichlorophenol;
- (iv) 2-(2,4,5-trichlorophenoxy)-ethyl 2,2-dichloropropionate;
- (v) o,o-dimethyl-o-(2,4,5-trichlorophenyl)-phosphorothioate;
- (vi) pentachlorophenol;
- (vii) 2,3,4,6-tetrachlorophenol;
- (viii) 2,4,6-trichlorophenol;
- (ix) 1,3,4-trichloro-2-(4-nitrophenoxy)benzene;
- (x) 2,4-dichloro-1-(4-nitrophenoxy)benzene; or
- (xi) 2,4-dichloro-1-(3-methoxy-4-nitrophenoxy)-benzene;

"joint-years of cannabis" means a calculation of consumption where one joint-year of cannabis equals one joint per day for a period of one year;

"mist from a strong inorganic acid" means a visible suspension of liquid sulphuric, nitric or hydrochloric acid in gas;

"MOPP" means chemotherapy involving a combination of mechlorethamine, oncovin, procarbazine and prednisone;

"pack-year of cigarettes, or the equivalent thereof in other tobacco products" means a calculation of consumption where one pack-year of cigarettes equals 20 tailor-made cigarettes per day for a period of one calendar year, or 7300 cigarettes. One tailor-made cigarette approximates one gram of tobacco or one gram of cigar or pipe tobacco by weight. One pack-year 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;

"potable water" means water used for drinking water, food preparation and beverage production;

"relevant service" means:

- (a) operational service under the VEA;
- (b) peacekeeping service under the VEA;
- (c) hazardous service under the VEA;
- (d) British nuclear test defence service under the VEA;
- (e) warlike service under the MRCA; or
- (f) non-warlike service under the MRCA;

"soot" means a carbonaceous by-product material produced from the incomplete combustion of fossil fuel or other carbon-containing material,

including airborne residual pyrolysed fuel particles such as coal, cenospheres, charred wood or petroleum coke;

"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;

"working as a painter" means applying paint, including solvent- or water-based conventional paint, spray paint, varnish, enamel, lacquer, water-emulsion and solution finish, nonaqueous dispersion or organosol, plastisol, and powder coating, during the course of activities such as building, maintenance and construction, interior and exterior decoration, artistic painting, and wood and metal painting. This definition includes mixed activities in which application of paint occurs with other tasks such as wallpapering and plastering. This definition includes activities that are preparatory to painting, such as mixing paints, maintaining painting equipment, and background preparation of surfaces for application of paint;

"Working Level" is any combination of radon progeny in one litre of air that ultimately releases 1.3×10^5 million electron volts of alpha energy during decay;

"Working Level Month" is exposure to one Working Level for 170 hours.

Application

- 10. This Instrument applies to all matters to which section 120A of the VEA or section 338 of the MRCA applies.

Date of effect

- 11. This Instrument takes effect from 17 November 2014.

Dated this **seventeenth** day of **October** 2014

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



PROFESSOR NICHOLAS SAUNDERS AO
CHAIRPERSON