

NORTHERN TERRITORY OF AUSTRALIA  
MINES SAFETY CONTROL (RADIATION PROTECTION)  
REGULATIONS 1988

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THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
LABORATORY OF ORGANIC CHEMISTRY

CHICAGO, ILLINOIS

1952

REPORT OF THE  
LABORATORY OF ORGANIC CHEMISTRY  
FOR THE YEAR 1952

1952

1952

NORTHERN TERRITORY OF AUSTRALIA

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Regulations 1988, No. 42\*

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Regulations under the *Mines Safety Control Act*

I, ERIC EUGENE JOHNSTON, the Administrator of the Northern Territory of Australia, acting with the advice of the Executive Council, hereby make the following Regulations under the *Mines Safety Control Act*.

Dated 28 September 1988.

E.E. JOHNSTON  
Administrator

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MINES SAFETY CONTROL (RADIATION  
PROTECTION) REGULATIONS 1988

1. CITATION

These Regulations may be cited as the Mines Safety Control (Radiation Protection) Regulations 1988.

2. INTERPRETATION

(1) In these Regulations, unless the contrary intention appears -

"Chief Inspector" means the Chief Inspector appointed under the *Radioactive Ores and Concentrates (Packaging and Transport) Act*;

"Chief Medical Officer" means the Chief Medical Officer appointed under the *Public Health Act*;

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\* Notified in the *Northern Territory Government Gazette* on 5 October 1988.

## *Mines Safety Control (Radiation Protection) Regulations*

"Code" means the Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores (1987), referred to as the Radiation Protection (Mining and Milling) Code (1987), as amended from time to time, made under section 9(1) of the *Environment Protection (Nuclear Codes) Act 1978* of the Commonwealth.

(2) Words and expressions used in these Regulations have the meanings they have in the *Mines Safety Control Act*.

(3) The expression "appropriate authority" used -

(a) in regulation 4, in a paragraph of that regulation specified in Column 1 of Schedule 1, in relation to the relevant requirement in that paragraph, means, subject to subregulation (5), the person or persons specified in Column 2 of that Schedule opposite that paragraph so specified; or

(b) in the Code, in a clause of the Code specified in Column 1 of Schedule 2, in relation to the relevant requirement in that clause, means, subject to subregulation (5), the person or persons specified in Column 2 of that Schedule opposite that clause so specified.

(4) Subject to subregulation (2), words and expressions used in these Regulations have the meanings they have in the Code.

(5) A power of the Director of Mines under regulation 4(r) and (zg)(ii) and clause 9(4) and (26) of the Code shall not be exercised without prior consultation with the Chief Medical Officer.

### 3. APPLICATION

These Regulations apply to each mine in the Territory.

### 4. DUTIES OF OPERATOR AND MANAGER

An operator and a manager shall ensure that -

(a) before commencing operations and at all subsequent times, approvals and authorizations required under clause 8 of the Code are obtained from the appropriate authority;

(b) facilities provided, and work carried out, are in accordance with the approvals and authorizations granted by the appropriate authority;

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- (c) the activities of a contractor employed at the mine or mill and of an employee of a contractor comply with the Code;
- (d) an administrative mechanism is established which, in conjunction with the approved facilities and work procedures, ensures that -
  - (i) the collective effective dose equivalents of the various categories of employees and of relevant groups of members of the public, as approved by the appropriate authority, are, taking into account economic and social factors, as low as reasonably achievable; and
  - (ii) doses received by employees and members of the public from the operations covered in clause 7(2) of the Code are not greater than the limits specified in clause 12 of the Code;
- (e) the appropriate authority is notified, in writing, of -
  - (i) any need to make variations to operations, procedures or equipment in the mine or mill, not included in any authorization, which may result in significant changes in exposure to radiation of employees or members of the public; and
  - (ii) any doses, absorbed dose rates or contamination levels in excess of authorized limits, the causes of such excesses and of action taken;
  - (iii) any doses arising from accidental exposures;
  - (iv) the names of new designated employees together with any available information on known previous employment involving exposure to radiation; and
  - (v) the names of employees who have ceased to be designated employees following each classification review or on termination of employment;
- (f) corrective measures, as required by the appropriate authority, are taken when authorized limits are exceeded;
- (g) any defect, due to design or malfunction, discovered in the mine, mill, plant, equipment or working procedure that is likely to cause a significant increase in radiation exposure is

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investigated in conjunction with the radiation safety officer, and the causes, results of investigations and resulting action recorded;

- (h) any defect referred to in paragraph (g) is promptly remedied or the situation arising from the defect is brought under control;
- (j) when the operation of the mine or mill requires that an unusual procedure be carried out, the radiation exposure expected from that procedure is taken into account and appropriate radiation protection measures are instituted;
- (k) all employees, on commencing work at the mine or mill, are properly instructed in the radiation aspects of their work and in the precautions necessary to limit their exposure to radiation and to avoid radiation accidents and injuries;
- (m) re-instruction of employees in respect of the matters referred to in paragraph (k) is undertaken at intervals and to a standard acceptable to the appropriate authority;
- (n) employees are supervised, in accordance with the Code, in the performance of their work;
- (p) controlled areas and supervised areas are designated, where necessary, as part of the administrative mechanism for the control of radiation exposure of employees and members of the public;
- (q) boundaries of controlled areas and supervised areas are delineated clearly and permanently identified and are brought to the attention of employees;
- (r) eating, drinking and smoking areas and change rooms, showers and associated facilities are provided in accordance with the requirements of the appropriate authority and that such areas and facilities are, where possible, outside controlled areas;
- (s) areas used for recreational and residential purposes are outside controlled areas and supervised areas;
- (t) action is taken to keep contamination levels on surfaces in the areas and facilities referred to in paragraphs (r) and (s) and on employees' skin and clothing below authorized limits and to reduce those levels as much as practicable;

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- (u) all employees and other persons in the mine or mill are subject to appropriate radiation control measures whilst in the mine or mill;
- (w) the contamination level on any items of equipment removed from the mine or mill is below the authorized limit and the transport of such items is in accordance with the Code of Practice for the Safe Transport of Radioactive Substances (1982), as amended from time to time, and with any other requirements of the appropriate authority;
- (y) inspectors are given the right of access to, and a reasonable opportunity to examine, equipment, working procedures and records required to be held by an operator or manager under the Code;
- (z) a radiation safety officer, with qualifications and experience acceptable to the appropriate authority, is appointed for the mine or mill;
- (za) a ventilation officer, with qualifications and experience acceptable to the appropriate authority, is appointed to the mine or mill when required by the appropriate authority;
- (zb) employees are classified as either designated employees or non-designated employees before commencing work at the mine or mill and that classifications are reviewed at 12 monthly intervals or whenever an employee's work activities change;
- (zc) the number of designated employees, while sufficient for the proper conduct of the operation of the mine or mill, is kept to a minimum;
- (zd) assessments are made, through the use of personal monitoring, where possible, and the dose assessment procedures in clause 13 of the Code, to determine the annual effective dose equivalent received by each designated employee who is likely to exceed three tenths of the annual limit specified in Schedule 1 of the Code;
- (ze) assessments are made, through the use of appropriate monitoring techniques and the dose assessment procedures in clause 13 of the Code, to determine the annual effective dose equivalent of each designated employee who is unlikely to exceed three tenths of the annual limit specified in Schedule 1 of the Code;

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- (zf) assessments are made, where it is possible that the dose limits specified in Schedule 1 of the Code for individual organs or tissues are exceeded, to determine the annual dose equivalents of those organs or tissues;
- (zg) assessments are made, through the use of appropriate monitoring techniques and the dose assessment procedures in clause 13 of the Code, of -
  - (i) the annual effective dose equivalents received by the group of non-designated employees who are likely to receive the highest effective dose equivalents and by the critical group of members of the public who may be exposed as a result of the operations covered in clause 7(2) of the Code; and
  - (ii) where required by the appropriate authority, the effective dose equivalents of other persons working in the mine or mill;
- (zh) assessments are made to determine the effective dose equivalents and dose equivalents to the organs and tissues, specified by the appropriate authority, after an employee has been involved in an accidental exposure;
- (zj) records are kept of the assessed doses and their components (including reference to assessment procedures) for each designated employee, with those doses arising from accidental exposures being included in the records, but being individually identified;
- (zk) records are kept of the assessed doses and their components of non-designated employees who are exposed as a result of an accidental exposure;
- (zm) values of the assessed doses received by an employee and absorbed dose rates and contamination levels in the workplaces occupied by that employee are provided to that employee upon request when they become available;
- (zn) reports on assessed doses and other related material are provided to the appropriate authority at a frequency and in a form approved by the appropriate authority;
- (zp) records relating to radiation protection, as specified in clause 8(2)(g) of the Code, are -
  - (i) promptly recorded in a register in a form acceptable to the appropriate authority;



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- (ii) brought to the attention of the manager periodically, and to the attention of the appropriate authority when required; and
- (iii) retained until such time as is determined by the appropriate authority, with copies being supplied to the appropriate authority on request;
- (zq) health surveillance of all designated employees is carried out and arrangements made for the maintenance of their medical records;
- (zr) a pregnant designated employee, of whom notification under regulation 5(10) has been received, is employed under conditions whereby the dose received during the remainder of the pregnancy does not exceed, on a *pro rata* basis, three-tenths of the limit for effective dose equivalent specified in Schedule 1 of the Code;
- (zs) when an employee commences work at the mine or mill, a copy of any radiation records relating to that employee's previous employment is requested from the appropriate authority or the previous employer and included in the employee's records; and
- (zt) copies of all medical records of an employee and arising from the requirements of the Code are forwarded, subject to the employee's concurrence, to the appropriate authority on the termination of employment of that employee.

5. DUTIES OF EMPLOYEES

(1) An employee shall inform the manager at the commencement of employment at a mine or mill of all previous employment involving exposure to radiation.

(2) An employee shall attend radiation induction and re-training courses as required.

(3) An employee shall obey all notices displayed in accordance with the Code and obey all instructions relating to radiation protection of the employee and other persons.

(4) An employee shall use, in the manner required by the manager, radiation protective equipment furnished for the employee's use.

(5) An employee shall use radiation monitoring equipment only in the manner required by the manager.

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(6) An employee shall immediately report to his or her supervisor any defect or unforeseen circumstance of which the employee becomes aware and which the employee believes is likely to cause an increase in absorbed dose rate or contamination levels.

(7) An employee shall not interfere with, remove, alter, displace or render ineffective any radiation protective equipment or radiation monitoring equipment, or interfere with any method, process or working procedure adopted to minimize exposure to radiation except as permitted by the manager for the purposes of inspection, maintenance, repair, modification or replacement.

(8) An employee shall not engage in any careless or reckless practice or action likely to result in unnecessary radiation exposure to the employee or other persons.

(9) An employee shall not eat, drink or smoke within a controlled area other than in locations specified for such purposes by the manager.

(10) A designated employee who becomes pregnant shall, as soon as practicable after becoming aware of the fact, notify the manager so that the requirements of regulation 4(zr) can be met.

(11) A designated employee shall undergo all medical examinations as arranged by the manager for health surveillance in accordance with the Code.

6. DUTIES OF CERTAIN OFFICERS

(1) A radiation safety officer appointed in accordance with regulation 4(z) shall be responsible to the manager for advising on matters relating to the radiation protection of employees and members of the public, implementing the radiation monitoring programme and assessment of doses.

(2) A ventilation officer appointed in accordance with regulation 4(za) shall be responsible to the manager for ventilation in the mine or mill.

7. OFFENCES AND PENALTIES

A person who contravenes or fails to comply with these Regulations is guilty of a regulatory offence.

Penalty: \$500.

8. REPEAL OF REGULATIONS

The Mines Safety Control (Radiation Protection) Regulations, Regulations 1981, No. 30, are repealed.

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SCHEDULE 1

Regulation 2(3)(a)

MEANING OF "APPROPRIATE AUTHORITY" IN REGULATION 4

Column 1	Column 2
Paragraph	Meaning
(d)(i)	Director of Mines and Chief Medical Officer
(e)	Director of Mines and Chief Medical Officer
(f)	Director of Mines and Chief Medical Officer
(m)	Director of Mines and Chief Medical Officer
(r)	Director of Mines
(w)	Chief Medical Officer and Chief Inspector
(z)	Director of Mines
(za)	Director of Mines
(zg)(ii)	Director of Mines
(zh)	Director of Mines and Chief Medical Officer
(zn)	Director of Mines and Chief Medical Officer
(zp)	Director of Mines and Chief Medical Officer
(zs)	Chief Medical Officer
(zt)	Chief Medical Officer

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SCHEDULE 2

Regulation 2(3)(b)

MEANING OF "APPROPRIATE AUTHORITY" IN THE CODE

Column 1	Column 2
Clause	Meaning
3	Director of Mines
4	Director of Mines and Chief Medical Officer
6(2) definition of 'Inspector'	Director of Mines
7(3)	Director of Mines and Chief Medical Officer
8(1)(a) and (b), (2)(c), (e), (f), (h) and (i) and (3)	Director of Mines
8(1)(c), (2)(a), (b), (d) and (g) and (4)	Director of Mines and Chief Medical Officer
9(4)(a), (5), (6), (10), (27), (31) and (32)	Director of Mines and Chief Medical Officer
9(14), (20) and (26)	Director of Mines
9(17)	Chief Medical Officer and Chief Inspector
9(35) and (36)	Chief Medical Officer
13(3), (4) and (9)	Director of Mines and Chief Medical Officer
13(5)	Director of Mines
14(2)(a), (b) and (d)	Director of Mines and Chief Medical Officer