

ANNEX B

Proforma for the Provision of Incident Data

Proforma for the Provision of Radiation Incident Data

For use by IRID Coordinator

Important: Please read the Guidance Notes before completing the proforma.

Organisation supplying data:

Individual completing proforma:

Daytime telephone no:

Area (Circle ONE appropriate area code relating to area in which the incident occurred. If not known, eg site radiography, use base location of depot or regional office.)

| Area | Local authorities within each area |
|---------------------------|--|
| 01 SOUTH WEST | Avon, Cornwall, Devon, Gloucestershire, Somerset, Isles of Scilly |
| 02 SOUTH | Berkshire, Dorset, Hampshire, Isle of Wight, Wiltshire |
| 03 SOUTH EAST | Kent, Surrey, East Sussex, West Sussex |
| 04 – | – |
| 05 LONDON N | Barking & Dagenham, Barnet, Brent, Camden, Enfield, Ealing, Hackney, Haringey, Harrow, Havering, Islington, Newham, Redbridge, Tower Hamlets, Waltham Forest |
| 06 LONDON S | Bexley, Bromley, City of London, Croydon, Greenwich, Hammersmith & Fulham, Hillingdon, Hounslow, Kensington & Chelsea, Kingston, Lambeth, Lewisham, Merton, Richmond, Southwark, Sutton, Wandsworth, Westminster |
| 07 EAST ANGLIA | Essex, Norfolk, Suffolk |
| 08 NORTHERN HOME COUNTIES | Bedfordshire, Buckinghamshire, Cambridgeshire, Hertfordshire |
| 09 EAST MIDLANDS | Leicestershire, Northamptonshire, Oxfordshire, Warwickshire |
| 10 WEST MIDLANDS | West Midlands |
| 11 WALES | Clwyd, Dyfed, Gwent, Gwynedd, Mid Glamorgan, Powys, South Glamorgan, West Glamorgan |
| 12 MARCHES | Hereford and Worcester, Shropshire, Staffordshire |
| 13 NORTH MIDLANDS | Derbyshire, Lincolnshire, Nottingham |
| 14 SOUTH YORKSHIRE | Humberside, South Yorkshire |
| 15 W & N YORKS | North Yorkshire, West Yorkshire |
| 16 GREATER MANCHESTER | Greater Manchester |
| 17 MERSEYSIDE | Cheshire, Merseyside |
| 18 NORTH WEST | Cumbria, Lancashire |
| 19 NORTH EAST | Cleveland, Durham, Northumberland, Tyne & Wear |
| 20 SCOTLAND EAST | Borders, Centre Fife, Grampian, Highland, Lothian, Tayside and the island areas of Orkney & Shetland |
| 21 SCOTLAND WEST | Dumfries and Galloway, Strathclyde and the Western Isles |
| 22 NORTHERN IRELAND | |

Date of incident (For example, 19/03/94 – be as specific as possible.
If uncertain, indicate between which dates the incident probably occurred.)

Incident category (Circle ONE code only.)

- A Person(s) not exposed (eg dosimeter exposed off the person)
- B Failure of interlocks, components, warning lights, safety procedures, but diversity sufficient to prevent abnormal exposure
- C Near miss but potential for significant consequences, fortuitous non-exposure or limited exposure
- D Person(s) exposed and accident potential realised
- X Not known

Exposure level (Circle ONE code only.)

- 1 Exposure insufficient to cause IRR85 investigation level to be exceeded (< 15 mSv whole body) or other dose limits to be exceeded
- 2 Exposure sufficient to cause IRR85 investigation level (15 mSv whole body) to be exceeded
- 3 Exposure sufficient for any dose limit to be exceeded
- 4 Exposure ≥ 0.25 Sv to the whole body, blood forming organs or other critical organs' and/or ≥ 6 Sv to the skin locally, and/or ≥ 0.75 Sv to other tissues or organs from external/internal sources
- X Not known

Site level (Circle up to three codes describing the geographical area of the radiological consequences.)

- 1 Onsite consequences
- 2 Localised offsite consequences
- 3 Widespread offsite consequences
- X Not known

Nature of incident/potential incident (Circle ALL relevant codes.)

- | | |
|---|--|
| a Lost source | h External whole body exposure |
| b Damaged or defective equipment | i Localised exposure to external radiation |
| c Leaking source | j Unauthorised or unintended discharges |
| d Contaminated premises/equipment | k Dropped dosimeter/not worn |
| e Offsite contamination | l NAIR instigated |
| f Contamination of person(s) (external) | m Other |
| g Contamination of person(s) (internal) | X Unknown |

Number exposed or potentially exposed (Tick ONE box under EACH heading. For dropped personal dosimeter or incidents where safety systems prevented exposure, enter NONE.)

- | Workers | Members of the public |
|------------------------------------|--------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> |
| <input type="checkbox"/> 1 | <input type="checkbox"/> |
| <input type="checkbox"/> 2 to 5 | <input type="checkbox"/> |
| <input type="checkbox"/> 6 to 10 | <input type="checkbox"/> |
| <input type="checkbox"/> > 10 | <input type="checkbox"/> |
| <input type="checkbox"/> Not known | <input type="checkbox"/> |

Doses received by those actually exposed (State any known or estimated doses in millisieverts (three decimal places, not a range) for each exposed person. Enter 0.0 for dropped dosimeter readings where no exposure occurred.)

| Person (delete as appropriate) | Whole body dose (EDE or CEDE) | Extremity dose (DE) | Internal dose (CDE) |
|-----------------------------------|----------------------------------|------------------------|------------------------|
| Worker/public | | | |
| Worker/public | | | |
| Worker/public | | | |
| Worker/public | | | |
| Worker/public | | | |
| Worker/public | | | |

Continue on separate sheet if necessary

Occupation of worker(s) (Circle up to FOUR appropriate CIDI codes.)

- 00 Not known
- 01 Industrial radiography using a permanent installation
- 02 Industrial radiography on site or works of engineering construction
- 07 Radioactive waste treatment
- 08 Radiation protection
- 09 Luminising
- 10 Application and servicing of machines producing ionising radiation
(other than those covered elsewhere)
- 11 Application and manipulation of radioactive substances
(other than those covered elsewhere)
- 14 Transport work
- 15 Offshore work activities
- 16 Onshore drilling
- 17 Coal mining – underground workers
- 18 Coal mining – surface workers
- 19 Mining other minerals – underground workers (non-coal)
- 20 Mining other minerals – surface workers (non-coal)
- 25 Dental work
- 26 Veterinary work
- 30 Doctors
- 31 Nurses
- 32 Radiographers
- 33 Physicists and physics technicians (medical applications only)
- 34 Other medical applications
- 40 Quarrying
- 41 Academic research and teaching
- 42 Industrial research
- 49 Defence related activities not covered elsewhere
- 51 Other industrial applications
- 52 Other occupations not mentioned above
- 99 Recycling of materials

Type of equipment involved (Circle ONE appropriate code.)

- | | |
|--|---|
| 01 Diagnostic X-ray | 15 Analytical equipment |
| 02 Veterinary X-ray | 16 X-ray optics |
| 03 Teletherapy | 17 Electron beam equipment |
| 04 Brachytherapy | 18 Unsealed radioactive materials (not covered elsewhere) |
| 05 Nuclear medicine (therapy and diagnostic) | 19 Smoke detectors |
| 06 Baggage inspection/security | 20 Consumer products |
| 07 Gamma radiography site | 21 Static eliminators |
| 08 Gamma radiography facility (permanent) | 22 Laboratory/calibration sealed sources |
| 09 X-ray radiography site | 23 Yield monitors on agricultural equipment |
| 10 X-ray radiography facility (permanent) | 24 Radioactive waste treatment plant |
| 11 Irradiation facilities (X, gamma, electron) | 25 Environmental tracer work |
| 12 Thickness gauges | 26 Processing of ore and scrap materials |
| 13 Level gauges | 27 Other (specify in text description) |
| 14 Density/moisture gauges | |

Additional characters for a more precise use, where appropriate (Circle ONE relevant code.)

01 Diagnostic X-ray

- 01 = Dental intraoral (standard)
- 02 = Dental OPG
- 03 = Dental cephalostat
- 04 = Mobile radiography
- 05 = Mobile image intensifier
- 06 = General radiography
- 07 = Installed image intensifier
- 08 = Mammography
- 09 = Computed tomography
- 10 = X-ray bone mineralisation
- 11 = Gamma bone mineralisation

03 Teletherapy

- 01 = Gamma
- 02 = Megavoltage
- 03 = Orthovoltage
- 04 = Superficial voltage
- 05 = Electron
- 06 = Neutron
- 07 = Therapy simulator

04 Brachytherapy

- 01 = Interstitial implants
- 02 = Applicators
- 03 = Remote after loading
- 04 = Intercavity implants

05 Nuclear medicine

- 01 = Therapy
- 02 = Diagnostic

06 Baggage inspection/security

- 01 = X-ray cabinet (batch)
- 02 = X-ray cabinet (conveyor)
- 03 = X-ray portable
- 04 = Explosives detector (⁶³Ni)
- 05 = Explosives detector (Neutron)

07 Gamma radiography site

- 01 = Torch container
- 02 = Shutter container
- 03 = Projection container

08 Gamma radiography facility

- 01 = Torch
- 02 = Shutter container
- 03 = Portable projection container
- 04 = Installed projection container (mechanical drive)
- 05 = Installed projection container (electrical drive)
- 06 = Installed projection container (pneumatic drive)

11 Irradiation facilities

- 01 = Laboratory/research (inaccessible gamma) [IAEA Cat I]
- 02 = Industrial air cooled (restricted access gamma) [IAEA Cat II]
- 03 = Industrial water cooled (inaccessible gamma) [IAEA Cat III]
- 04 = Industrial water cooled (restricted access gamma) [IAEA Cat IV]
- 05 = Laboratory/research (inaccessible electron beam) [IAEA Cat I]
- 06 = Industrial (restricted access electron beam) [IAEA Cat II]

12 Thickness gauges

- 01 = Gamma thickness
- 02 = Beta thickness – transmission
- 03 = Beta thickness – backscatter

13 Level gauges

- 01 = Gamma hopper
- 02 = Gamma packaging
- 03 = Gamma portable
- 04 = X-ray packaging

14 Density/moisture gauges

- 01 = Neutron density (construction)
- 02 = Gamma density
- 03 = Beta density
- 04 = Gamma moisture

15 Analytical equipment

- 01 = Gas chromatograph
- 02 = Leakmeter
- 03 = Static meter
- 04 = Dewpoint meter
- 05 = Betascope
- 06 = Sediography

16 X-ray optics

- 01 = Spectrometer
- 02 = Crystallography

18 Unsealed materials

- 01 = Laboratory studies (eg tracer)
- 02 = Industrial studies (eg tracer)
- 03 = Isotope production
- 04 = LSA materials

17 Electron beam equipment

- 01 = Electron microscope
- 02 = Electron beam welding
- 03 = Ion implantation

Radioactive material involved (State most significant nuclide and activity. Enter 'unknown' if nuclide unknown; leave blank if X-ray generator only was involved.)

| Nuclide | Activity (Bq) |
|---------|---------------|
| | |

Radiation generator (State kilovoltage of any generator, eg 100 kV medical X-ray set. Enter 'unknown' if not known; leave blank if no generator was involved.)

| Kilovoltage |
|-------------|
| |

Cause of incident (Circle up to FOUR codes.)

- | | |
|--|---|
| <ul style="list-style-type: none"> a Engineering failure – design/installation inadequate b Engineering failure – inadequate maintenance c Engineering failure – shielding/containment d Engineering failure – other e Inadequate local rules – operating procedures f Inadequate supervision of persons g Inadequate personal protective equipment (PPE) h Inadequate personal training | <ul style="list-style-type: none"> i Failure in use of monitoring instruments j Error by worker k Deliberate or malicious act l Lost/stolen source m External factor, eg fire, corrosion n Other x Not known |
|--|---|

Contingency plans (Circle ONE appropriate letter only.)

- N Not available
- A Available but not used
- U Available and used but inadequate
- G Available, adequate and used
- R Not relevant
- X Not known

RPA involvement (Circle ONE appropriate letter only.)

- Z None appointed
- I Appointed and involved in investigation
- N Appointed but not involved in investigation
- X Not known

RPS involvement (Circle ONE appropriate letter only.)

- Z None appointed
- S Appointed, suitable and involved in investigation
- I Appointed, unsuitable but involved in investigation
- N Appointed, unsuitable and not involved in investigation
- X Not known

Follow-up action taken by employer (Circle ONE or MORE codes.)

- 1 Additional/revised operating procedures/local rules
- 2 New/revised contingency plans
- 3 Engineering modifications including additional safety systems
- 4 Additional/revised training
- 5 Additional personal protective equipment (PPE)
- 6 Revised maintenance procedures
- 7 Disciplinary action against individuals
- 8 Equipment/radioactive material removed from use
- X Not known

Data cross-reference field (Tick the appropriate box(es), if any, of the organisations that were involved in the investigation of this incident.)

NRPB

HSE

Environment Agency/HMIP

Text description of the incident

Provide a brief description of what happened including the cause of the accident or incident (see examples in Appendix D). Include separate summary of general 'lessons learnt'. The total should normally be about 250 words but longer summaries are welcome for unusual or particularly important incidents. The text should give any reported or estimated doses and repeat details of the source. The description must be able to stand on its own without reference to the categorisation in the other fields.

The description is intended for general use outside NRPB, HSE and the Agency and should be anonymous (ie no names of companies or individuals should be present). It should not refer to specific products such as 'XXXXXXXX' X-ray set model XYZ unless this is pertinent to the cause of the accident and the manufacturer has agreed to the reference. It should not refer to enforcement action or other HSE/Agency inspector's action.

The purpose of the description is to give the reader a clear idea of the main facts and the key lessons to be learned from the incident so that others can avoid making similar errors in future. The aim is to communicate the essential points to interested employers/RPAs: no special knowledge on the part of the reader should be assumed. Headings might include: general description, doses (including 'dropped dosimeter' results) (indicate method of assessment), actual or potential consequences and lessons. For very serious incidents medical management/consequences might be included.