

CENTRAL INDEX OF DOSE INFORMATION (CIDI)

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ABSTRACT

This paper describes the functions, operation, types and method of data transfer, and summarised data to be published relating to the Central Index of Dose Information.

INTRODUCTION

The Central Index of Dose Information (CIDI) is a national database of occupational exposure to radiation operated by the National Radiological Protection Board (NRPB) as agent for the Health and Safety Executive (HSE). It receives annual summaries from Approved Dosimetry Services (ADSs) of the radiation doses to classified persons in the United Kingdom. At present, there are approximately 40 dosimetry services approved in Great Britain for keeping records and approximately 60,000 classified workers. All the data provided to CIDI are treated as confidential with respect to individual persons and employers.

FUNCTIONS OF CIDI

CIDI has a number of functions as listed below:-

- (a) To enable data to be transmitted from the previous ADS to the next, when a classified worker changes employer.
- (b) To provide an index to show which ADS is responsible for the monitoring of a classified person, allow revised dose data to be passed from one ADS to the next, and to act as a back-up source of dosimetric information about the person.
- (c) To conduct an annual audit of the persons monitored by an ADS to ensure that the number of persons monitored agrees with the total for the previous year, allowing for additions and deletions during the year.
- (d) To provide statistics to guide policy making on a national basis.

TYPES OF RECORD EXCHANGED BETWEEN CIDI AND ADSs

Registration report: This is sent from an ADS to CIDI to notify CIDI that a dose record is being started by the ADS for a classified person.

Entry report: This is sent from CIDI to the ADS to notify the ADS that CIDI has started a record for the classified person.

Termination report: This is sent from the ADS to CIDI to inform CIDI that a classified person has left employment, and should be sent to CIDI as soon as possible after all outstanding dosimeters have been processed.

Annual return: This is sent from the ADS to CIDI and includes

summaries of the annual doses received by all classified workers for which the ADS kept records, irrespective of whether they ceased to be classified during the year. Note: a person can only be declared as having ceased classified work at the end of the year.

Amended records: These are records that are sent from the ADS to CIDI to correct previously submitted information. It is recognised that records may need to be provided occasionally, but amendments should be exceedingly rare in order to minimise the operating costs of CIDI.

In addition to the above, the ADS has to inform CIDI of the name and address of any employer for whom the ADS is keeping records. CIDI then allocates to the ADS a CIDI code number for that employer.

DOSE DATA FOR CIDI

The following is a summary of the dose data contained within the annual return, termination report and entry report. Precise details of the dose data and personal data are contained in The Reference Manual for Data Transfer to CIDI¹. Not all the data are obligatory.

Current year dose data:

(a) Sum of effective dose equivalent from external radiation and committed effective dose equivalent from internal emitters.

(b) Neutron component of (a).

(c) Notional component of (a) (where this exceeds 10% of the total).

(d) Sum of dose equivalent from external radiation and committed dose equivalent from internal emitters to organs and tissues (where doses exceed 10% of the proportion of the annual dose limit for the period in question).

(e) A flag if (a) above includes a component from long-lived or other internal emitters.

Lifetime dose data:

(a) Effective dose equivalent from external radiation (including (b) below).

(b) Notional component of (a) (where this exceeds 10% of the total).

Note: Termination and entry reports will now be required to include separate dose summaries for each of the previous four years (excluding any year before 1/1/88).

PERSONAL DATA FOR CIDI

The personal data sent to CIDI includes the following:-

(a) Surname and forenames.

(b) Sex and date of birth.

(c) National insurance number (the unique identifier).

(d) Identifier of the ADS supplying information.

(e) Occupational classification of the employee.

(f) CIDI code number of the individual's employer.

(g) Date of commencement/termination of classified work in this employment.

(h) Employers work activity coded as Standard Industrial Classification (1980).

METHOD OF DATA TRANSFER

It is intended that the majority of data will be transmitted to and from CIDI in the form of magnetic media i.e. magnetic tape or floppy discs depending on the amount of data, in accordance with precisely defined data formats¹. In addition to the previously defined data, each computer compatible record has a field for: record type, record counter, record key, and amendment flag. The computer dose record(s) have a field to distinguish whether the record is for doses for the current year or lifetime doses, and fields that describe the dose type and organ/tissue type as per CIDI classification.

PUBLICATION OF CIDI DATA

Although the individual data on the database are treated as confidential, an annual summary of statistics for each year, commencing for the year 1986 will be published. In order to facilitate comparison between years, it is the intention that wherever possible, the format of succeeding summaries will remain unchanged. Also, in addition to these annual summaries, it is expected that further analyses will be published at likely intervals of five years that will assist in the identification of any trends.

The tabulated data is divided into three parts; Part A - Whole body doses, Part B - Dose variation with age and sex, and Part C - Doses to specific organs and tissues. A common feature of the tabular presentation is that all doses are related to Occupational Category. The majority of the tables present the data distributed within dose intervals, together with total workers, collective doses, and mean doses for each Occupational Category. There is also a table that gives the distribution of workers, by age and sex, that exceeded 15 mSv for the year.

As a matter of policy, the statistical summary includes a minimum of analysis. This is in order to ensure that any subsequent analysis of data will be based on the "raw" data as received by CIDI. However, there is an additional table that gives the distribution of effective dose equivalent plus committed effective dose equivalent where pro-rata doses have been substituted for notional doses. The reason for this is that it is believed that such a table is likely to give a more realistic impression of actual doses.

Figures 1 to 3 are taken as examples from the 1986 Summary of Statistics², they show respectively, mean doses, the number of workers exceeding 15 mSv, and collective doses per Occupational Category.

REFERENCES

1. Greenslade, E., Kendall, G.M., Iles, W.J., Gardner, P.H., Young, T.O. Reference Manual for Data Transfer to the Central Index of Dose Information, 1989, NRPB-M176.
2. Summary of Statistics 1986, The Central Index of Dose Information, HMSO (to be published).

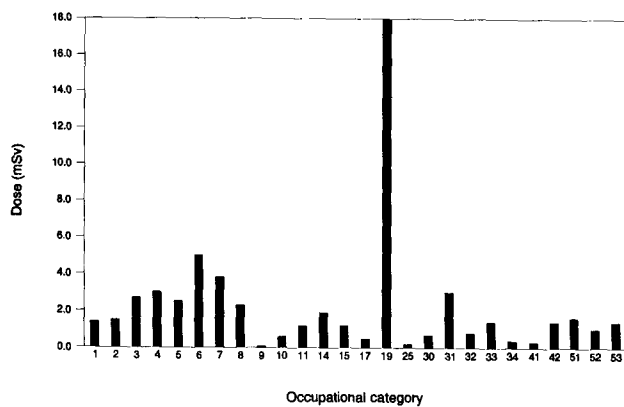


FIGURE 1 Mean dose per occupational category

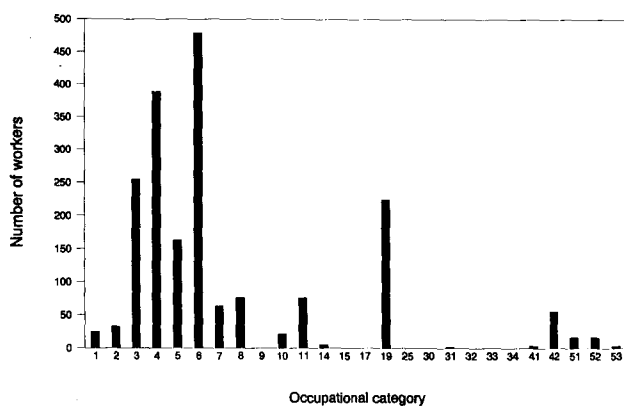


FIGURE 2 Workers exceeding 15 mSv per occupational category

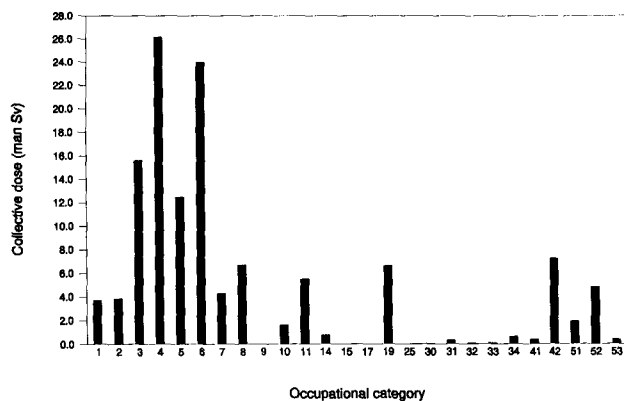


FIGURE 3 Collective dose per occupational category