



Doses to the embryo/fetus and neonate from intakes of radionuclides by the mother

Part 1: Doses received in utero and from
activity present at birth

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Part 1: Doses received in utero and from activity present at birth

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This report considers the consequences of occupational exposures leading to intakes of radionuclides by women who are, or may become, pregnant. Estimates are given of potential doses to offspring following intakes of a selected range of naturally occurring and artificial radionuclides that might arise for different contamination scenarios in the workplace. The radionuclides covered are of interest from both routine operations and accidental releases.

Doses can arise both from the transfer of radionuclides to the embryo and fetus, and from activity in the mother's tissues. The relative contributions of these two sources vary widely depending on the emissions of each radionuclide. Doses are also calculated for the lifetime of the newborn child from activity present at birth.

The total dose coefficient for the offspring (the sum of the in utero and postnatal doses) calculated in this report is compared to the dose coefficients recommended by ICRP for workers. Of particular interest are cases where the offspring dose is greater than the worker dose since these are the cases where the normal standards for protection of workers may not afford sufficient protection to the offspring. Isotopes of hydrogen, carbon, phosphorus, sulphur, iodine and the alkaline earth elements fall into this category. Isotopes of calcium and phosphorus, show the greatest differences between offspring and worker doses with the ratio of the two being over 15 for ingestion of calcium-45 or phosphorus-32. In utero doses for the actinides such as plutonium-239 are at most only a few per cent of the corresponding worker dose.

In some cases intakes by the mother that occurred well before pregnancy can lead to significant doses to the fetus; this is of particular relevance to the advance planning of protection for female workers. A general implication of this report is that intakes of some radionuclides may need to be restricted to lower levels than those that would lead to a dose to the worker of 1mSv. This report thus provides the basis for the guidance given by HSC in the 1999 Regulations.

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1 Introduction

This report considers the consequences of occupational exposures leading to intakes of radionuclides by women who are, or may become, pregnant. Estimates are given of potential doses to offspring following intakes of a selected range of naturally occurring and artificial radionuclides that might arise for different contamination scenarios in the workplace. The radionuclides covered are of interest from both routine operations and accidental releases.

Doses resulting from intakes before or during pregnancy are considered. These doses arise both from the transfer of radionuclides to the embryo and fetus, and from activity in the mother's tissues (so called cross-fire). Doses are also calculated for the lifetime of the newborn child from activity present at birth. Both acute (single) and chronic (continuous) exposures are considered.

Doses from ingestion of radionuclides in mother's milk are considered in Part 2 of this report.

2 Development of the embryo/fetus

The terminology used to describe the development of the conceptus from conception to term is variable in the literature. From studies in radiobiology, where the effects of *in utero* exposure to ionising radiation have been studied, two main phases of development may be considered: the embryonic period and the fetal period. The term embryo refers to the initial stages of growth and development up to the age at which most of the body organs have formed, considered to be at the end of the 8th week (56 days) post conception. The subsequent period of fetal development comprises principally growth and maturation of organs. It continues up to birth at 38 weeks post conception (266 days) when the body mass is taken to be 3.5 kg (ICRP, 1989).

Although the morphological appearance of the embryo during the first 3 weeks of development post conception does not seem very structured, the pattern of the basic body plan is already established at this time. Thus, the dorsal ectodermal cells proliferate and differentiate to form the neural plate, which develops into the neural tube, which comprises the nervous system. The mesodermal germ layer develops, for example, into the circulatory system and the heart and the endodermal layer forms the digestive system. By the end of the 4th week of gestation the embryo, which is still only about 4 mm long, has established the basis of most of the maturing organ systems. The limbs are still absent and the urogenital system has developed only the early traces of the embryonic kidneys. The period of organogenesis (organ formation) may be considered to last up to about the end of the second month (taken here to be 56 days of gestation), at which time the developing embryo still weighs less than 10 g (Moore and Persaud, 1998).

From about the 8th week, the developing organism is clearly recognisable as having human characteristics. Further growth, development and maturation of the fetal organs and systems continues to birth at around 38 weeks post conception (266 days). Progressive differentiation, histogenesis and growth are the characteristic processes that take place during the fetal period. The human fetus, as with most other mammalian species, is contained in the amniotic fluid where it is surrounded by fetal membranes and nourished via the placenta and umbilical cord. Between the end of the embryonic period and birth the mass of the fetus increases dramatically from less than 10 g to a birth weight of about 3.5 kg.

An extensive compilation of biometric data for the prenatal period has been published by Guihard-Costa and Larroche (1995). Their objective was to establish a set of normalised curves for clinical measures used to characterise fetal growth and development. Their analysis involved nearly 5,000 fetuses, some studied post-mortem and others by ultrasound. They reported post-mortem measurements of body mass for 496 fetuses that were judged to be of normal development. The fetal ages ranged from 10 to 42 weeks gestation, measured from the last normal menstrual period.

Guihard-Costa and Larroche (1995) also measured brain masses. Fetal thyroid masses have been reported by Aboul-Khair *et al.* (1966), Evans *et al.* (1967), and Ares *et al.* (1995). The masses of fetal organs, other than the brain and thyroid, were obtained from autopsies and have been reported in the literature by Jackson (1909), Widdowson and Dickerson (1964), Hudson (1965), Trotter and Peterson (1968), Potter and Craig (1975), Burdi *et al.* (1981), and Shepard *et al.* (1988).

3 Dose calculation method

The general methods of calculation in age-dependent dosimetry have been described in ICRP Publications 56 (ICRP, 1989) and 67 (ICRP, 1993). The main points are repeated briefly here and it is shown how the method is extended to cover the embryo and fetus. Similar descriptions are given in ICRP Publication 88 (ICRP, 2001).

In general, the equivalent dose rate in a tissue T, $\dot{H}_T(t)$ at time t is given by:

$$\dot{H}_T(t) = \sum_S q_S(t) SEE(T \leftarrow S; t) \quad (1)$$

where $q_S(t)$ is the activity of the radionuclide in source region S and $SEE(T \leftarrow S; t)$ is the equivalent dose rate in T per unit activity in S at time t (see section 5). In the case of *in utero* dose calculations the source regions, S, may comprise many regions of the maternal body together with the placenta and certain fetal regions. The equivalent dose during any period can be calculated as the integral of the equivalent dose rate over the period. In this report equation 1 is applied to the embryo and fetus for *in utero* exposure, and to the neonate, child and adult for activity present at birth.

The total *in utero* equivalent dose due to the intake by the mother t_0 after conception, $H_T(t_0, \textit{in utero})$, is:

$$H_T(t_0, \textit{in utero}) = \int_{t_0}^{38} \dot{H}_T(t_0, t) dt \quad (2)$$

The upper limit of integration arises from the assumption that the gestation period is 38 weeks; $t=0$ is at conception. Doses received *in utero* due to intake by the mother before conception are also calculated using this approach. Assuming an intake t_0 weeks before conception, equation 2 is adapted by allowing t_0 to be negative and modifying the integration period to be from 0 to 38 weeks.

For the purposes of calculation *in utero* development is divided into two periods: the embryonic period, defined as the first 8 weeks following conception; and the fetal period, from the start of week 9 to the end of week 38 (section 2). During the embryonic period each tissue is taken to receive the same dose as that received by the wall of the maternal uterus, ie it is assumed that preferential uptake of activity by the embryo does not occur and that, for dosimetric purposes, the embryo can be assumed to be part of the uterus wall. The only SEE terms in equation 1 which are relevant are therefore $SEE(\textit{uterus} \leftarrow \textit{maternal sources})$. During the fetal period it is assumed that tissues have become distinct and that activity is located in individual fetal tissues as well, thus the relevant SEE terms in equation 1 include those for fetal source regions.

The assessment of committed effective dose, E, received *in utero* differs slightly from that described in ICRP Publication 60 (ICRP, 1991). Special consideration of the remainder, as described in ICRP Publication 60, is not necessary for the fetus since the models will not lead to higher than average doses to tissues other than those with a tissue weighting factor, w_T (ICRP, 1991). $E(\textit{in utero})$ is thus simply given by:

$$E = \sum w_T H_T$$

The use of the ICRP Publication 60 tissue weighting factors for *in utero* dosimetry is discussed further in section 6. For the calculation of committed equivalent dose to the offspring ($H_T(\text{postnatal})$) from birth to age 70 years the method given by equations 1 and 2 is again used. In this case the source regions, S , comprise only regions within the body of the offspring. Activity present at birth arises from transfer from the mother to the fetus during pregnancy. The integration period is from 0 to 70 years.

$$H_T(t_0, \text{postnatal}) = \int_0^{70y} \dot{H}_T(t) dt$$

where $t=0$ denotes birth.

In the postnatal dose calculation the simplified effective dose formulation of ICRP Publication 60 outlined above is again followed for consistency. Sections 4 and 5 give further details on how the quantities q_S and SEE, respectively, are derived.

4 Biokinetic models

The biokinetic models used for deriving the activity distributions, $q_S(t)$ in equation 1, for the embryo/fetus fall into two categories: full, element-specific, compartmental models where sufficient data exists; and a generic model in other cases. In the first category, a model for the alkaline earth elements has been developed at NRPB (section 4.1). The model for iodine has been developed at other laboratories and has been adopted by ICRP, it is therefore used in this report (section 4.2).

In the second category, the generic model, a method has been developed in collaboration with other laboratories. The method involves assigning fractions of the total maternal body burden to both the fetus and placenta according to experimentally determined concentration ratios. This method is described in detail in section 4.3 and the relevant biological data is reviewed in Appendix A.

4.1 Alkaline earth models

The model for the alkaline earth elements (Ca, Sr, Ba and Ra) is that of Fell *et al.* (2001). For the mother the standard ICRP model was adapted to include increases in gastrointestinal absorption, urinary excretion and bone turnover rates during pregnancy. The fetus was modelled with blood, soft tissue and bone compartments. The principal basis for the model is the requirement of the fetus for calcium taken into the body in the diet. Information from experimental studies on the rate of transfer of Ca across the placenta compared with those for Sr, Ba and Ra were used to develop model parameter values for the other alkaline earths. The model for Sr has been validated with information on the behaviour of ^{90}Sr in nuclear weapons test fallout and from contaminated areas of Russia.

4.2 Iodine model

The model for iodine in the maternal/fetal system used in this report is that of Berkovski (1999a, b) which is summarised in ICRP Publication 88 (ICRP, 2001). The model addresses the gastroenteric cycle, the maternal hormonal cycle, the placenta and amniotic fluid, and excretion. The model also incorporates biokinetic transfers in the mother that are dependent on the stage of gestation. Transfer to the fetus is modelled using active bi-directional transport across the placenta. As well as transfers specific to the fetus, the model includes a number of changes from the ICRP model for adults and children (ICRP, 1979). In particular, the treatment of iodine in extra-thyroidal tissues, including the short-term retention, is intended to be more realistic. The model draws on a number of sources of data including the human studies of Aboul-Khair *et al.* (1964, 1966).

4.3 Generic method

In the generic method used in this report, and by ICRP (ICRP, 2001), compartmental models describing the movement of activity to, and within, the embryo/fetus are not developed. Rather, fractions of the total activity computed in maternal tissues are assigned to the fetal source regions that are identified as important for each element. First, the activity assigned to the whole fetus, q_F , is determined by assuming that the activity concentration in the fetus is equal to the average activity concentration in the mother's body multiplied by a concentration ratio, denoted by $C_F:C_M$, which is derived from the available biological data (Table 1, Appendix A).

$$\text{ie.} \quad \frac{q_F(t)}{M_F(t)} = C_F : C_M \frac{q_m(t)}{M_m(t)}$$

This can be rearranged and expanded to give the time-dependent activity in the whole fetus, q_F :

$$q_F(t) = C_F : C_M \frac{M_F(t)}{M_M(t)} \sum q_S(t) \quad (3)$$

where $M_F(t)$ and $M_M(t)$ are the masses of the fetus and maternal body at time t and $q_S(t)$ is the activity in maternal source region S . Note, the sum does not extend over regions of the maternal lung, GI tract or bladder since the activity in these regions is not available to the fetus. The activity in the placenta, q_{PI} , is derived in an analogous manner using the ratio $C_{PI}:C_M$ (Table 1, Appendix A).

The activity q_F is then divided between individual fetal source regions using the fractions given in Table 2. These fractions are based, in the main, on ICRP biokinetic models for infants. The pattern of overall activity retention in the fetus reflects that in the mother. This is probably a pessimistic assumption since the rapid growth of the fetus will result in a dilution of activity. However, this effect may be offset by further transfer from the mother.

Activity from intakes prior to conception may not be as readily available for uptake by the embryo/fetus as that from intakes during pregnancy. This is taken into account by using a reduced value for $C_F:C_M$ (Table 1). More information on the choice of $C_F:C_M$ and $C_{PI}:C_M$ is given in Appendix A.

4.4 Standard ICRP models for children and adults

The formulation described by equation 1 is applicable to age-dependent dose calculations in general. After birth, the initial distribution of activity is derived using the fetal body burden at the time of birth and the fractions (Table 2) described earlier. The subsequent time-dependent distribution of activity described by $q_S(t)$ in the equation is based on the recommended age-dependent biokinetic models, taken from ICRP Publications 56, 67, 69 and 71 (ICRP 1989; 1993; 1995; and 1995b) as appropriate for each element. Although the youngest age group considered by ICRP was a 3-month-old infant it is assumed here that this model can be applied to the neonate.

A method is now well established and tested in NRPB computer codes where the period of interest is broken down into time steps of the order of days. Biokinetic models are derived for each step by interpolation between the ICRP models specified at six reference ages, 3 months, 1, 5, 10, and 15 years and adult. Thus the number of nuclear transformations in each step is evaluated. Changes in body size and tissue masses are taken into account by interpolating between the SEE values derived from the age-specific phantoms of Cristy and Eckerman (1987; 1993). Thus, the dose received in each time step is evaluated and then summed to give the total dose received over the period.

The method of calculation for the period after birth is consistent with the general methods of age-dependent dosimetry used in ICRP Publications 56, 67, 69, 71 and 72 (ICRP, 1996).

5 Dosimetric models for embryo/fetal dosimetry

The pattern of energy deposition within the fetus is modelled using results from two separate sets of computer phantoms developed at Oak Ridge National Laboratories, USA (ORNL). The first is the series for the pregnant female developed by Stabin *et al.* (1995), the second is for the fetus itself by Eckerman (personal communication). Energy deposition is characterised by a set of results known as Specific Absorbed Fractions, SAF($T \leftarrow S$). The SAF represents the fraction of energy emitted in source region S that is absorbed in unit mass of target tissue T. SAFs are combined with data on emissions for each radionuclide to give a set of SEE values particular to that radionuclide.

$$SEE(T \leftarrow S) = \sum_R Y_R E_R W_R SAF_R(T \leftarrow S)$$

Where Y_R and E_R are the yield and energy of an emission taken from ICRP Publication 38 (ICRP, 1983), and W_R is the radiation weighting factor (ICRP, 1991). Note, in the case of beta spectra being used with the fetal phantoms the simple product of Y_R and E_R is replaced by an integral (ICRP, 2001). The SEE values essentially form the basis for converting the activity distributions derived from the biokinetic models, outlined in section 4, into doses (equation 1). The following sections give further details of dosimetric models.

5.1 Activity in maternal tissues

The mathematical phantom for the adult female characterises internal organs by simple geometric shapes. Changes in the shape and position of the uterus, and displacement of maternal organs are taken into account throughout pregnancy. As well as the usual set of maternal organs the phantom includes a placenta.

Values of SAF($T \leftarrow S; t$) at four gestational ages, $t = 0, 3, 6$ and 9 months, have been calculated (Stabin *et al.* 1995). Sets of SEE values are calculated at these four times, SEE values at other times are derived by linear interpolation in gestational age. This set of SEE values describes the dose received by fetal tissues from activity in maternal tissues. Since the position of the fetus in the uterus is not fixed it is not possible to calculate SAFs for individual tissues within the fetus. Thus each tissue of the fetus is taken to receive the same dose from activity within maternal source regions.

5.2 Activity in fetal tissues

The biometric data of Guihard-Costa and Larroche (1995) and the organ mass data discussed in section 2 were used by Eckerman (personal communication) to formulate a series of anatomical models for the developing fetus. Fetal phantoms are specified at seven stages of development: 8, 10, 15, 20, 25, 35 and 38 weeks post conception. Sets of SEE values are calculated at these seven ages, SEE values at other times are derived by linear interpolation with inverse fetal body mass.

In the fetal phantom work energy-dependent SAFs are given for both electrons (including beta particles and positrons) and photons. In the field of internal dosimetry electrons have traditionally been assumed to be non-penetrating, ie their energy is taken to be absorbed entirely in the organ or tissue where they are emitted; SAFs were thus simply 1 or 0 for all energies (exceptions were in bone, the walled organs such as stomach, and the respiratory tract). Clearly, this is a safe assumption in the case of relatively large tissues, for example, an adult liver, when one considers the typical range of electrons in tissue. In the case of the fetus, however the extremely small size of some tissues can mean that a substantial fraction of electron

energy can be deposited outside the tissue where the electron is emitted. This is illustrated in Figure 1, which shows the variation of the term SAF(Thyroid ← Thyroid) with energy in the 38-week-old phantom. The traditional assumption would have been that this value was a constant equal to the inverse of the thyroid mass (which is shown as a level line in the figure). The energy-dependent SAF is nearly an order of magnitude lower than the constant value at energies around 2 MeV. This refinement of radiation transport modelling for electrons does, of course, allow for energy to be absorbed in tissues other than the source region. Thus activity in the fetal thyroid can deliver an electron dose to nearby tissues such as the brain (Figure 1). However, these so-called cross-fire doses are likely to be much lower than the doses to the source tissues themselves.

6 Results

The Tables give equivalent and effective dose coefficients for the embryo/fetus (line labelled 'in utero') as well as committed equivalent and committed effective dose coefficients for the newborn child (line labelled 'post natal') resulting from intakes by the mother. The *in utero* and postnatal dose coefficients are also summed to give the total dose coefficient for the offspring which is useful for comparisons with the reference dose coefficient for workers given in ICRP Publication 68 (ICRP, 1994a). Results are given only for those fetal tissues for which dose coefficients are relatively high.

Results are given for intakes by the mother at a number of different times, known as scenarios, to permit the assessment of doses under various assumptions regarding intake. The intake scenarios are as follows (the abbreviations used in the tables are given in parentheses). Acute: 2½ years before conception (-130); 6 months before conception (-26); at conception (concep); and after 5, 10, 15, 25 and 35 weeks of gestation. Chronic: for 5 years before conception (-260); for 1 year before conception (-52); and throughout the period of gestation (during). In the chronic scenarios the rate of intake is taken to be constant and the intake per day is chosen so that intake over the whole period is 1 Bq. The acute scenarios also assume a unit intake.

Note, the equivalent dose *in utero* to the brain given in the tables is the dose received from week 8 to week 15 inclusive, not that received over the whole gestation period, since this is the quantity which is of particular interest for the induction of severe mental retardation (ICRP, 1991). For ingestion and inhalation by the mother the values for fractional absorption from the gut (f_1), and lung absorption Types are taken to be those used for workers in ICRP Publication 68 (ICRP, 1994a). Lung deposition fractions specific to female workers are used (ICRP, 1994b; ICRP, 2001).

Appendix B gives the *in utero* dose coefficients and the total dose coefficients to the offspring, per unit intake by the mother as a fraction (per cent) of the corresponding dose coefficient from ICRP Publication 68. This is of interest when considering the question of whether protection of the female worker affords adequate protection to the embryo/fetus.

As noted earlier, the calculation of effective dose *in utero* is based on the tissue weighting factors of ICRP Publication 60 (ICRP, 1991) which were originally recommended for exposures of adults and children. Contributions to risk for *in utero* exposure would probably be more accurately reflected by a set of tissue weighting factors specific to *in utero* exposure, however, at present an internationally agreed set of such factors does not exist. Nevertheless, initial assessments of potential risk to the embryo/fetus can usefully draw on a comparison between the adult effective dose and the effective dose to the offspring calculated in this manner.

When interpreting doses to the embryo/fetus it is important to remember that penetrating radiations (photons) and non-penetrating radiations (alpha particles and electrons) contribute very differently to total dose. The embryo/fetus can receive a dose from penetrating radiations arising in any maternal or fetal region

and in the placenta. In contrast, non-penetrating radiations only contribute to dose when they are emitted in the embryo/fetus itself.

6.1 Comparison of *in utero* doses with worker dose coefficients

From a practical standpoint it is important to compare the dose coefficient for the offspring given in this report with the dose coefficients for workers given in ICRP Publication 68 (ICRP, 1994) since this can help to address the question of protection of the fetus in the workplace. This is the aim of the following paragraphs; for simplicity, the discussion concentrates initially on intakes by ingestion. Practical implications are explored further in section 7. It should be noted that the comparison is with the reference dose coefficients for workers, not with dose coefficients for female workers, since ICRP has not published, and at present does not intend to publish, gender-specific dose coefficients.

In the cases of tritiated water (HTO), C-14 and S-35 nearly all of the ingested activity enters the maternal circulation (f_1 values are high) and is distributed to body tissues. The placenta does not generally present a barrier to transfer of these elements into the fetus. Based on the water content of the fetus and information on transfer of carbon and sulphur (see Appendix A) the $C_F:C_M$ values used for these three elements are 1.6, 1.5 and 2 respectively. These factors are directly reflected in the *in utero* doses which are typically higher than the dose coefficient for workers by a maximum of about 60% (Appendix B). It should be noted however that the transfer of isotopes of carbon can be significantly influenced by the chemical form.

The alkaline earth elements are of particular interest since the fetal demand for calcium can lead to significant fetal uptake of radioisotopes of calcium and, to a lesser extent, strontium and barium. Ingestion of Ca-45 during pregnancy results in *in utero* doses that are between 10 and 15 times higher than the worker dose. The corresponding comparisons for Ca-47 are not as dramatic; *in utero* doses are higher than worker doses by factors of about 6. Although strontium and radium are chemically similar to calcium and are therefore taken up by the fetal skeleton, the placenta does discriminate against them relative to calcium (Fell *et al*, 2001). The result is that *in utero* doses for Sr-90 and Ra-226 are higher than worker doses by lower factors of around 2. Phosphorus-32 has a number of cases where offspring doses are more than 10 times higher than the worker dose. This results mainly from the presence of the phosphate ion in bone and the high rate of growth of the fetal skeleton noted above. Phosphorus-33 shows even greater differences (up to a factor of 25) between offspring and worker doses; this is due to the additional effects of bone dosimetry for this low energy beta emitter.

For radionuclides such as Pu-239 and Am-241 emissions are dominated by non-penetrating radiations. Cross-fire from placenta and maternal tissues are therefore of little importance. Gut uptake is low, with f_1 values typically around 10^{-4} to 10^{-3} . In addition, placental discrimination, characterised in the method used here by low $C_F:C_M$ values, also works to prevent activity reaching the embryo/fetus. The result is that *in utero* dose coefficients are much lower than dose coefficients for workers (typically less than 1%).

In the cases of radionuclides, such as Co-60, which emit mostly penetrating radiations the fraction of activity which is transferred to the fetus has little impact on the total dose to the fetus. Following ingestion only about 10% of activity is taken up into maternal systemic circulation but the dominant contribution to *in utero* doses is from the photon emissions from the remaining 90% of activity that passes through the lower intestines, relatively close to the fetus. The result is that *in utero* doses are as much as 70% of the dose coefficient for workers.

Similar comparisons for intakes by inhalation generally show the same trends as for ingestion. There are, however substantial differences between the different lung absorption Types. The differing solubilities of Types F, M and S mean that significantly different amounts of activity reach maternal blood (Silk *et al*, 1997). Thus, *in utero* dose coefficients for intakes of Type F materials tend to be higher than those for Type M materials which in turn are usually higher than those for Type S. Comparisons with the dose coefficients for

reference adults are complicated by the fact that the less soluble Types tend to give higher doses (due to protracted retention in lung) to the worker. The result is that *in utero* dose coefficients for ingestion and inhalation of Type F materials can be a substantial fraction of the worker dose coefficients while those for Types M and S are typically only a few per cent. Isotopes of uranium present a good example where the ratio (*per cent*) of the *in utero* dose to reference worker dose is about 40, 2 and 0.02 for Types F, M and S respectively.

Inhalation of isotopes of the alkaline earth elements, which is a more likely route of exposure in the workplace than ingestion, leads to *in utero* doses which are higher than those to the worker. However, since less activity reaches maternal circulation after inhalation than after ingestion, *in utero* doses are higher than the worker dose by factors of only 2 to 3 (compared to 10-15 for ingestion).

The contribution to *in utero* doses from activity in the placenta is typically only a few per cent of the total dose, the highest contribution being about 9% for Ru-103.

6.2 The effect of stage of gestation at intake

The main effect on *in utero* doses of stage of gestation at intake is the length of time over which the fetus receives a dose. For an intake at the start of pregnancy the embryo/fetus can receive a dose for 38 weeks, provided, of course, that the physical half-life and retention time of the radionuclide are sufficiently long. In contrast, for an intake at the start of week 25, the fetus can receive a dose for only 13 weeks. Thus, the results in the Tables often show maximum doses for intakes at conception or week 5 or 10 (Figure 2).

In some cases, however, the fetal dose (ie the dose received from week 8 of gestation onwards) can be much greater than the embryo dose with the result that doses from intakes during the fetal period can be substantially higher than those from intakes during the first 8 weeks. For example, fetal uptake of iodine increases rapidly about 11 weeks after conception when the thyroid becomes active. Moreover, activity is concentrated in the thyroid, a relatively small tissue. The result is that the dose coefficients given in the Tables for intakes at weeks 15, 25 and 35 can be higher than earlier intakes by as much as 2 orders of magnitude (Figure 3).

For intakes which occur prior to pregnancy, *in utero* doses are usually lower than for intakes during pregnancy. This is due to the physical decay and biological removal of activity which occur before conception. The extent to which these doses are lower depends on the physical and biological half-lives of a particular radionuclide. Thus, for isotopes of caesium where the longest effective retention time is about 50 days, *in utero* doses from an ingestion 2½ years prior to pregnancy are at least five orders of magnitude lower than those from intakes during pregnancy. In contrast for a long-lived radionuclide with a long biological half-life such as Pu-239 the equivalent comparison shows a difference of only about a factor of three. An interesting exception occurs for the inhalation of insoluble (Type S) forms of some actinides. For intakes during pregnancy much of the activity remains in the lung for the period of gestation. In contrast, intakes prior to pregnancy result in there being more activity in maternal systemic tissues and hence a greater transfer, and higher dose, to the fetus.

6.3 Postnatal doses

The method for calculating doses from activity present in the offspring at birth resulting from intakes by the mother and subsequent transfer to the fetus was described in section 3. In short, the activity in the newborn child is a function of placental discrimination and the activity concentration in maternal systemic tissues before birth. The importance of the postnatal dose is therefore determined by the retention characteristics of the radionuclide and its physical half-life. Long retention means that, not only is there proportionately more activity available at birth, but also this is likely to deliver a dose to the newborn child for many years. In the cases of relatively short-lived radionuclides such as I-131, postnatal doses are consistently

lower than *in utero* doses. In contrast, for the long-lived and tenaciously retained actinides, such as Pu-239, postnatal doses are typically an order of magnitude higher than *in utero* doses.

In some cases, for example Zn-65, postnatal doses for intakes early in pregnancy are less than the corresponding *in utero* dose, but the picture is reversed for intakes late in pregnancy. This is because for a late intake the short time remaining before birth tends to reduce the contribution of the *in utero* dose while allowing for greater transfer of activity to the child before birth.

7 Practical implications

The previous section concentrated on *in utero* dose coefficients and comparisons with worker dose coefficients. In practical situations, it is important to consider potential fetal or offspring doses that could arise if a female worker receives doses at various levels. Three levels of the annual committed effective dose are relevant: first, there is the annual dose limit for workers of 20 mSv; second, the level of 6 mSv above which an employee should be designated a classified person; third, a dose of 1 mSv which is regarded as a significant level of exposure (HSC, 1999). In its Publication 60, ICRP recommends that the limit on intake for a pregnant woman should be 1/20 of the normal limit for workers. This derives from the general principle that, for purposes of radiological protection, the fetus should be regarded as a member of the public, for whom a dose limit of 1 mSv applies. It was assumed that this additional restriction on intakes for pregnant women would be sufficient to ensure the fetus could receive a dose of only 1 mSv or less. The results of this report enable this assumption to be explored.

For the purposes of this report, materials have been divided into four categories (in increasing importance, below) on the basis of the ratio of the total dose to the offspring to the reference dose coefficient for the worker. These categories are when the ratio is:

1) less than 1/20 - even if the mother receives an intake that would lead to a dose of 20 mSv, the occupational limit, the fetus would still receive a dose less than 1 mSv;

2) greater than 1/20 but less than 1/6 - if the mother receives an intake that would lead to a dose in the range 6 to 20 mSv the fetus could receive a dose greater than 1 mSv (denoted by * in Appendix B);

3) greater than 1/6 but less than 1 - if the mother receives an intake that would lead to a dose of up to 6 mSv, which could be possible even if not a classified person, the fetus could receive a dose greater than 1 mSv (denoted by ** in Appendix B);

4) greater than 1 - even if the mother receives an intake that would lead to a dose of less than 1 mSv, the fetus could still receive a dose greater than 1 mSv (denoted by *** in Appendix B).

Table 3 summaries these categories.

Many of the cases in Appendix B where the ratio of offspring to worker dose coefficient is greater than 1 (Category 4, denoted by ***) are for isotopes of carbon and sulphur. This arises because of the higher concentrations of these elements in the fetus as detailed in the review of data in Appendix A. Sodium and zinc, although showing some Category 4 cases are less important as ratios are very close to 1.

Isotopes of the alkaline earth elements show many Category 4 cases due to the high fetal demand for calcium (section 6.1). For Ca-45 offspring doses can be as much as 10 to 15 times higher than the worker dose. While still showing some Category 4 cases the equivalent comparisons for Ca-47, Sr-90 and Ra-226 are not as dramatic. Isotopes of phosphorus also show many Category 4 cases due to the skeletal demand for the phosphate ion. Ratios can be even higher than for Ca-45; up to 17 for P-32 and 25 for P-33. Isotopes of iodine also produce a number of Category 4 cases due to the higher average concentrations of iodine in the fetal thyroid compared to the maternal thyroid; maximum ratios are about 3.

Inhalation of insoluble forms of radionuclides generally presents fewer problems than ingestion or inhalation of more soluble forms. This is partly because of the relatively lower transfer of activity to the

maternal circulation, and hence to the fetus, and also because these chemical forms can deliver high lung doses to the worker and so are likely to be more strictly controlled in the first place.

The regulation that is relevant to protection of the fetus in the workplace is given by HSC (1999) in Regulation 8(5). Briefly, this states that the employer should ensure that conditions of exposure for pregnant workers are such that the dose to the fetus from the time of notification of pregnancy to term is unlikely to exceed 1 mSv. In this context it should be noted that the doses to the embryo/fetus given in this report are the total doses that would be received from conception to term. The time of notification will vary from case to case and can not be easily taken into account in a general manner.

When a female worker declares pregnancy measures will be taken to limit future intakes with the aim of limiting the dose to the offspring in accordance with the regulations. Thus, the scenarios which deal with intakes late in gestation (when pregnancy is very likely to have been declared) may be of less importance since they would be unlikely occur in practice. In contrast, little action can be taken to avoid doses from past intakes. Therefore, of particular concern are cases where intakes prior to pregnancy could lead to substantial doses to the fetus. Appendix B includes acute intake scenarios at 6 months (-26) and 2½ years (-130) before conception, and a few of these cases are in Category 3 (** in Appendix B, none is in Category 4). Inhalation of soluble (Type F) Fe-55 is one such case, where an intake at the annual limit 6 months before conception, although unlikely to occur, would lead to a total dose to the fetus and offspring of about 6 mSv.

For the Category 4 cases, derived limits for the workplace, such as an air concentration or an annual intake limit, would have to be divided by the ratio given in the last column of Appendix B in order to ensure that the offspring received an effective dose lower than 1 mSv. For example, based on the dose coefficients for workers given in ICRP Publication 68 one might set an annual intake limit for ingestion of Ca-45 at about 26 MBq. For female workers who are, or could be, pregnant, ICRP recommends that this should be reduced by a factor of 20. On the basis of the results given here the limit should perhaps be further reduced by a factor of 16. The resulting limit is thus around 80 kBq for female workers who are, or could be, pregnant.

8 Conclusions

A method has been developed for calculating doses to the embryo and fetus that arise from intakes of radionuclides by the mother. The method includes contributions from activity within the mother as well as from that which is transferred to the fetus. The relative contributions of these two sources vary widely depending on the emissions of each radionuclide.

The doses to the offspring (the total of the *in utero* and postnatal doses) calculated in this report have been compared to the dose coefficients recommended by ICRP for workers. Of particular interest are cases where the offspring dose is greater than the worker dose. This is the case for isotopes of hydrogen, carbon, phosphorus, sulphur, iodine and the alkaline earth elements. The latter, together with isotopes of phosphorus, show the highest ratios; as high as a factor of 16 for ingestion of Ca-45 and 25 for P-33. Fetal doses for the actinides such as Pu-239 are at most only a few per cent of the corresponding worker dose. In general, soluble chemical forms are of more concern than insoluble forms.

In some cases intakes by the mother that occurred well before pregnancy can lead to significant doses to the fetus; this is of particular relevance to the advance planning of protection for female workers.

A general implication of this report is that intakes of some radionuclides may need to be restricted to lower levels than those that would lead to a dose to the worker of 1 mSv. This report thus reinforces the guidance already given by HSC (HSC 1999, paragraph 141).

9 Quality Assurance

The internal dosimetry computer codes used for the calculations given in this report have been quality assured through extensive intercomparisons with codes developed at Oak Ridge National Laboratory in the USA and Bundesamt für Strahlenschutz in Germany. This quality assurance has been carried out over a number of years within the workplan of the ICRP Task Group on Dose Calculations.

10 References

Aboul-Khair, Crooks, J, Turnbull, A. C. and Hytten F E. (1964) The Physiological Changes in Thyroid Function During pregnancy. *Clin. Sci.* **27** 195–207.

Aboul-Khair, S. A., Buchanan, T. J., Crooks, J. Turnbull, A. C. (1966) Structural and Functional Development of the Human Foetal Thyroid. *Clin. Sci.* **31** 415–424.

Ares, S., Pastor, I., Quero, J., Morreale de Escobar, G. (1995) Thyroid gland volume as measured by ultrasonography in preterm infants. *Acta. Paediatr.* **84**, 58–62.

Berkovski V. (1999a) Radionuclide biokinetics in the mother and fetus. Part 1. Pregnant woman. In: Radiation and Thyroid Cancer. World Scientific Publishing. Publication No. EUR 18552 EN of the European Commission pp 319-325.

Berkovski V. (1999b) Radionuclide biokinetics in the mother and fetus. Part 2. Fetus. In: Radiation and Thyroid Cancer. World Scientific Publishing. Publication No. EUR 18552 EN of the European Commission pp 327-332.

Burdi, A. R., Barr, M., Babler, W. J. (1981) Organ weight patterns in human fetal development. *Hum. Biol.* **53**, 355–366.

Cristy, M, and Eckerman, K F. (1987). Specific absorbed fractions of energy at various ages from internal photon sources. Oak Ridge, Tennessee. Oak Ridge National Laboratory. ORNL/TM-8381/v1-7.

Cristy, M, and Eckerman, K F. (1993). SEECAL: Program To Calculate Age-Dependent Specific Effective Energies. Oak Ridge, Tennessee. Oak Ridge National Laboratory. ORNL/TM-12351.

Evans T.C., Kretzschmar R.M., Hodges R.E. and Song C.W., Radioiodine Uptake Studies of the Human Fetal Thyroid. *Nuclear Medicine* **8** (1967) p. 157.

Fell, T.P., Harrison, J.D., Leggett, R.W. (2001) A model for the transfer of alkaline earth elements to the fetus. *Radiat. Prot. Dosim.* (in press)

Guihard-Costa, A. M., Larroche, J. C. (1995) Fetal biometry: Growth charts for practical use in fetopathology and antenatal ultrasonography. *Fetal Diagn. Ther.* **10**, 215–278.

Hudson, G. (1965) Organ size of human foetal bone marrow. *Nature* **205**, 96–97.

HSC (1999). Work with ionising radiation, IRR 1999. Approved code of practice and guidance. HMSO.

ICRP (1979). Limits for intakes of radionuclides by workers. ICRP Publication 30. *Ann. ICRP*, **2**(3/4).

ICRP (1983). Radionuclide transformations, energy and intensity of emissions. ICRP Publication 38. *Ann. ICRP*, **11-13**.

ICRP (1989). Age-dependent doses to members of the public from intake of radionuclides: Part 1. ICRP Publication 56. *Ann. ICRP*, **20**(2).

ICRP (1991) 1990 Recommendations of the International Commission on Radiological Protection. ICRP Publication 60. *Ann. ICRP*, **21**, Nos 1-3.

ICRP (1993). Age-dependent doses to members of the public from intake of radionuclides: Part 2 ingestion dose coefficients. ICRP Publication 67. *Ann. ICRP*, **23**(3/4).

ICRP (1995a). Age-dependent doses to members of the public from intake of radionuclides: Part 3 ingestion coefficients. ICRP Publication 69. *Ann. ICRP*, **23**(1).

ICRP (1995b). Age-dependent doses to members of the public from intake of radionuclides: Part 4 inhalation

dose coefficients. ICRP Publication 71. Ann. ICRP, **25**(3/4).

ICRP (1994a). Dose coefficients for intakes of radionuclides by workers. Replacement of ICRP Publication 61. ICRP Publication 68. Ann. ICRP, **24**, No 4.

ICRP (1994b). Human respiratory tract model for radiological protection. ICRP Publication 66. Ann ICRP **24** (1-4).

ICRP (2001). Doses to the embryo and fetus from intakes of radionuclides by the mother. ICRP Publication 88. Annals of the ICRP.

Jackson, C. M. (1909) On the prenatal growth of the human body and relative growth of various organs and parts. *Am. J. Anat.* **9**, 119–165.

Moore KL and Persaud TVN (1998). *The Developing Human*. 6th edition. W B Saunders and Co. London.

Potter, E. L., Craig, J. M. (1975) Rate of antenatal growth. In *Pathology of the Fetus and Infant*. Year Book Medical Publishers, Chicago, pp. 15–25.

Shepard, T. H., Shi, M., Fellingham, G. W., Fujinaga, M., Fitzsimmons, J. M., Fantel, A. G., Barr, M. (1988) Organ weight standards for human fetuses. *Pediatr. Pathol.* **8**, 513–524.

T J Silk, A W Phipps and M R Bailey. Effects on dose coefficients for workers of recent changes in internal dosimetry. *Rad. Prot. Dosim* **71** No. 1 (1997)

Stabin, M. G., Watson, E. E., Cristy, M., Ryman, J. C., Eckerman, K. F., Davis, J. L., Marshall, D., Gehlen, M K. (1995) Mathematical models and specific absorbed fractions of photon energy in the nonpregnant adult female and at the end of each trimester of pregnancy. Oak Ridge National Laboratory, Oak Ridge, Tennessee. ORNL/TM-12907.

Trotter, M., Peterson, R. R. (1968) Weight of bone in the fetus - A preliminary report. *Growth* **32**, 83–90.

Widdowson, E. M., Dickerson, J. W. T. (1964) Growth and composition of the fetus and newborn. In *Mineral Metabolism*, Part 2A. Academic Press. New York.

Table 1 Concentration ratios for elements in the fetus and mother ($C_F:C_M$) following intakes by the mother before or during pregnancy and for the placenta relative to maternal tissues ($C_{PI}:C_M$)

Element	$C_F:C_M$		$C_{PI}:C_M$
	Intakes prior to Pregnancy	Intakes during Pregnancy	
H in HTO	1.6	1.6	1
H in OBT	1.6	1.6	1
H in CH ₄ ^a	1.6	1.6	1
C in CO and CO ₂	1	1	1
C in CH ₄ ^b	1.5	1.5	1.5
Organic carbon	1.5	1.5	1.5
Sodium	1	1	1
Magnesium	1	1	1
Phosphorus	0.5	10	2
Sulphur	1	2	2
Potassium	1	1	1
Calcium	s	S	1
Iron	1	1	1
Cobalt	0.2	1	2
Zinc	2	2	1
Strontium	s	S	1
Technetium	1	1	1
Ruthenium	0.01	0.2	0.1;2 ^c
Iodine	s	S	1
Caesium	1	1	1
Lead	1	1	0.1;1 ^c
Bismuth	0.1	0.1	1
Polonium	0.1	0.1	5
Radium	s	S	1
Thorium	0.03	0.1;0.3;1 ^d	0.1;2 ^c
Uranium	0.1	1	0.1;1 ^c
Plutonium	0.03	0.1;0.3;1 ^d	0.1;5 ^c
Americium	0.01	0.1	0.1;2 ^c

- a Assumed that 1% of activity is metabolised and is converted to HTO
- b Assumed that 1% of activity that is metabolised and is converted to CO₂ or organic forms
- c Intakes before;during pregnancy
- d 0.1;0.3;1 intakes in 1st, 2nd and 3rd trimester
- s Specific model, based mainly on human data.

Table 2 Fractional distribution of elements in the developing fetus used as the basis for the calculation of dose coefficients

Element	Tissue/organ					
	Liver	Skeleton	Kidneys	Specified tissue	Other tissues	Whole body
Hydrogen	-	-	-	-	-	1
Carbon	-	-	-	-	-	1
Sodium	-	0.3	-	-	0.7	-
Magnesium	-	0.5	-	-	0.5	-
Phosphorus	-	0.75	-	-	0.25	-
Sulphur	-	-	-	-	-	1
Potassium	-	-	-	-	-	1
Calcium	-	s	-	-	-	s
Iron	0.1	-	-	0.1 ^d	0.8	-
Cobalt	0.1	-	-	-	0.9	-
Zinc	-	0.2	-	-	0.8	-
Strontium	-	s	-	-	-	s
Technetium	0.03	-	-	0.04 ^a ;0.1 ^b	0.83	-
Ruthenium	-	-	-	-	-	1
Iodine	-	-	-	s ^a	-	s
Caesium	-	-	-	-	-	1
Lead	-	0.6	-	-	0.4	-
Bismuth	-	-	0.5	-	0.5	-
Polonium	0.3	-	0.1	0.05 ^c ;0.1 ^d	0.45	-
Radium	-	s	-	-	-	s
Thorium	0.05	0.8	-	-	0.15	-
Uranium	-	0.8	0.02	-	0.18	-
Plutonium	0.15	0.8	-	-	0.05	-
Americium	0.15	0.8	-	-	0.05	-

a = thyroid; b = stomach wall; c = spleen; d = red bone marrow; and s = specific model (see Appendix A)

TABLE 3 Categories for marks used in Appendix B

Category	$e_{\text{offspring}}/e_{\text{worker}}$	Ratio in <i>per cent</i> (for comparison with Appendix B)	Mark
1	< 1/20	< 5%	Not marked
2	1/20 - 1/6	5 - 16.7%	*
3	1/6 - 1	16.8 - 100%	**
4	> 1	> 100%	***

$e_{\text{offspring}}$ is the total dose coefficient for the offspring, ie. the sum of the *in utero* and postnatal doses and e_{worker} is the dose coefficient for workers taken from ICRP Publication 68.

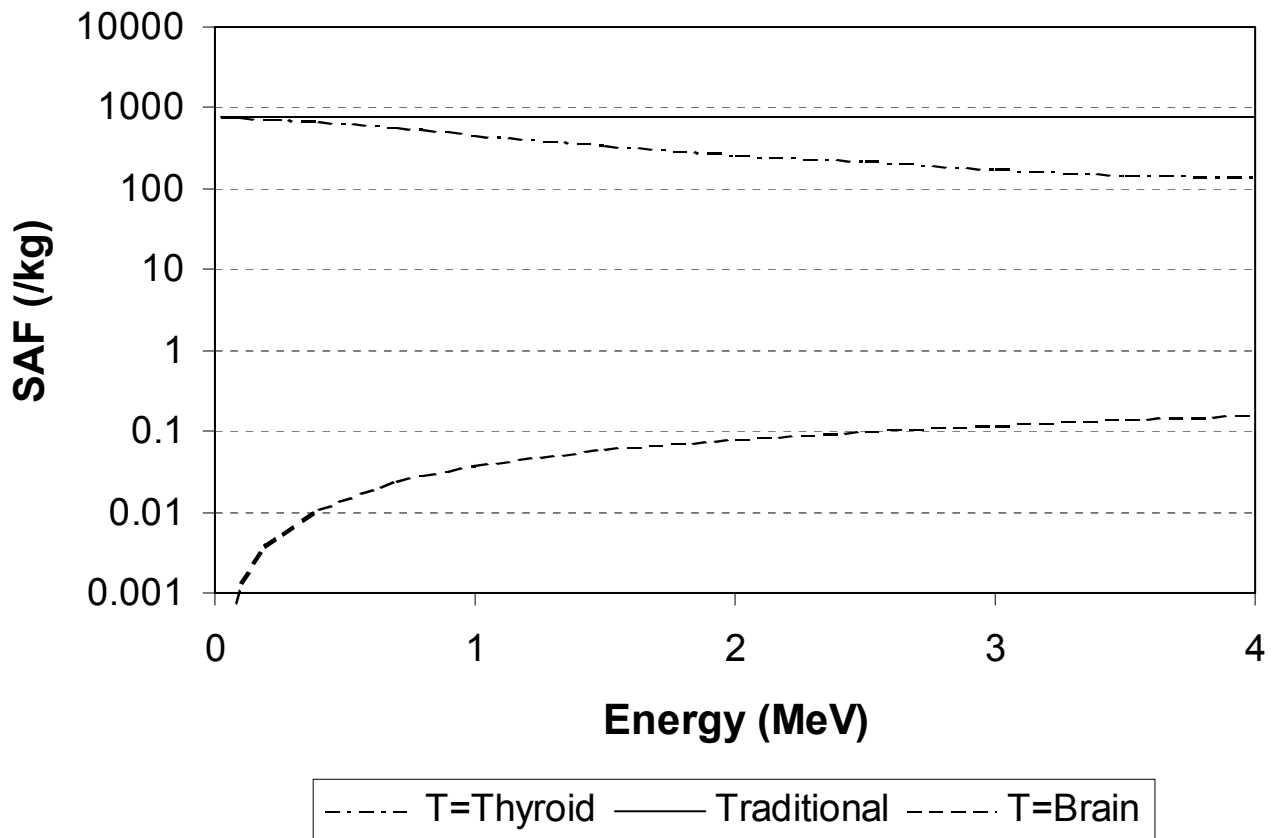


Figure 1 The variation with energy of the SAF for electrons in the 38 week old fetal phantom for the source region thyroid and the target tissues thyroid (ie. self-dose) and brain (ie. cross-fire). The solid line shows the result of the traditional assumption for electrons that all energy is absorbed in the source region.

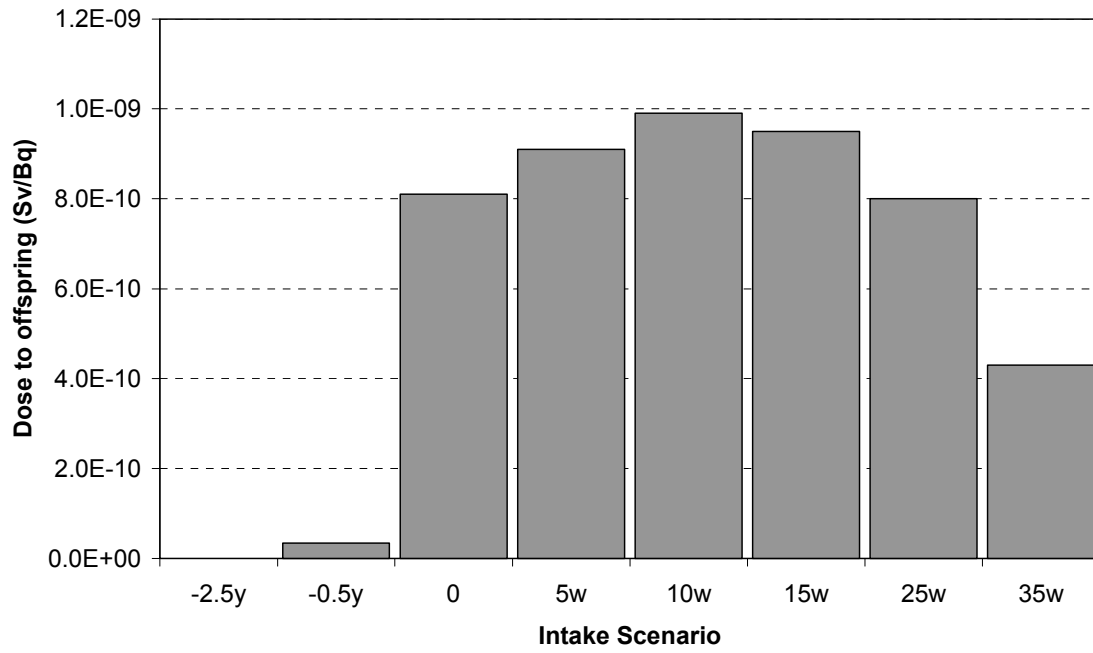


Figure 2 Variation of dose to offspring with intake scenario for ingestion of C-14.

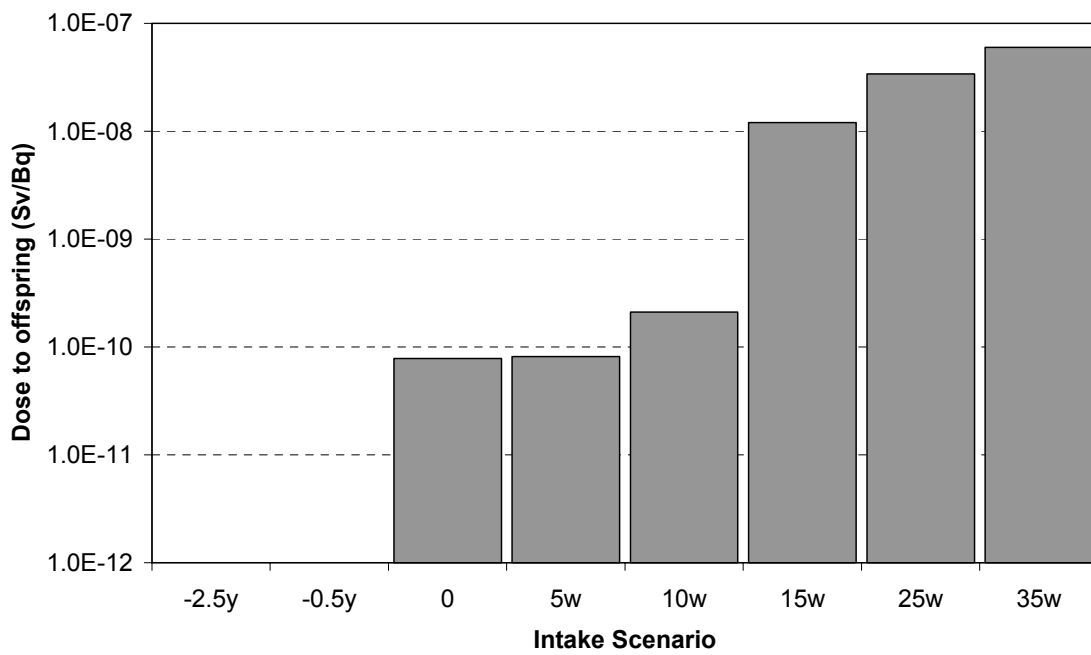


Figure 3 Variation of dose to offspring with intake scenario for ingestion of I-131. Note, the y-axis is a logarithmic scale.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Inhalation of tritiated water vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.4E-19	1.1E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19
	post natal	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22
	total	3.4E-19	1.1E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19
-26	in utero	1.2E-13	3.9E-14	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13
	post natal	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16
	total	1.2E-13	3.9E-14	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13
concep ‡	in utero	2.3E-11	1.8E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
	post natal	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15
	total	2.3E-11	1.9E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
5	in utero	2.6E-11	1.2E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	post natal	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15
	total	2.6E-11	1.2E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
10	in utero	3.6E-11	3.1E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11
	post natal	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14
	total	3.6E-11	3.1E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11
15	in utero	3.4E-11	0.0E+00	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
	post natal	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14
	total	3.4E-11	1.9E-14	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
25	in utero	3.2E-11	0.0E+00	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
	post natal	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
	total	3.2E-11	8.4E-14	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
35	in utero	2.3E-11	0.0E+00	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
	post natal	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12
	total	2.6E-11	2.7E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
Chronic											
-260 §	in utero	2.5E-13	3.7E-14	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13
	post natal	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17
	total	2.5E-13	3.7E-14	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13
-52	in utero	1.2E-12	1.8E-13	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12
	post natal	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16
	total	1.2E-12	1.9E-13	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12
during	in utero	3.0E-11	6.9E-12	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11
	post natal	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13
	total	3.1E-11	7.6E-12	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Inhalation of elemental hydrogen vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.4E-23	1.1E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23
	post natal	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26	3.6E-26
	total	3.4E-23	1.1E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23	3.4E-23
-26	in utero	1.2E-17	3.9E-18	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17
	post natal	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20	1.3E-20
	total	1.2E-17	3.9E-18	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17
concep ‡	in utero	2.3E-15	1.9E-16	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15
	post natal	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19	3.1E-19
	total	2.3E-15	1.9E-16	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15
5	in utero	2.6E-15	1.2E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15
	post natal	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19	5.7E-19
	total	2.6E-15	1.2E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15
10	in utero	3.6E-15	3.1E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15
	post natal	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18	1.0E-18
	total	3.6E-15	3.1E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15
15	in utero	3.4E-15	0.0E+00	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15
	post natal	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18	1.9E-18
	total	3.4E-15	1.9E-18	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15	3.4E-15
25	in utero	3.2E-15	0.0E+00	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15
	post natal	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18	8.4E-18
	total	3.2E-15	8.4E-18	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15	3.2E-15
35	in utero	2.3E-15	0.0E+00	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15	2.3E-15
	post natal	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16
	total	2.6E-15	2.7E-16	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15	2.6E-15
Chronic											
-260 §	in utero	2.5E-17	3.7E-18	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17
	post natal	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21	9.6E-21
	total	2.5E-17	3.7E-18	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17	2.5E-17
-52	in utero	1.2E-16	1.8E-17	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16
	post natal	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20	4.8E-20
	total	1.2E-16	1.9E-17	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16	1.2E-16
during	in utero	3.0E-15	6.9E-16	3.0E-15	3.0E-15	3.0E-15	3.0E-15	3.0E-15	3.0E-15	3.0E-15	3.0E-15
	post natal	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17	6.4E-17
	total	3.1E-15	7.6E-16	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Inhalation of tritiated methane											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.4E-21	1.1E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21
	post natal	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24	3.6E-24
	total	3.4E-21	1.1E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21	3.4E-21
-26	in utero	1.2E-15	3.9E-16	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15
	post natal	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18	1.3E-18
	total	1.2E-15	3.9E-16	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15
concep ‡	in utero	2.3E-13	1.8E-14	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13
	post natal	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17	3.1E-17
	total	2.3E-13	1.9E-14	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13
5	in utero	2.6E-13	1.2E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13
	post natal	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17	5.7E-17
	total	2.6E-13	1.2E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13
10	in utero	3.6E-13	3.1E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13
	post natal	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16	1.0E-16
	total	3.6E-13	3.1E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13
15	in utero	3.4E-13	0.0E+00	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13
	post natal	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16
	total	3.4E-13	1.9E-16	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13	3.4E-13
25	in utero	3.2E-13	0.0E+00	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13
	post natal	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16	8.4E-16
	total	3.2E-13	8.4E-16	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13
35	in utero	2.3E-13	0.0E+00	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13
	post natal	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14
	total	2.6E-13	2.7E-14	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13
Chronic											
-260 §	in utero	2.5E-15	3.7E-16	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15
	post natal	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19
	total	2.5E-15	3.7E-16	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15	2.5E-15
-52	in utero	1.2E-14	1.8E-15	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14
	post natal	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18	4.8E-18
	total	1.2E-14	1.9E-15	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14
during	in utero	3.0E-13	6.9E-14	3.0E-13	3.0E-13	3.0E-13	3.0E-13	3.0E-13	3.0E-13	3.0E-13	3.0E-13
	post natal	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15	6.4E-15
	total	3.1E-13	7.6E-14	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Ingestion of tritiated water: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.4E-19	1.1E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19
	post natal	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22	3.6E-22
	total	3.4E-19	1.1E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19	3.4E-19
-26	in utero	1.2E-13	3.9E-14	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13
	post natal	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16	1.3E-16
	total	1.2E-13	3.9E-14	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13
concep ‡	in utero	2.3E-11	1.8E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
	post natal	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15
	total	2.3E-11	1.9E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
5	in utero	2.6E-11	1.2E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	post natal	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15	5.7E-15
	total	2.6E-11	1.2E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
10	in utero	3.6E-11	3.1E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11
	post natal	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14	1.0E-14
	total	3.6E-11	3.1E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11
15	in utero	3.4E-11	0.0E+00	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
	post natal	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14	1.9E-14
	total	3.4E-11	1.9E-14	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
25	in utero	3.2E-11	0.0E+00	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
	post natal	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
	total	3.2E-11	8.4E-14	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
35	in utero	2.3E-11	0.0E+00	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
	post natal	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12
	total	2.6E-11	2.7E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
Chronic											
-260 §	in utero	2.5E-13	3.7E-14	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13
	post natal	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17	9.6E-17
	total	2.5E-13	3.7E-14	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13	2.5E-13
-52	in utero	1.2E-12	1.8E-13	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12
	post natal	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16	4.8E-16
	total	1.2E-12	1.9E-13	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12	1.2E-12
during	in utero	3.0E-11	6.9E-12	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11
	post natal	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13	6.4E-13
	total	3.1E-11	7.6E-12	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11	3.1E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Inhalation of organically bound tritium vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.6E-18	1.9E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18
	post natal	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20
	total	5.6E-18	1.9E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18
-26	in utero	2.0E-12	6.5E-13	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
	post natal	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15
	total	2.0E-12	6.5E-13	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
concep ‡	in utero	5.8E-11	1.6E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11
	post natal	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14	9.8E-14
	total	5.8E-11	1.6E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11
5	in utero	6.7E-11	3.5E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11
	post natal	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13
	total	6.7E-11	3.5E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11
10	in utero	7.7E-11	4.4E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11
	post natal	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13
	total	7.7E-11	4.5E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.7E-11
15	in utero	7.4E-11	0.0E+00	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11
	post natal	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13	6.2E-13
	total	7.5E-11	6.2E-13	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11
25	in utero	6.2E-11	0.0E+00	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11
	post natal	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12
	total	6.4E-11	2.1E-12	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11
35	in utero	2.9E-11	0.0E+00	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11
	post natal	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12	9.6E-12
	total	3.9E-11	9.6E-12	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11
Chronic											
-260 §	in utero	1.6E-12	5.0E-13	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
	post natal	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15
	total	1.6E-12	5.1E-13	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
-52	in utero	7.9E-12	2.5E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12
	post natal	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14
	total	7.9E-12	2.5E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12
during	in utero	6.0E-11	1.3E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11
	post natal	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12
	total	6.3E-11	1.6E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of H-3
($T_{1/2} = 12.3$ y) by the mother

Ingestion of organically bound tritium: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.6E-18	1.8E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18
	post natal	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20
	total	5.6E-18	1.9E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18	5.6E-18
-26	in utero	1.9E-12	6.4E-13	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12
	post natal	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15
	total	1.9E-12	6.5E-13	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12
concep ‡	in utero	5.8E-11	1.6E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11
	post natal	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14	9.7E-14
	total	5.8E-11	1.6E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11
5	in utero	6.6E-11	3.4E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11
	post natal	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13
	total	6.6E-11	3.4E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11
10	in utero	7.6E-11	4.4E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11
	post natal	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13
	total	7.6E-11	4.4E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11
15	in utero	7.3E-11	0.0E+00	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11
	post natal	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13	6.1E-13
	total	7.4E-11	6.1E-13	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11
25	in utero	6.2E-11	0.0E+00	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11
	post natal	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12
	total	6.4E-11	2.1E-12	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11
35	in utero	2.9E-11	0.0E+00	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11
	post natal	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12	9.5E-12
	total	3.9E-11	9.5E-12	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11
Chronic											
-260 §	in utero	1.6E-12	5.0E-13	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
	post natal	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15	3.1E-15
	total	1.6E-12	5.0E-13	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
-52	in utero	7.9E-12	2.5E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12
	post natal	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14
	total	7.9E-12	2.5E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12	7.9E-12
during	in utero	6.0E-11	1.3E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11
	post natal	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12
	total	6.3E-11	1.5E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of C-14
($T_{1/2} = 5.73E+03$ y) by the mother

Inhalation of carbon dioxide											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	9.2E-19	2.5E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19
	post natal	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23	2.6E-23
	total	9.2E-19	2.5E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19	9.2E-19
-26	in utero	2.9E-13	7.8E-14	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13
	post natal	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18	8.1E-18
	total	2.9E-13	7.8E-14	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13
concep ‡	in utero	7.5E-12	1.9E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12
	post natal	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16
	total	7.5E-12	1.9E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12	7.5E-12
5	in utero	7.4E-12	3.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12
	post natal	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16	3.5E-16
	total	7.4E-12	3.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12	7.4E-12
10	in utero	7.2E-12	3.8E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12
	post natal	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16	6.5E-16
	total	7.2E-12	3.8E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12	7.2E-12
15	in utero	6.9E-12	0.0E+00	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12
	post natal	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15	1.2E-15
	total	6.9E-12	1.2E-15	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12	6.9E-12
25	in utero	5.7E-12	0.0E+00	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12
	post natal	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15	4.0E-15
	total	5.7E-12	4.0E-15	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12	5.7E-12
35	in utero	2.5E-12	0.0E+00	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12
	post natal	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14
	total	2.5E-12	1.3E-14	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12
Chronic											
-260 §	in utero	2.2E-13	5.9E-14	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13
	post natal	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18
	total	2.2E-13	5.9E-14	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13
-52	in utero	1.1E-12	2.9E-13	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12
	post natal	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17	3.0E-17
	total	1.1E-12	2.9E-13	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12
during	in utero	5.8E-12	1.2E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12
	post natal	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15	4.5E-15
	total	5.8E-12	1.2E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of C-14
($T_{1/2} = 5.73E+03$ y) by the mother

Inhalation of carbon monoxide											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	2.4E-12	0.0E+00	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.4E-12	0.0E+00	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
5	in utero	2.4E-12	0.0E+00	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.4E-12	0.0E+00	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
10	in utero	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12
15	in utero	2.3E-12	0.0E+00	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.3E-12	0.0E+00	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
25	in utero	2.3E-12	0.0E+00	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.3E-12	0.0E+00	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
35	in utero	2.2E-12	0.0E+00	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.2E-12	0.0E+00	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12
Chronic											
-260 §	in utero	2.7E-16	0.0E+00	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.7E-16	0.0E+00	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16	2.7E-16
-52	in utero	1.3E-15	0.0E+00	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.3E-15	0.0E+00	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15	1.3E-15
during	in utero	2.3E-12	5.1E-13	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
	post natal	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15	1.8E-15
	total	2.3E-12	5.1E-13	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of C-14
($T_{1/2} = 5.73E+03$ y) by the mother

Inhalation of carbon labelled methane											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.5E-17	1.8E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17
	post natal	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20	6.9E-20
	total	5.5E-17	1.8E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17	5.5E-17
-26	in utero	1.7E-11	5.6E-12	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11
	post natal	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14	2.1E-14
	total	1.7E-11	5.6E-12	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11
concep ‡	in utero	4.1E-10	1.3E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10
	post natal	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13
	total	4.1E-10	1.3E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10
5	in utero	4.6E-10	2.4E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10
	post natal	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13
	total	4.6E-10	2.4E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10
10	in utero	5.0E-10	2.4E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10
	post natal	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12
	total	5.0E-10	2.4E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10	5.0E-10
15	in utero	4.8E-10	0.0E+00	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10
	post natal	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12	3.2E-12
	total	4.8E-10	3.2E-12	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10
25	in utero	3.9E-10	0.0E+00	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10
	post natal	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	total	4.0E-10	1.1E-11	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10
35	in utero	1.5E-10	0.0E+00	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	post natal	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11
	total	1.9E-10	3.6E-11	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10
Chronic											
-260 §	in utero	1.3E-11	4.2E-12	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11
	post natal	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14	1.6E-14
	total	1.3E-11	4.2E-12	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11
-52	in utero	6.5E-11	2.1E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11
	post natal	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14	8.1E-14
	total	6.5E-11	2.1E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11
during	in utero	3.8E-10	7.8E-11	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10
	post natal	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	total	3.9E-10	8.9E-11	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

*Dose coefficients (Sv/Bq) for the offspring from intake of C-14
($T_{1/2} = 5.73E+03$ y) by the mother*

<i>Inhalation of vapour (organic compounds)</i>											
<i>Scenario *</i>		<i>Gonads</i>	<i>Brain</i>	<i>R.B.M.</i>	<i>Thyroid</i>	<i>Bone sur</i>	<i>Liver</i>	<i>Kidneys</i>	<i>Spleen</i>	<i>Remainder</i>	<i>Effective</i>
<i>Acute</i>											
<i>-130 †</i>	<i>in utero</i>	1.1E-16	3.5E-17	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
	<i>post natal</i>	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19
	<i>total</i>	1.1E-16	3.6E-17	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
<i>-26</i>	<i>in utero</i>	3.4E-11	1.1E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
	<i>post natal</i>	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
	<i>total</i>	3.4E-11	1.1E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
<i>concep ‡</i>	<i>in utero</i>	8.2E-10	2.6E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10
	<i>post natal</i>	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
	<i>total</i>	8.2E-10	2.7E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10	8.2E-10
<i>5</i>	<i>in utero</i>	9.2E-10	4.8E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10
	<i>post natal</i>	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12
	<i>total</i>	9.2E-10	4.9E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10
<i>10</i>	<i>in utero</i>	9.9E-10	4.8E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10
	<i>post natal</i>	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12	6.8E-12
	<i>total</i>	1.0E-09	4.8E-10	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
<i>15</i>	<i>in utero</i>	9.5E-10	0.0E+00	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10
	<i>post natal</i>	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
	<i>total</i>	9.6E-10	1.2E-11	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10
<i>25</i>	<i>in utero</i>	7.7E-10	0.0E+00	7.7E-10	7.7E-10	7.7E-10	7.7E-10	7.7E-10	7.7E-10	7.7E-10	7.7E-10
	<i>post natal</i>	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11
	<i>total</i>	8.1E-10	4.2E-11	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10
<i>35</i>	<i>in utero</i>	2.9E-10	0.0E+00	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	<i>post natal</i>	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	<i>total</i>	4.3E-10	1.4E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10
<i>Chronic</i>											
<i>-260 §</i>	<i>in utero</i>	2.6E-11	8.3E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	<i>post natal</i>	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14	6.4E-14
	<i>total</i>	2.6E-11	8.4E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
<i>-52</i>	<i>in utero</i>	1.3E-10	4.2E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
	<i>post natal</i>	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13	3.2E-13
	<i>total</i>	1.3E-10	4.2E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
<i>during</i>	<i>in utero</i>	7.6E-10	1.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10
	<i>post natal</i>	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11
	<i>total</i>	8.0E-10	2.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of C-14
($T_{1/2} = 5.73E+03$ y) by the mother

Ingestion of labelled organic compounds: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.1E-16	3.5E-17	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
	post natal	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19	2.7E-19
	total	1.1E-16	3.5E-17	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
-26	in utero	3.4E-11	1.1E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
	post natal	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
	total	3.4E-11	1.1E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
concep ‡	in utero	8.1E-10	2.6E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10
	post natal	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
	total	8.1E-10	2.6E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10
5	in utero	9.1E-10	4.8E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10
	post natal	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12
	total	9.1E-10	4.8E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10	9.1E-10
10	in utero	9.8E-10	4.7E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10
	post natal	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12
	total	9.9E-10	4.8E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10
15	in utero	9.4E-10	0.0E+00	9.4E-10	9.4E-10	9.4E-10	9.4E-10	9.4E-10	9.4E-10	9.4E-10	9.4E-10
	post natal	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
	total	9.5E-10	1.2E-11	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10
25	in utero	7.6E-10	0.0E+00	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10
	post natal	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11
	total	8.0E-10	4.1E-11	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10
35	in utero	2.9E-10	0.0E+00	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	total	4.3E-10	1.4E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10	4.3E-10
Chronic											
-260 §	in utero	2.6E-11	8.3E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	post natal	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14	6.3E-14
	total	2.6E-11	8.3E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
-52	in utero	1.3E-10	4.1E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
	post natal	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13	3.1E-13
	total	1.3E-10	4.2E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
during	in utero	7.6E-10	1.5E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10	7.6E-10
	post natal	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11	4.3E-11
	total	8.0E-10	2.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Na-22
($T_{1/2} = 2.60$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 1.0

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	6.2E-12	1.4E-12	1.5E-11	6.2E-12	1.5E-11	6.2E-12	6.2E-12	6.2E-12	6.2E-12	7.4E-12
	post natal	2.1E-13	1.9E-13	3.7E-13	2.0E-13	3.9E-13	2.0E-13	2.1E-13	2.0E-13	1.9E-13	2.2E-13
	total	6.4E-12	1.6E-12	1.5E-11	6.4E-12	1.5E-11	6.4E-12	6.4E-12	6.4E-12	6.4E-12	7.6E-12
-26	in utero	2.9E-11	6.6E-12	7.2E-11	2.9E-11	7.2E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	3.5E-11
	post natal	1.0E-12	9.0E-13	1.7E-12	9.4E-13	1.8E-12	9.3E-13	1.0E-12	9.6E-13	9.0E-13	1.0E-12
	total	3.0E-11	7.5E-12	7.4E-11	3.0E-11	7.4E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.6E-11
concep ‡	in utero	1.7E-09	5.8E-11	1.8E-09	1.7E-09	1.8E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
	post natal	1.5E-12	1.3E-12	2.5E-12	1.4E-12	2.7E-12	1.4E-12	1.5E-12	1.4E-12	1.3E-12	1.5E-12
	total	1.7E-09	5.9E-11	1.8E-09	1.7E-09	1.8E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
5	in utero	1.6E-09	5.7E-10	2.0E-09	1.6E-09	2.0E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.7E-09
	post natal	1.6E-12	1.4E-12	2.7E-12	1.5E-12	2.9E-12	1.5E-12	1.6E-12	1.5E-12	1.4E-12	1.6E-12
	total	1.6E-09	5.7E-10	2.0E-09	1.6E-09	2.0E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.7E-09
10	in utero	1.5E-09	1.4E-09	3.3E-09	1.5E-09	3.3E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.7E-09
	post natal	1.7E-12	1.5E-12	2.9E-12	1.6E-12	3.1E-12	1.6E-12	1.7E-12	1.6E-12	1.5E-12	1.8E-12
	total	1.5E-09	1.4E-09	3.3E-09	1.5E-09	3.3E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.7E-09
15	in utero	1.5E-09	0.0E+00	3.5E-09	1.5E-09	3.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.8E-09
	post natal	1.9E-12	1.7E-12	3.2E-12	1.7E-12	3.3E-12	1.7E-12	1.9E-12	1.8E-12	1.7E-12	1.9E-12
	total	1.5E-09	1.7E-12	3.5E-09	1.5E-09	3.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.8E-09
25	in utero	1.5E-09	0.0E+00	3.8E-09	1.5E-09	3.8E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.8E-09
	post natal	3.7E-12	3.3E-12	6.3E-12	3.4E-12	6.6E-12	3.4E-12	3.6E-12	3.5E-12	3.3E-12	3.8E-12
	total	1.5E-09	3.3E-12	3.8E-09	1.5E-09	3.8E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.8E-09
35	in utero	1.2E-09	0.0E+00	3.1E-09	1.2E-09	3.1E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.4E-09
	post natal	2.1E-10	1.8E-10	3.5E-10	1.9E-10	3.7E-10	1.9E-10	2.1E-10	2.0E-10	1.8E-10	2.1E-10
	total	1.4E-09	1.8E-10	3.5E-09	1.4E-09	3.5E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.6E-09
Chronic											
-260 §	in utero	2.4E-11	2.8E-12	4.0E-11	2.4E-11	4.0E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.6E-11
	post natal	3.8E-13	3.3E-13	6.4E-13	3.5E-13	6.8E-13	3.5E-13	3.7E-13	3.6E-13	3.4E-13	3.9E-13
	total	2.4E-11	3.2E-12	4.1E-11	2.4E-11	4.1E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.6E-11
-52	in utero	9.5E-11	8.6E-12	1.4E-10	9.5E-11	1.4E-10	9.5E-11	9.5E-11	9.5E-11	9.5E-11	1.0E-10
	post natal	1.0E-12	9.2E-13	1.8E-12	9.6E-13	1.9E-12	9.6E-13	1.0E-12	9.8E-13	9.2E-13	1.1E-12
	total	9.6E-11	9.6E-12	1.4E-10	9.6E-11	1.4E-10	9.6E-11	9.6E-11	9.6E-11	9.6E-11	1.0E-10
during	in utero	1.5E-09	3.1E-10	3.1E-09	1.5E-09	3.1E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.7E-09
	post natal	5.0E-11	4.4E-11	8.5E-11	4.6E-11	8.9E-11	4.6E-11	4.9E-11	4.7E-11	4.4E-11	5.1E-11
	total	1.6E-09	3.6E-10	3.2E-09	1.5E-09	3.2E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.8E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Na-22
($T_{1/2} = 2.60$ y) by the mother

Ingestion: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.3E-11	2.9E-12	3.2E-11	1.3E-11	3.2E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.5E-11
	post natal	4.5E-13	4.0E-13	7.6E-13	4.2E-13	8.0E-13	4.1E-13	4.4E-13	4.2E-13	4.0E-13	4.6E-13
	total	1.3E-11	3.3E-12	3.3E-11	1.3E-11	3.3E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.5E-11
-26	in utero	6.0E-11	1.4E-11	1.5E-10	6.0E-11	1.5E-10	6.0E-11	6.0E-11	6.0E-11	6.0E-11	7.2E-11
	post natal	2.1E-12	1.9E-12	3.6E-12	1.9E-12	3.8E-12	1.9E-12	2.1E-12	2.0E-12	1.9E-12	2.1E-12
	total	6.2E-11	1.6E-11	1.5E-10	6.2E-11	1.5E-10	6.2E-11	6.2E-11	6.2E-11	6.2E-11	7.4E-11
concep ‡	in utero	3.5E-09	1.2E-10	3.7E-09	3.5E-09	3.7E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.6E-09
	post natal	3.1E-12	2.7E-12	5.3E-12	2.9E-12	5.5E-12	2.9E-12	3.1E-12	2.9E-12	2.7E-12	3.2E-12
	total	3.5E-09	1.2E-10	3.7E-09	3.5E-09	3.7E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.6E-09
5	in utero	3.3E-09	1.2E-09	4.2E-09	3.3E-09	4.2E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.4E-09
	post natal	3.3E-12	2.9E-12	5.7E-12	3.1E-12	6.0E-12	3.1E-12	3.3E-12	3.2E-12	3.0E-12	3.4E-12
	total	3.3E-09	1.2E-09	4.2E-09	3.3E-09	4.2E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.4E-09
10	in utero	3.2E-09	2.8E-09	6.8E-09	3.2E-09	6.8E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.6E-09
	post natal	3.6E-12	3.2E-12	6.1E-12	3.3E-12	6.4E-12	3.3E-12	3.6E-12	3.4E-12	3.2E-12	3.7E-12
	total	3.2E-09	2.8E-09	6.8E-09	3.2E-09	6.8E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.6E-09
15	in utero	3.1E-09	0.0E+00	7.3E-09	3.1E-09	7.3E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.6E-09
	post natal	3.9E-12	3.4E-12	6.6E-12	3.6E-12	6.9E-12	3.6E-12	3.8E-12	3.7E-12	3.5E-12	4.0E-12
	total	3.1E-09	3.4E-12	7.3E-09	3.1E-09	7.3E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.6E-09
25	in utero	3.1E-09	0.0E+00	7.9E-09	3.1E-09	7.9E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.7E-09
	post natal	7.6E-12	6.8E-12	1.3E-11	7.1E-12	1.4E-11	7.1E-12	7.6E-12	7.2E-12	6.8E-12	7.8E-12
	total	3.1E-09	6.8E-12	7.9E-09	3.1E-09	7.9E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.7E-09
35	in utero	2.4E-09	0.0E+00	6.4E-09	2.4E-09	6.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.9E-09
	post natal	4.3E-10	3.8E-10	7.3E-10	4.0E-10	7.7E-10	4.0E-10	4.3E-10	4.1E-10	3.8E-10	4.4E-10
	total	2.8E-09	3.8E-10	7.1E-09	2.8E-09	7.2E-09	2.8E-09	2.8E-09	2.8E-09	2.8E-09	3.3E-09
Chronic											
-260 §	in utero	4.9E-11	5.9E-12	8.3E-11	4.9E-11	8.3E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	5.4E-11
	post natal	7.8E-13	6.9E-13	1.3E-12	7.3E-13	1.4E-12	7.2E-13	7.8E-13	7.4E-13	7.0E-13	8.0E-13
	total	5.0E-11	6.6E-12	8.4E-11	5.0E-11	8.4E-11	5.0E-11	5.0E-11	5.0E-11	5.0E-11	5.5E-11
-52	in utero	2.0E-10	1.8E-11	2.9E-10	2.0E-10	2.9E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.1E-10
	post natal	2.1E-12	1.9E-12	3.7E-12	2.0E-12	3.9E-12	2.0E-12	2.1E-12	2.0E-12	1.9E-12	2.2E-12
	total	2.0E-10	2.0E-11	2.9E-10	2.0E-10	2.9E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.1E-10
during	in utero	3.0E-09	6.5E-10	6.5E-09	3.0E-09	6.5E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.5E-09
	post natal	1.0E-10	9.2E-11	1.8E-10	9.6E-11	1.8E-10	9.6E-11	1.0E-10	9.8E-11	9.2E-11	1.1E-10
	total	3.1E-09	7.5E-10	6.7E-09	3.1E-09	6.7E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.6E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Na-24
($T_{1/2} = 15.0$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 1.0											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	1.8E-10	0.0E+00	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.8E-10	0.0E+00	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
5	in utero	1.7E-10	1.1E-17	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.7E-10	1.1E-17	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
10	in utero	1.6E-10	1.6E-10	3.6E-10	1.6E-10	3.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.6E-10	1.6E-10	3.6E-10	1.6E-10	3.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10
15	in utero	1.6E-10	0.0E+00	3.9E-10	1.6E-10	3.9E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.6E-10	0.0E+00	3.9E-10	1.6E-10	3.9E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10
25	in utero	1.6E-10	0.0E+00	4.6E-10	1.6E-10	4.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	2.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.6E-10	0.0E+00	4.6E-10	1.6E-10	4.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	2.0E-10
35	in utero	1.6E-10	0.0E+00	5.1E-10	1.6E-10	5.1E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	2.0E-10
	post natal	1.8E-21	1.7E-21	3.5E-21	1.8E-21	3.4E-21	1.7E-21	1.8E-21	1.8E-21	1.7E-21	2.0E-21
	total	1.6E-10	1.7E-21	5.1E-10	1.6E-10	5.1E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	2.0E-10
Chronic											
-260 §	in utero	8.4E-14	0.0E+00	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	8.4E-14	0.0E+00	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14	8.4E-14
-52	in utero	4.2E-13	0.0E+00	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	4.2E-13	0.0E+00	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13
during	in utero	1.6E-10	3.4E-11	3.8E-10	1.6E-10	3.8E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10
	post natal	3.1E-13	2.9E-13	6.0E-13	3.0E-13	5.8E-13	3.0E-13	3.1E-13	3.0E-13	2.9E-13	3.4E-13
	total	1.6E-10	3.4E-11	3.8E-10	1.6E-10	3.8E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.9E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Na-24
($T_{1/2} = 15.0$ h) by the mother

Ingestion: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	3.8E-10	0.0E+00	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.8E-10	0.0E+00	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10
5	in utero	3.6E-10	2.3E-17	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.6E-10	2.3E-17	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10
10	in utero	3.4E-10	3.4E-10	7.4E-10	3.4E-10	7.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.9E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.4E-10	3.4E-10	7.4E-10	3.4E-10	7.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.9E-10
15	in utero	3.2E-10	0.0E+00	8.0E-10	3.2E-10	8.0E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.9E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.2E-10	0.0E+00	8.0E-10	3.2E-10	8.0E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.9E-10
25	in utero	3.3E-10	0.0E+00	9.4E-10	3.3E-10	9.4E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	4.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.3E-10	0.0E+00	9.4E-10	3.3E-10	9.4E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	4.1E-10
35	in utero	3.3E-10	0.0E+00	1.0E-09	3.3E-10	1.0E-09	3.3E-10	3.3E-10	3.3E-10	3.3E-10	4.2E-10
	post natal	3.8E-21	3.5E-21	7.3E-21	3.7E-21	7.1E-21	3.6E-21	3.8E-21	3.7E-21	3.5E-21	4.1E-21
	total	3.3E-10	3.5E-21	1.0E-09	3.3E-10	1.0E-09	3.3E-10	3.3E-10	3.3E-10	3.3E-10	4.2E-10
Chronic											
-260 §	in utero	1.7E-13	0.0E+00	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.7E-13	0.0E+00	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13
-52	in utero	8.7E-13	0.0E+00	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	8.7E-13	0.0E+00	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13	8.7E-13
during	in utero	3.4E-10	7.0E-11	7.8E-10	3.4E-10	7.8E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.9E-10
	post natal	6.4E-13	5.8E-13	1.2E-12	6.1E-13	1.2E-12	6.0E-13	6.4E-13	6.2E-13	5.8E-13	6.8E-13
	total	3.4E-10	7.0E-11	7.8E-10	3.4E-10	7.8E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.9E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Mg-28
($T_{1/2} = 20.9$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 0.5

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	3.1E-10	0.0E+00	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.1E-10	0.0E+00	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10
5	in utero	3.0E-10	2.1E-15	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.0E-10	2.1E-15	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
10	in utero	3.0E-10	3.0E-10	8.2E-10	3.0E-10	8.2E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.6E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.0E-10	3.0E-10	8.2E-10	3.0E-10	8.2E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.6E-10
15	in utero	2.9E-10	0.0E+00	9.0E-10	2.9E-10	9.0E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	3.7E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.9E-10	0.0E+00	9.0E-10	2.9E-10	9.0E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	3.7E-10
25	in utero	2.6E-10	0.0E+00	1.2E-09	2.6E-10	1.2E-09	2.6E-10	2.6E-10	2.6E-10	2.6E-10	3.8E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.6E-10	0.0E+00	1.2E-09	2.6E-10	1.2E-09	2.6E-10	2.6E-10	2.6E-10	2.6E-10	3.8E-10
35	in utero	2.2E-10	0.0E+00	1.4E-09	2.2E-10	1.4E-09	2.2E-10	2.2E-10	2.2E-10	2.2E-10	3.8E-10
	post natal	5.4E-18	5.2E-18	6.4E-17	5.1E-18	4.1E-17	5.1E-18	5.4E-18	5.2E-18	5.1E-18	1.3E-17
	total	2.2E-10	5.2E-18	1.4E-09	2.2E-10	1.4E-09	2.2E-10	2.2E-10	2.2E-10	2.2E-10	3.8E-10
Chronic											
-260 §	in utero	1.6E-13	0.0E+00	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.6E-13	0.0E+00	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13	1.6E-13
-52	in utero	8.1E-13	0.0E+00	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	8.1E-13	0.0E+00	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13	8.1E-13
during	in utero	2.7E-10	6.1E-11	9.4E-10	2.7E-10	9.4E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	3.6E-10
	post natal	5.4E-13	5.2E-13	6.4E-12	5.1E-13	4.1E-12	5.1E-13	5.4E-13	5.2E-13	5.1E-13	1.3E-12
	total	2.7E-10	6.2E-11	9.5E-10	2.7E-10	9.4E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	3.6E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Mg-28
($T_{1/2} = 20.9$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M f1 = 0.5

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	3.0E-10	0.0E+00	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.0E-10	0.0E+00	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
5	in utero	2.9E-10	1.3E-15	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.9E-10	1.3E-15	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
10	in utero	2.9E-10	2.9E-10	5.8E-10	2.9E-10	5.8E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	3.2E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.9E-10	2.9E-10	5.8E-10	2.9E-10	5.8E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	3.2E-10
15	in utero	2.7E-10	0.0E+00	6.2E-10	2.7E-10	6.2E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	3.2E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.7E-10	0.0E+00	6.2E-10	2.7E-10	6.2E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	3.2E-10
25	in utero	2.4E-10	0.0E+00	7.5E-10	2.4E-10	7.5E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	3.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.4E-10	0.0E+00	7.5E-10	2.4E-10	7.5E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	3.0E-10
35	in utero	1.9E-10	0.0E+00	8.7E-10	1.9E-10	8.7E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	2.8E-10
	post natal	3.4E-18	3.3E-18	4.0E-17	3.2E-18	2.5E-17	3.2E-18	3.4E-18	3.2E-18	3.2E-18	7.9E-18
	total	1.9E-10	3.3E-18	8.7E-10	1.9E-10	8.7E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	2.8E-10
Chronic											
-260 §	in utero	1.4E-13	0.0E+00	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.4E-13	0.0E+00	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13	1.4E-13
-52	in utero	7.1E-13	0.0E+00	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	7.1E-13	0.0E+00	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13	7.1E-13
during	in utero	2.5E-10	6.0E-11	6.3E-10	2.5E-10	6.3E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	3.0E-10
	post natal	3.0E-13	2.9E-13	3.6E-12	2.8E-13	2.3E-12	2.9E-13	3.0E-13	2.9E-13	2.9E-13	7.1E-13
	total	2.5E-10	6.0E-11	6.3E-10	2.5E-10	6.3E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	3.0E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Mg-28
($T_{1/2} = 20.9$ h) by the mother

Ingestion: $f_1 = 0.5$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	7.1E-10	0.0E+00	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	7.1E-10	0.0E+00	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10	7.1E-10
5	in utero	7.0E-10	2.8E-15	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	7.0E-10	2.8E-15	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10	7.0E-10
10	in utero	6.8E-10	6.8E-10	1.3E-09	6.8E-10	1.3E-09	6.8E-10	6.8E-10	6.8E-10	6.8E-10	7.7E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	6.8E-10	6.8E-10	1.3E-09	6.8E-10	1.3E-09	6.8E-10	6.8E-10	6.8E-10	6.8E-10	7.7E-10
15	in utero	6.5E-10	0.0E+00	1.4E-09	6.5E-10	1.4E-09	6.5E-10	6.5E-10	6.5E-10	6.5E-10	7.5E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	6.5E-10	0.0E+00	1.4E-09	6.5E-10	1.4E-09	6.5E-10	6.5E-10	6.5E-10	6.5E-10	7.5E-10
25	in utero	5.6E-10	0.0E+00	1.7E-09	5.6E-10	1.7E-09	5.6E-10	5.6E-10	5.6E-10	5.6E-10	7.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	5.6E-10	0.0E+00	1.7E-09	5.6E-10	1.7E-09	5.6E-10	5.6E-10	5.6E-10	5.6E-10	7.0E-10
35	in utero	4.3E-10	0.0E+00	1.9E-09	4.3E-10	1.9E-09	4.3E-10	4.3E-10	4.3E-10	4.3E-10	6.3E-10
	post natal	7.1E-18	6.9E-18	8.5E-17	6.7E-18	5.4E-17	6.7E-18	7.1E-18	6.9E-18	6.8E-18	1.7E-17
	total	4.3E-10	6.9E-18	1.9E-09	4.3E-10	1.9E-09	4.3E-10	4.3E-10	4.3E-10	4.3E-10	6.3E-10
Chronic											
-260 §	in utero	3.3E-13	0.0E+00	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.3E-13	0.0E+00	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13
-52	in utero	1.6E-12	0.0E+00	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.6E-12	0.0E+00	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
during	in utero	5.9E-10	1.4E-10	1.4E-09	5.9E-10	1.4E-09	5.9E-10	5.9E-10	5.9E-10	5.9E-10	7.0E-10
	post natal	6.6E-13	6.5E-13	7.9E-12	6.2E-13	5.0E-12	6.3E-13	6.7E-13	6.4E-13	6.4E-13	1.6E-12
	total	5.9E-10	1.4E-10	1.4E-09	5.9E-10	1.4E-09	5.9E-10	5.9E-10	5.9E-10	5.9E-10	7.0E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-32
($T_{1/2} = 14.3$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 0.8

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	2.2E-36	2.2E-36	2.5E-34	2.2E-36	6.6E-35	2.2E-36	2.2E-36	2.2E-36	2.2E-36	3.3E-35
	total	2.2E-36	2.2E-36	2.5E-34	2.2E-36	6.6E-35	2.2E-36	2.2E-36	2.2E-36	2.2E-36	3.3E-35
-26	in utero	9.9E-16	8.4E-16	1.7E-14	9.9E-16	1.7E-14	9.9E-16	9.9E-16	9.9E-16	9.9E-16	3.0E-15
	post natal	7.4E-21	7.4E-21	8.3E-19	7.4E-21	2.2E-19	7.4E-21	7.4E-21	7.4E-21	7.4E-21	1.1E-19
	total	9.9E-16	8.4E-16	1.7E-14	9.9E-16	1.7E-14	9.9E-16	9.9E-16	9.9E-16	9.9E-16	3.0E-15
concep ‡	in utero	6.0E-10	1.5E-10	3.3E-09	6.0E-10	3.3E-09	6.0E-10	6.0E-10	6.0E-10	6.0E-10	9.5E-10
	post natal	1.1E-15	1.1E-15	1.3E-13	1.1E-15	3.5E-14	1.1E-15	1.1E-15	1.1E-15	1.1E-15	1.7E-14
	total	6.0E-10	1.5E-10	3.3E-09	6.0E-10	3.3E-09	6.0E-10	6.0E-10	6.0E-10	6.0E-10	9.5E-10
5	in utero	1.5E-09	1.1E-09	2.0E-08	1.5E-09	2.0E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	3.9E-09
	post natal	6.4E-15	6.4E-15	7.2E-13	6.4E-15	1.9E-13	6.4E-15	6.4E-15	6.4E-15	6.4E-15	9.5E-14
	total	1.5E-09	1.1E-09	2.0E-08	1.5E-09	2.0E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	3.9E-09
10	in utero	4.4E-09	3.9E-09	7.7E-08	4.4E-09	7.7E-08	4.4E-09	4.4E-09	4.4E-09	4.4E-09	1.4E-08
	post natal	3.5E-14	3.5E-14	4.0E-12	3.5E-14	1.1E-12	3.5E-14	3.5E-14	3.5E-14	3.5E-14	5.3E-13
	total	4.4E-09	3.9E-09	7.7E-08	4.4E-09	7.7E-08	4.4E-09	4.4E-09	4.4E-09	4.4E-09	1.4E-08
15	in utero	4.1E-09	0.0E+00	8.8E-08	4.1E-09	8.8E-08	4.1E-09	4.1E-09	4.1E-09	4.1E-09	1.5E-08
	post natal	2.0E-13	2.0E-13	2.2E-11	2.0E-13	6.0E-12	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.9E-12
	total	4.1E-09	2.0E-13	8.8E-08	4.1E-09	8.8E-08	4.1E-09	4.1E-09	4.1E-09	4.1E-09	1.5E-08
25	in utero	3.2E-09	0.0E+00	1.1E-07	3.2E-09	1.1E-07	3.2E-09	3.2E-09	3.2E-09	3.2E-09	1.7E-08
	post natal	6.4E-12	6.4E-12	7.2E-10	6.4E-12	1.9E-10	6.4E-12	6.4E-12	6.4E-12	6.4E-12	9.5E-11
	total	3.2E-09	6.4E-12	1.1E-07	3.2E-09	1.1E-07	3.2E-09	3.2E-09	3.2E-09	3.2E-09	1.7E-08
35	in utero	1.9E-09	0.0E+00	9.6E-08	1.9E-09	9.6E-08	1.9E-09	1.9E-09	1.9E-09	1.9E-09	1.4E-08
	post natal	3.1E-10	3.1E-10	3.5E-08	3.1E-10	9.3E-09	3.1E-10	3.1E-10	3.1E-10	3.1E-10	4.6E-09
	total	2.2E-09	3.1E-10	1.3E-07	2.2E-09	1.1E-07	2.2E-09	2.2E-09	2.2E-09	2.2E-09	1.9E-08
Chronic											
-260 §	in utero	2.6E-12	9.5E-14	4.1E-12	2.6E-12	4.1E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.8E-12
	post natal	6.4E-19	6.4E-19	7.3E-17	6.4E-19	1.9E-17	6.4E-19	6.4E-19	6.4E-19	6.4E-19	9.6E-18
	total	2.6E-12	9.5E-14	4.1E-12	2.6E-12	4.1E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.8E-12
-52	in utero	1.3E-11	4.8E-13	2.0E-11	1.3E-11	2.0E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.4E-11
	post natal	3.2E-18	3.2E-18	3.6E-16	3.2E-18	9.7E-17	3.2E-18	3.2E-18	3.2E-18	3.2E-18	4.8E-17
	total	1.3E-11	4.8E-13	2.0E-11	1.3E-11	2.0E-11	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.4E-11
during	in utero	2.9E-09	7.9E-10	8.0E-08	2.9E-09	8.0E-08	2.9E-09	2.9E-09	2.9E-09	2.9E-09	1.3E-08
	post natal	7.5E-11	7.5E-11	8.5E-09	7.5E-11	2.3E-09	7.5E-11	7.5E-11	7.5E-11	7.5E-11	1.1E-09
	total	3.0E-09	8.7E-10	8.9E-08	3.0E-09	8.2E-08	3.0E-09	3.0E-09	3.0E-09	3.0E-09	1.4E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-32
($T_{1/2} = 14.3$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M f1 = 0.8

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	2.0E-36	2.0E-36	2.3E-34	2.0E-36	6.0E-35	2.0E-36	2.0E-36	2.0E-36	2.0E-36	3.0E-35
	total	2.0E-36	2.0E-36	2.3E-34	2.0E-36	6.0E-35	2.0E-36	2.0E-36	2.0E-36	2.0E-36	3.0E-35
-26	in utero	1.3E-15	7.6E-16	1.5E-14	1.3E-15	1.5E-14	1.3E-15	1.3E-15	1.3E-15	1.3E-15	3.1E-15
	post natal	6.6E-21	6.6E-21	7.5E-19	6.6E-21	2.0E-19	6.6E-21	6.6E-21	6.6E-21	6.6E-21	9.9E-20
	total	1.3E-15	7.6E-16	1.5E-14	1.3E-15	1.5E-14	1.3E-15	1.3E-15	1.3E-15	1.3E-15	3.1E-15
concep ‡	in utero	4.9E-10	1.3E-10	2.8E-09	4.9E-10	2.8E-09	4.9E-10	4.9E-10	4.9E-10	4.9E-10	7.9E-10
	post natal	1.0E-15	1.0E-15	1.2E-13	1.0E-15	3.1E-14	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.5E-14
	total	4.9E-10	1.3E-10	2.8E-09	4.9E-10	2.8E-09	4.9E-10	4.9E-10	4.9E-10	4.9E-10	7.9E-10
5	in utero	1.2E-09	8.9E-10	1.7E-08	1.2E-09	1.7E-08	1.2E-09	1.2E-09	1.2E-09	1.2E-09	3.2E-09
	post natal	5.7E-15	5.7E-15	6.4E-13	5.7E-15	1.7E-13	5.7E-15	5.7E-15	5.7E-15	5.7E-15	8.4E-14
	total	1.2E-09	8.9E-10	1.7E-08	1.2E-09	1.7E-08	1.2E-09	1.2E-09	1.2E-09	1.2E-09	3.2E-09
10	in utero	3.5E-09	3.1E-09	6.2E-08	3.5E-09	6.2E-08	3.5E-09	3.5E-09	3.5E-09	3.5E-09	1.1E-08
	post natal	3.1E-14	3.1E-14	3.6E-12	3.1E-14	9.5E-13	3.1E-14	3.1E-14	3.1E-14	3.1E-14	4.7E-13
	total	3.5E-09	3.1E-09	6.2E-08	3.5E-09	6.2E-08	3.5E-09	3.5E-09	3.5E-09	3.5E-09	1.1E-08
15	in utero	3.3E-09	0.0E+00	7.1E-08	3.3E-09	7.1E-08	3.3E-09	3.3E-09	3.3E-09	3.3E-09	1.2E-08
	post natal	1.7E-13	1.7E-13	2.0E-11	1.7E-13	5.3E-12	1.7E-13	1.7E-13	1.7E-13	1.7E-13	2.6E-12
	total	3.3E-09	1.7E-13	7.1E-08	3.3E-09	7.1E-08	3.3E-09	3.3E-09	3.3E-09	3.3E-09	1.2E-08
25	in utero	2.6E-09	0.0E+00	8.9E-08	2.6E-09	8.9E-08	2.6E-09	2.6E-09	2.6E-09	2.6E-09	1.4E-08
	post natal	5.6E-12	5.6E-12	6.3E-10	5.6E-12	1.7E-10	5.6E-12	5.6E-12	5.6E-12	5.6E-12	8.3E-11
	total	2.6E-09	5.6E-12	9.0E-08	2.6E-09	8.9E-08	2.6E-09	2.6E-09	2.6E-09	2.6E-09	1.4E-08
35	in utero	1.5E-09	0.0E+00	7.6E-08	1.5E-09	7.6E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.1E-08
	post natal	2.5E-10	2.5E-10	2.8E-08	2.5E-10	7.6E-09	2.5E-10	2.5E-10	2.5E-10	2.5E-10	3.7E-09
	total	1.8E-09	2.5E-10	1.0E-07	1.8E-09	8.4E-08	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.5E-08
Chronic											
-260 §	in utero	2.2E-12	8.5E-14	3.5E-12	2.2E-12	3.5E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.4E-12
	post natal	5.8E-19	5.8E-19	6.5E-17	5.8E-19	1.7E-17	5.8E-19	5.8E-19	5.8E-19	5.8E-19	8.6E-18
	total	2.2E-12	8.5E-14	3.5E-12	2.2E-12	3.5E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.4E-12
-52	in utero	1.1E-11	4.3E-13	1.7E-11	1.1E-11	1.7E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.2E-11
	post natal	2.9E-18	2.9E-18	3.3E-16	2.9E-18	8.7E-17	2.9E-18	2.9E-18	2.9E-18	2.9E-18	4.3E-17
	total	1.1E-11	4.3E-13	1.7E-11	1.1E-11	1.7E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.2E-11
during	in utero	2.4E-09	6.4E-10	6.4E-08	2.4E-09	6.4E-08	2.4E-09	2.4E-09	2.4E-09	2.4E-09	1.0E-08
	post natal	6.1E-11	6.1E-11	6.9E-09	6.1E-11	1.8E-09	6.1E-11	6.1E-11	6.1E-11	6.1E-11	9.0E-10
	total	2.5E-09	7.0E-10	7.1E-08	2.5E-09	6.6E-08	2.5E-09	2.5E-09	2.5E-09	2.5E-09	1.1E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-32
($T_{1/2} = 14.3$ d) by the mother

Ingestion: $f_1 = 0.8$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	4.0E-36	4.0E-36	4.5E-34	4.0E-36	1.2E-34	4.0E-36	4.0E-36	4.0E-36	4.0E-36	5.9E-35
	total	4.0E-36	4.0E-36	4.5E-34	4.0E-36	1.2E-34	4.0E-36	4.0E-36	4.0E-36	4.0E-36	5.9E-35
-26	in utero	1.8E-15	1.5E-15	3.0E-14	1.8E-15	3.0E-14	1.8E-15	1.8E-15	1.8E-15	1.8E-15	5.5E-15
	post natal	1.3E-20	1.3E-20	1.5E-18	1.3E-20	4.0E-19	1.3E-20	1.3E-20	1.3E-20	1.3E-20	2.0E-19
	total	1.8E-15	1.5E-15	3.0E-14	1.8E-15	3.0E-14	1.8E-15	1.8E-15	1.8E-15	1.8E-15	5.5E-15
concep ‡	in utero	1.1E-09	2.7E-10	6.0E-09	1.1E-09	6.0E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.7E-09
	post natal	2.1E-15	2.1E-15	2.4E-13	2.1E-15	6.3E-14	2.1E-15	2.1E-15	2.1E-15	2.1E-15	3.1E-14
	total	1.1E-09	2.7E-10	6.0E-09	1.1E-09	6.0E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.7E-09
5	in utero	2.7E-09	1.9E-09	3.6E-08	2.7E-09	3.6E-08	2.7E-09	2.7E-09	2.7E-09	2.7E-09	7.0E-09
	post natal	1.2E-14	1.2E-14	1.3E-12	1.2E-14	3.5E-13	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.7E-13
	total	2.7E-09	1.9E-09	3.6E-08	2.7E-09	3.6E-08	2.7E-09	2.7E-09	2.7E-09	2.7E-09	7.0E-09
10	in utero	8.0E-09	7.1E-09	1.4E-07	8.0E-09	1.4E-07	8.0E-09	8.0E-09	8.0E-09	8.0E-09	2.5E-08
	post natal	6.5E-14	6.5E-14	7.3E-12	6.5E-14	1.9E-12	6.5E-14	6.5E-14	6.5E-14	6.5E-14	9.6E-13
	total	8.0E-09	7.1E-09	1.4E-07	8.0E-09	1.4E-07	8.0E-09	8.0E-09	8.0E-09	8.0E-09	2.5E-08
15	in utero	7.5E-09	0.0E+00	1.6E-07	7.5E-09	1.6E-07	7.5E-09	7.5E-09	7.5E-09	7.5E-09	2.7E-08
	post natal	3.6E-13	3.6E-13	4.1E-11	3.6E-13	1.1E-11	3.6E-13	3.6E-13	3.6E-13	3.6E-13	5.4E-12
	total	7.5E-09	3.6E-13	1.6E-07	7.5E-09	1.6E-07	7.5E-09	7.5E-09	7.5E-09	7.5E-09	2.7E-08
25	in utero	5.9E-09	0.0E+00	2.0E-07	5.9E-09	2.0E-07	5.9E-09	5.9E-09	5.9E-09	5.9E-09	3.1E-08
	post natal	1.2E-11	1.2E-11	1.3E-09	1.2E-11	3.5E-10	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.7E-10
	total	5.9E-09	1.2E-11	2.0E-07	5.9E-09	2.0E-07	5.9E-09	5.9E-09	5.9E-09	5.9E-09	3.1E-08
35	in utero	3.5E-09	0.0E+00	1.7E-07	3.5E-09	1.7E-07	3.5E-09	3.5E-09	3.5E-09	3.5E-09	2.6E-08
	post natal	5.6E-10	5.6E-10	6.3E-08	5.6E-10	1.7E-08	5.6E-10	5.6E-10	5.6E-10	5.6E-10	8.3E-09
	total	4.1E-09	5.6E-10	2.3E-07	4.1E-09	1.9E-07	4.1E-09	4.1E-09	4.1E-09	4.1E-09	3.4E-08
Chronic											
-260 §	in utero	4.8E-12	1.7E-13	7.4E-12	4.8E-12	7.4E-12	4.8E-12	4.8E-12	4.8E-12	4.8E-12	5.1E-12
	post natal	1.2E-18	1.2E-18	1.3E-16	1.2E-18	3.5E-17	1.2E-18	1.2E-18	1.2E-18	1.2E-18	1.7E-17
	total	4.8E-12	1.7E-13	7.4E-12	4.8E-12	7.4E-12	4.8E-12	4.8E-12	4.8E-12	4.8E-12	5.1E-12
-52	in utero	2.4E-11	8.7E-13	3.7E-11	2.4E-11	3.7E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.6E-11
	post natal	5.9E-18	5.9E-18	6.6E-16	5.9E-18	1.8E-16	5.9E-18	5.9E-18	5.9E-18	5.9E-18	8.7E-17
	total	2.4E-11	8.7E-13	3.7E-11	2.4E-11	3.7E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.6E-11
during	in utero	5.3E-09	1.4E-09	1.5E-07	5.3E-09	1.5E-07	5.3E-09	5.3E-09	5.3E-09	5.3E-09	2.3E-08
	post natal	1.4E-10	1.4E-10	1.5E-08	1.4E-10	4.1E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	2.0E-09
	total	5.4E-09	1.6E-09	1.7E-07	5.4E-09	1.5E-07	5.4E-09	5.4E-09	5.4E-09	5.4E-09	2.5E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-33
($T_{1/2} = 25.4$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 0.8

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.6E-23	2.0E-23	1.3E-21	2.6E-23	1.3E-21	2.6E-23	2.6E-23	2.6E-23	2.6E-23	1.9E-22
	post natal	2.3E-26	2.3E-26	9.3E-25	2.3E-26	7.6E-25	2.3E-26	2.3E-26	2.3E-26	2.3E-26	1.4E-25
	total	2.6E-23	2.0E-23	1.3E-21	2.6E-23	1.3E-21	2.6E-23	2.6E-23	2.6E-23	2.6E-23	1.9E-22
-26	in utero	1.7E-14	1.2E-14	7.9E-13	1.7E-14	7.9E-13	1.7E-14	1.7E-14	1.7E-14	1.7E-14	1.2E-13
	post natal	1.4E-17	1.4E-17	5.9E-16	1.4E-17	4.8E-16	1.4E-17	1.4E-17	1.4E-17	1.4E-17	8.9E-17
	total	1.7E-14	1.2E-14	7.9E-13	1.7E-14	7.9E-13	1.7E-14	1.7E-14	1.7E-14	1.7E-14	1.2E-13
concep ‡	in utero	1.2E-10	4.5E-11	2.8E-09	1.2E-10	2.8E-09	1.2E-10	1.2E-10	1.2E-10	1.2E-10	4.6E-10
	post natal	4.6E-14	4.6E-14	1.9E-12	4.6E-14	1.5E-12	4.6E-14	4.6E-14	4.6E-14	4.6E-14	2.9E-13
	total	1.2E-10	4.5E-11	2.8E-09	1.2E-10	2.8E-09	1.2E-10	1.2E-10	1.2E-10	1.2E-10	4.6E-10
5	in utero	2.3E-10	1.5E-10	8.5E-09	2.3E-10	8.5E-09	2.3E-10	2.3E-10	2.3E-10	2.3E-10	1.3E-09
	post natal	1.2E-13	1.2E-13	5.0E-12	1.2E-13	4.1E-12	1.2E-13	1.2E-13	1.2E-13	1.2E-13	7.6E-13
	total	2.3E-10	1.5E-10	8.5E-09	2.3E-10	8.5E-09	2.3E-10	2.3E-10	2.3E-10	2.3E-10	1.3E-09
10	in utero	4.1E-10	3.0E-10	2.0E-08	4.1E-10	2.0E-08	4.1E-10	4.1E-10	4.1E-10	4.1E-10	3.0E-09
	post natal	3.2E-13	3.2E-13	1.3E-11	3.2E-13	1.1E-11	3.2E-13	3.2E-13	3.2E-13	3.2E-13	2.0E-12
	total	4.1E-10	3.0E-10	2.0E-08	4.1E-10	2.0E-08	4.1E-10	4.1E-10	4.1E-10	4.1E-10	3.0E-09
15	in utero	3.9E-10	0.0E+00	2.2E-08	3.9E-10	2.2E-08	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.2E-09
	post natal	8.6E-13	8.6E-13	3.5E-11	8.6E-13	2.8E-11	8.6E-13	8.6E-13	8.6E-13	8.6E-13	5.3E-12
	total	3.9E-10	8.6E-13	2.2E-08	3.9E-10	2.2E-08	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.2E-09
25	in utero	3.5E-10	0.0E+00	2.3E-08	3.5E-10	2.3E-08	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.2E-09
	post natal	6.2E-12	6.2E-12	2.5E-10	6.2E-12	2.1E-10	6.2E-12	6.2E-12	6.2E-12	6.2E-12	3.9E-11
	total	3.6E-10	6.2E-12	2.3E-08	3.6E-10	2.3E-08	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.2E-09
35	in utero	2.0E-10	0.0E+00	1.4E-08	2.0E-10	1.4E-08	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-09
	post natal	6.8E-11	6.8E-11	2.8E-09	6.8E-11	2.3E-09	6.8E-11	6.8E-11	6.8E-11	6.8E-11	4.2E-10
	total	2.7E-10	6.8E-11	1.7E-08	2.7E-10	1.6E-08	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.4E-09
Chronic											
-260 §	in utero	5.4E-13	4.9E-14	3.1E-12	5.4E-13	3.1E-12	5.4E-13	5.4E-13	5.4E-13	5.4E-13	8.7E-13
	post natal	4.6E-17	4.6E-17	1.9E-15	4.6E-17	1.5E-15	4.6E-17	4.6E-17	4.6E-17	4.6E-17	2.8E-16
	total	5.4E-13	4.9E-14	3.1E-12	5.4E-13	3.1E-12	5.4E-13	5.4E-13	5.4E-13	5.4E-13	8.7E-13
-52	in utero	2.7E-12	2.4E-13	1.5E-11	2.7E-12	1.5E-11	2.7E-12	2.7E-12	2.7E-12	2.7E-12	4.3E-12
	post natal	2.3E-16	2.3E-16	9.3E-15	2.3E-16	7.6E-15	2.3E-16	2.3E-16	2.3E-16	2.3E-16	1.4E-15
	total	2.7E-12	2.4E-13	1.5E-11	2.7E-12	1.5E-11	2.7E-12	2.7E-12	2.7E-12	2.7E-12	4.3E-12
during	in utero	3.1E-10	7.2E-11	1.7E-08	3.1E-10	1.7E-08	3.1E-10	3.1E-10	3.1E-10	3.1E-10	2.5E-09
	post natal	1.7E-11	1.7E-11	6.8E-10	1.7E-11	5.5E-10	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.0E-10
	total	3.3E-10	8.9E-11	1.8E-08	3.3E-10	1.8E-08	3.3E-10	3.3E-10	3.3E-10	3.3E-10	2.6E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-33
($T_{1/2} = 25.4$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M f1 = 0.8

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.4E-23	1.8E-23	1.1E-21	2.4E-23	1.1E-21	2.4E-23	2.4E-23	2.4E-23	2.4E-23	1.7E-22
	post natal	2.1E-26	2.1E-26	8.5E-25	2.1E-26	6.9E-25	2.1E-26	2.1E-26	2.1E-26	2.1E-26	1.3E-25
	total	2.4E-23	1.8E-23	1.1E-21	2.4E-23	1.1E-21	2.4E-23	2.4E-23	2.4E-23	2.4E-23	1.7E-22
-26	in utero	1.8E-14	1.1E-14	7.1E-13	1.8E-14	7.1E-13	1.8E-14	1.8E-14	1.8E-14	1.8E-14	1.1E-13
	post natal	1.3E-17	1.3E-17	5.3E-16	1.3E-17	4.3E-16	1.3E-17	1.3E-17	1.3E-17	1.3E-17	8.1E-17
	total	1.8E-14	1.1E-14	7.1E-13	1.8E-14	7.1E-13	1.8E-14	1.8E-14	1.8E-14	1.8E-14	1.1E-13
concep ‡	in utero	1.0E-10	3.9E-11	2.4E-09	1.0E-10	2.4E-09	1.0E-10	1.0E-10	1.0E-10	1.0E-10	4.0E-10
	post natal	4.1E-14	4.1E-14	1.7E-12	4.1E-14	1.4E-12	4.1E-14	4.1E-14	4.1E-14	4.1E-14	2.6E-13
	total	1.0E-10	3.9E-11	2.4E-09	1.0E-10	2.4E-09	1.0E-10	1.0E-10	1.0E-10	1.0E-10	4.0E-10
5	in utero	1.9E-10	1.3E-10	7.2E-09	1.9E-10	7.2E-09	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.1E-09
	post natal	1.1E-13	1.1E-13	4.4E-12	1.1E-13	3.6E-12	1.1E-13	1.1E-13	1.1E-13	1.1E-13	6.8E-13
	total	1.9E-10	1.3E-10	7.2E-09	1.9E-10	7.2E-09	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.1E-09
10	in utero	3.3E-10	2.4E-10	1.7E-08	3.3E-10	1.7E-08	3.3E-10	3.3E-10	3.3E-10	3.3E-10	2.5E-09
	post natal	2.9E-13	2.9E-13	1.2E-11	2.9E-13	9.5E-12	2.9E-13	2.9E-13	2.9E-13	2.9E-13	1.8E-12
	total	3.3E-10	2.4E-10	1.7E-08	3.3E-10	1.7E-08	3.3E-10	3.3E-10	3.3E-10	3.3E-10	2.5E-09
15	in utero	3.2E-10	0.0E+00	1.8E-08	3.2E-10	1.8E-08	3.2E-10	3.2E-10	3.2E-10	3.2E-10	2.6E-09
	post natal	7.6E-13	7.6E-13	3.1E-11	7.6E-13	2.5E-11	7.6E-13	7.6E-13	7.6E-13	7.6E-13	4.7E-12
	total	3.2E-10	7.6E-13	1.8E-08	3.2E-10	1.8E-08	3.2E-10	3.2E-10	3.2E-10	3.2E-10	2.6E-09
25	in utero	2.9E-10	0.0E+00	1.8E-08	2.9E-10	1.8E-08	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.6E-09
	post natal	5.4E-12	5.4E-12	2.2E-10	5.4E-12	1.8E-10	5.4E-12	5.4E-12	5.4E-12	5.4E-12	3.4E-11
	total	3.0E-10	5.4E-12	1.8E-08	3.0E-10	1.8E-08	3.0E-10	3.0E-10	3.0E-10	3.0E-10	2.6E-09
35	in utero	1.6E-10	0.0E+00	1.1E-08	1.6E-10	1.1E-08	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-09
	post natal	5.6E-11	5.6E-11	2.3E-09	5.6E-11	1.9E-09	5.6E-11	5.6E-11	5.6E-11	5.6E-11	3.5E-10
	total	2.2E-10	5.6E-11	1.3E-08	2.2E-10	1.3E-08	2.2E-10	2.2E-10	2.2E-10	2.2E-10	1.9E-09
Chronic											
-260 §	in utero	4.7E-13	4.4E-14	2.7E-12	4.7E-13	2.7E-12	4.7E-13	4.7E-13	4.7E-13	4.7E-13	7.5E-13
	post natal	4.1E-17	4.1E-17	1.7E-15	4.1E-17	1.4E-15	4.1E-17	4.1E-17	4.1E-17	4.1E-17	2.5E-16
	total	4.7E-13	4.4E-14	2.7E-12	4.7E-13	2.7E-12	4.7E-13	4.7E-13	4.7E-13	4.7E-13	7.5E-13
-52	in utero	2.3E-12	2.2E-13	1.3E-11	2.3E-12	1.3E-11	2.3E-12	2.3E-12	2.3E-12	2.3E-12	3.8E-12
	post natal	2.0E-16	2.0E-16	8.3E-15	2.0E-16	6.8E-15	2.0E-16	2.0E-16	2.0E-16	2.0E-16	1.3E-15
	total	2.3E-12	2.2E-13	1.3E-11	2.3E-12	1.3E-11	2.3E-12	2.3E-12	2.3E-12	2.3E-12	3.8E-12
during	in utero	2.5E-10	5.9E-11	1.4E-08	2.5E-10	1.4E-08	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.1E-09
	post natal	1.4E-11	1.4E-11	5.5E-10	1.4E-11	4.5E-10	1.4E-11	1.4E-11	1.4E-11	1.4E-11	8.4E-11
	total	2.6E-10	7.3E-11	1.5E-08	2.6E-10	1.4E-08	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.2E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of P-33
($T_{1/2} = 25.4$ d) by the mother

Ingestion: $f_1 = 0.8$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.7E-23	3.6E-23	2.3E-21	4.7E-23	2.3E-21	4.7E-23	4.7E-23	4.7E-23	4.7E-23	3.4E-22
	post natal	4.2E-26	4.2E-26	1.7E-24	4.2E-26	1.4E-24	4.2E-26	4.2E-26	4.2E-26	4.2E-26	2.6E-25
	total	4.7E-23	3.6E-23	2.3E-21	4.7E-23	2.3E-21	4.7E-23	4.7E-23	4.7E-23	4.7E-23	3.4E-22
-26	in utero	3.1E-14	2.3E-14	1.4E-12	3.1E-14	1.4E-12	3.1E-14	3.1E-14	3.1E-14	3.1E-14	2.1E-13
	post natal	2.6E-17	2.6E-17	1.1E-15	2.6E-17	8.7E-16	2.6E-17	2.6E-17	2.6E-17	2.6E-17	1.6E-16
	total	3.1E-14	2.3E-14	1.4E-12	3.1E-14	1.4E-12	3.1E-14	3.1E-14	3.1E-14	3.1E-14	2.1E-13
concep ‡	in utero	2.2E-10	8.2E-11	5.1E-09	2.2E-10	5.1E-09	2.2E-10	2.2E-10	2.2E-10	2.2E-10	8.5E-10
	post natal	8.4E-14	8.4E-14	3.4E-12	8.4E-14	2.8E-12	8.4E-14	8.4E-14	8.4E-14	8.4E-14	5.2E-13
	total	2.2E-10	8.2E-11	5.1E-09	2.2E-10	5.1E-09	2.2E-10	2.2E-10	2.2E-10	2.2E-10	8.5E-10
5	in utero	4.1E-10	2.8E-10	1.5E-08	4.1E-10	1.5E-08	4.1E-10	4.1E-10	4.1E-10	4.1E-10	2.4E-09
	post natal	2.2E-13	2.2E-13	9.1E-12	2.2E-13	7.4E-12	2.2E-13	2.2E-13	2.2E-13	2.2E-13	1.4E-12
	total	4.1E-10	2.8E-10	1.5E-08	4.1E-10	1.5E-08	4.1E-10	4.1E-10	4.1E-10	4.1E-10	2.4E-09
10	in utero	7.4E-10	5.5E-10	3.7E-08	7.4E-10	3.7E-08	7.4E-10	7.4E-10	7.4E-10	7.4E-10	5.4E-09
	post natal	5.9E-13	5.9E-13	2.4E-11	5.9E-13	2.0E-11	5.9E-13	5.9E-13	5.9E-13	5.9E-13	3.7E-12
	total	7.4E-10	5.5E-10	3.7E-08	7.4E-10	3.7E-08	7.4E-10	7.4E-10	7.4E-10	7.4E-10	5.4E-09
15	in utero	7.1E-10	0.0E+00	4.0E-08	7.1E-10	4.0E-08	7.1E-10	7.1E-10	7.1E-10	7.1E-10	5.8E-09
	post natal	1.6E-12	1.6E-12	6.4E-11	1.6E-12	5.2E-11	1.6E-12	1.6E-12	1.6E-12	1.6E-12	9.7E-12
	total	7.1E-10	1.6E-12	4.0E-08	7.1E-10	4.0E-08	7.1E-10	7.1E-10	7.1E-10	7.1E-10	5.8E-09
25	in utero	6.4E-10	0.0E+00	4.1E-08	6.4E-10	4.1E-08	6.4E-10	6.4E-10	6.4E-10	6.4E-10	5.9E-09
	post natal	1.1E-11	1.1E-11	4.6E-10	1.1E-11	3.8E-10	1.1E-11	1.1E-11	1.1E-11	1.1E-11	7.1E-11
	total	6.5E-10	1.1E-11	4.1E-08	6.5E-10	4.1E-08	6.5E-10	6.5E-10	6.5E-10	6.5E-10	6.0E-09
35	in utero	3.7E-10	0.0E+00	2.5E-08	3.7E-10	2.5E-08	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.6E-09
	post natal	1.2E-10	1.2E-10	5.1E-09	1.2E-10	4.1E-09	1.2E-10	1.2E-10	1.2E-10	1.2E-10	7.7E-10
	total	4.9E-10	1.2E-10	3.0E-08	4.9E-10	2.9E-08	4.9E-10	4.9E-10	4.9E-10	4.9E-10	4.4E-09
Chronic											
-260 §	in utero	9.8E-13	8.9E-14	5.6E-12	9.8E-13	5.6E-12	9.8E-13	9.8E-13	9.8E-13	9.8E-13	1.6E-12
	post natal	8.3E-17	8.3E-17	3.4E-15	8.3E-17	2.8E-15	8.3E-17	8.3E-17	8.3E-17	8.3E-17	5.2E-16
	total	9.8E-13	8.9E-14	5.6E-12	9.8E-13	5.6E-12	9.8E-13	9.8E-13	9.8E-13	9.8E-13	1.6E-12
-52	in utero	4.9E-12	4.4E-13	2.8E-11	4.9E-12	2.8E-11	4.9E-12	4.9E-12	4.9E-12	4.9E-12	7.9E-12
	post natal	4.2E-16	4.2E-16	1.7E-14	4.2E-16	1.4E-14	4.2E-16	4.2E-16	4.2E-16	4.2E-16	2.6E-15
	total	4.9E-12	4.5E-13	2.8E-11	4.9E-12	2.8E-11	4.9E-12	4.9E-12	4.9E-12	4.9E-12	7.9E-12
during	in utero	5.6E-10	1.3E-10	3.2E-08	5.6E-10	3.2E-08	5.6E-10	5.6E-10	5.6E-10	5.6E-10	4.6E-09
	post natal	3.0E-11	3.0E-11	1.2E-09	3.0E-11	1.0E-09	3.0E-11	3.0E-11	3.0E-11	3.0E-11	1.9E-10
	total	5.9E-10	1.6E-10	3.3E-08	5.9E-10	3.3E-08	5.9E-10	5.9E-10	5.9E-10	5.9E-10	4.8E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

*Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother*

<i>Inhalation of sulphur dioxide</i>											
<i>Scenario *</i>		<i>Gonads</i>	<i>Brain</i>	<i>R.B.M.</i>	<i>Thyroid</i>	<i>Bone sur</i>	<i>Liver</i>	<i>Kidneys</i>	<i>Spleen</i>	<i>Remainder</i>	<i>Effective</i>
<i>Acute</i>											
<i>-130 †</i>	<i>in utero</i>	2.5E-14	7.0E-15	2.5E-14	2.5E-14	2.5E-14	2.5E-14	2.5E-14	2.5E-14	2.5E-14	2.5E-14
	<i>post natal</i>	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15	1.6E-15
	<i>total</i>	2.7E-14	8.6E-15	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14
<i>-26</i>	<i>in utero</i>	1.0E-11	2.9E-12	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11
	<i>post natal</i>	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.8E-13	6.9E-13
	<i>total</i>	1.1E-11	3.6E-12	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
<i>concep ‡</i>	<i>in utero</i>	1.1E-10	3.1E-11	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	<i>post natal</i>	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12	6.2E-12
	<i>total</i>	1.2E-10	3.7E-11	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
<i>5</i>	<i>in utero</i>	1.3E-10	6.1E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
	<i>post natal</i>	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12	8.3E-12
	<i>total</i>	1.4E-10	6.9E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
<i>10</i>	<i>in utero</i>	1.5E-10	8.1E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	<i>post natal</i>	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	<i>total</i>	1.6E-10	9.2E-11	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10
<i>15</i>	<i>in utero</i>	1.4E-10	0.0E+00	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	<i>post natal</i>	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11
	<i>total</i>	1.5E-10	1.5E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
<i>25</i>	<i>in utero</i>	1.2E-10	0.0E+00	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	<i>post natal</i>	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11	3.0E-11
	<i>total</i>	1.5E-10	3.0E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
<i>35</i>	<i>in utero</i>	5.5E-11	0.0E+00	5.5E-11	5.5E-11	5.5E-11	5.5E-11	5.5E-11	5.5E-11	5.5E-11	5.5E-11
	<i>post natal</i>	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	<i>total</i>	1.8E-10	1.2E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
<i>Chronic</i>											
<i>-260 §</i>	<i>in utero</i>	3.5E-12	9.3E-13	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.5E-12
	<i>post natal</i>	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.0E-13	2.1E-13
	<i>total</i>	3.7E-12	1.1E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12	3.7E-12
<i>-52</i>	<i>in utero</i>	1.7E-11	4.4E-12	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11
	<i>post natal</i>	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.7E-13	9.8E-13
	<i>total</i>	1.8E-11	5.4E-12	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11
<i>during</i>	<i>in utero</i>	1.1E-10	2.3E-11	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	<i>post natal</i>	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11
	<i>total</i>	1.5E-10	6.2E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

*Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother*

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.8$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
<i>Acute</i>											
-130 †	<i>in utero</i>	1.4E-14	4.1E-15	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14
	<i>post natal</i>	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.5E-16	9.6E-16
	<i>total</i>	1.5E-14	5.1E-15	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14	1.5E-14
-26	<i>in utero</i>	6.1E-12	1.7E-12	6.1E-12	6.1E-12	6.1E-12	6.1E-12	6.1E-12	6.1E-12	6.1E-12	6.1E-12
	<i>post natal</i>	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13	4.0E-13
	<i>total</i>	6.5E-12	2.1E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12
concep ‡	<i>in utero</i>	6.5E-11	1.8E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11
	<i>post natal</i>	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.7E-12
	<i>total</i>	6.9E-11	2.2E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11
5	<i>in utero</i>	7.5E-11	3.6E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11
	<i>post natal</i>	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12
	<i>total</i>	8.0E-11	4.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11
10	<i>in utero</i>	8.9E-11	4.8E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11
	<i>post natal</i>	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.5E-12	6.6E-12
	<i>total</i>	9.6E-11	5.4E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11
15	<i>in utero</i>	8.3E-11	0.0E+00	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11
	<i>post natal</i>	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12
	<i>total</i>	9.2E-11	8.8E-12	9.2E-11	9.2E-11	9.2E-11	9.2E-11	9.2E-11	9.2E-11	9.2E-11	9.2E-11
25	<i>in utero</i>	6.8E-11	0.0E+00	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11
	<i>post natal</i>	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11
	<i>total</i>	8.6E-11	1.8E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11
35	<i>in utero</i>	3.2E-11	0.0E+00	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
	<i>post natal</i>	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.9E-11
	<i>total</i>	1.0E-10	6.8E-11	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
<i>Chronic</i>											
-260 §	<i>in utero</i>	2.1E-12	5.5E-13	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12
	<i>post natal</i>	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13	1.2E-13
	<i>total</i>	2.2E-12	6.7E-13	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12	2.2E-12
-52	<i>in utero</i>	9.9E-12	2.6E-12	9.9E-12	9.9E-12	9.9E-12	9.9E-12	9.9E-12	9.9E-12	9.9E-12	9.9E-12
	<i>post natal</i>	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.7E-13	5.8E-13
	<i>total</i>	1.0E-11	3.2E-12	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11	1.0E-11
during	<i>in utero</i>	6.7E-11	1.4E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11	6.7E-11
	<i>post natal</i>	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
	<i>total</i>	9.0E-11	3.7E-11	9.0E-11	9.0E-11	9.0E-11	9.0E-11	9.0E-11	9.0E-11	9.0E-11	9.0E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.8$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.3E-14	3.7E-15	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14	1.3E-14
	post natal	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.6E-16	8.7E-16
	total	1.4E-14	4.6E-15	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14
-26	in utero	5.5E-12	1.6E-12	5.5E-12	5.5E-12	5.5E-12	5.5E-12	5.5E-12	5.5E-12	5.5E-12	5.5E-12
	post natal	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13	3.6E-13
	total	5.9E-12	1.9E-12	5.9E-12	5.9E-12	5.9E-12	5.9E-12	5.9E-12	5.9E-12	5.9E-12	5.9E-12
concep ‡	in utero	5.6E-11	1.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11
	post natal	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12
	total	5.9E-11	1.9E-11	5.9E-11	5.9E-11	5.9E-11	5.9E-11	5.9E-11	5.9E-11	5.9E-11	5.9E-11
5	in utero	6.4E-11	3.0E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11
	post natal	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12
	total	6.8E-11	3.5E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11
10	in utero	7.5E-11	3.9E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11
	post natal	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.8E-12	5.9E-12
	total	8.1E-11	4.4E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11
15	in utero	7.0E-11	0.0E+00	7.0E-11	7.0E-11	7.0E-11	7.0E-11	7.0E-11	7.0E-11	7.0E-11	7.0E-11
	post natal	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.8E-12	7.9E-12
	total	7.8E-11	7.8E-12	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11
25	in utero	5.6E-11	0.0E+00	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11
	post natal	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11
	total	7.2E-11	1.6E-11	7.2E-11	7.2E-11	7.2E-11	7.2E-11	7.2E-11	7.2E-11	7.2E-11	7.2E-11
35	in utero	2.6E-11	0.0E+00	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	post natal	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.7E-11
	total	8.2E-11	5.6E-11	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.3E-11
Chronic											
-260 §	in utero	1.8E-12	4.9E-13	1.8E-12	1.8E-12	1.8E-12	1.8E-12	1.8E-12	1.8E-12	1.8E-12	1.8E-12
	post natal	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13
	total	1.9E-12	6.0E-13	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12
-52	in utero	8.8E-12	2.3E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12
	post natal	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13	5.2E-13
	total	9.3E-12	2.8E-12	9.3E-12	9.3E-12	9.3E-12	9.3E-12	9.3E-12	9.3E-12	9.3E-12	9.3E-12
during	in utero	5.6E-11	1.1E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11
	post natal	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11
	total	7.5E-11	3.0E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother

Ingestion (inorganic compounds): $f_1 = 0.8$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.6E-14	7.5E-15	2.6E-14	2.6E-14	2.6E-14	2.6E-14	2.6E-14	2.6E-14	2.6E-14	2.6E-14
	post natal	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15
	total	2.8E-14	9.2E-15	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14
-26	in utero	1.1E-11	3.1E-12	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	post natal	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13	7.3E-13
	total	1.2E-11	3.9E-12	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
concep ‡	in utero	1.2E-10	3.3E-11	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	post natal	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.6E-12	6.7E-12
	total	1.3E-10	4.0E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
5	in utero	1.4E-10	6.5E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.8E-12	8.9E-12
	total	1.5E-10	7.4E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
10	in utero	1.6E-10	8.7E-11	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10
	post natal	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
	total	1.7E-10	9.9E-11	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
15	in utero	1.5E-10	0.0E+00	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	post natal	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11
	total	1.7E-10	1.6E-11	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
25	in utero	1.2E-10	0.0E+00	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	post natal	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11
	total	1.5E-10	3.2E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
35	in utero	5.8E-11	0.0E+00	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11	5.8E-11
	post natal	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.3E-10
	total	1.8E-10	1.2E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.9E-10
Chronic											
-260 §	in utero	3.8E-12	1.0E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12
	post natal	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13	2.2E-13
	total	4.0E-12	1.2E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12
-52	in utero	1.8E-11	4.8E-12	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11
	post natal	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.1E-12
	total	1.9E-11	5.8E-12	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11
during	in utero	1.2E-10	2.5E-11	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	post natal	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.2E-11
	total	1.6E-10	6.6E-11	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother

Ingestion (elemental sulphur): $f_1 = 0.1$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.3E-15	9.4E-16	3.3E-15	3.3E-15	3.3E-15	3.3E-15	3.3E-15	3.3E-15	3.3E-15	3.3E-15
	post natal	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16	2.2E-16
	total	3.5E-15	1.2E-15	3.5E-15	3.5E-15	3.5E-15	3.5E-15	3.5E-15	3.5E-15	3.5E-15	3.5E-15
-26	in utero	1.4E-12	3.9E-13	1.4E-12	1.4E-12	1.4E-12	1.4E-12	1.4E-12	1.4E-12	1.4E-12	1.4E-12
	post natal	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.2E-14
	total	1.5E-12	4.8E-13	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12
concep ‡	in utero	1.5E-11	4.1E-12	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11
	post natal	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13
	total	1.6E-11	5.0E-12	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11
5	in utero	1.7E-11	8.1E-12	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11
	post natal	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12
	total	1.8E-11	9.2E-12	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11	1.8E-11
10	in utero	2.0E-11	1.1E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11
	post natal	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12
	total	2.1E-11	1.2E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11
15	in utero	1.9E-11	0.0E+00	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11
	post natal	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
	total	2.1E-11	2.0E-12	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11	2.1E-11
25	in utero	1.5E-11	0.0E+00	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11
	post natal	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12
	total	1.9E-11	4.0E-12	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11
35	in utero	7.3E-12	0.0E+00	7.3E-12	7.3E-12	7.3E-12	7.3E-12	7.3E-12	7.3E-12	7.3E-12	7.3E-12
	post natal	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11
	total	2.3E-11	1.6E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11	2.3E-11
Chronic											
-260 §	in utero	4.7E-13	1.2E-13	4.7E-13	4.7E-13	4.7E-13	4.7E-13	4.7E-13	4.7E-13	4.7E-13	4.7E-13
	post natal	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.7E-14	2.8E-14
	total	5.0E-13	1.5E-13	5.0E-13	5.0E-13	5.0E-13	5.0E-13	5.0E-13	5.0E-13	5.0E-13	5.0E-13
-52	in utero	2.3E-12	5.9E-13	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12	2.3E-12
	post natal	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
	total	2.4E-12	7.2E-13	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
during	in utero	1.5E-11	3.1E-12	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11	1.5E-11
	post natal	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12	5.2E-12
	total	2.0E-11	8.3E-12	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

*Dose coefficients (Sv/Bq) for the offspring from intake of S-35
(T_{1/2} = 87.4 d) by the mother*

<i>Inhalation of carbon disulphide</i>											
<i>Scenario *</i>		<i>Gonads</i>	<i>Brain</i>	<i>R.B.M.</i>	<i>Thyroid</i>	<i>Bone sur</i>	<i>Liver</i>	<i>Kidneys</i>	<i>Spleen</i>	<i>Remainder</i>	<i>Effective</i>
<i>Acute</i>											
<i>-130 †</i>	<i>in utero</i>	6.1E-15	1.8E-15	6.1E-15	6.1E-15	6.1E-15	6.1E-15	6.1E-15	6.1E-15	6.1E-15	6.1E-15
	<i>post natal</i>	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.5E-16	1.6E-16
	<i>total</i>	6.3E-15	1.9E-15	6.3E-15	6.3E-15	6.3E-15	6.3E-15	6.3E-15	6.3E-15	6.3E-15	6.3E-15
<i>-26</i>	<i>in utero</i>	7.4E-11	2.1E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-11
	<i>post natal</i>	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12
	<i>total</i>	7.6E-11	2.3E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11
<i>concep ‡</i>	<i>in utero</i>	1.1E-09	4.1E-10	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	<i>post natal</i>	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	4.0E-11
	<i>total</i>	1.1E-09	4.5E-10	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
<i>5</i>	<i>in utero</i>	1.3E-09	6.4E-10	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	<i>post natal</i>	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11
	<i>total</i>	1.4E-09	7.1E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
<i>10</i>	<i>in utero</i>	1.5E-09	5.9E-10	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
	<i>post natal</i>	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.8E-11
	<i>total</i>	1.6E-09	6.9E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
<i>15</i>	<i>in utero</i>	1.4E-09	0.0E+00	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
	<i>post natal</i>	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	<i>total</i>	1.6E-09	1.5E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
<i>25</i>	<i>in utero</i>	1.0E-09	0.0E+00	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
	<i>post natal</i>	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.8E-10
	<i>total</i>	1.4E-09	3.7E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
<i>35</i>	<i>in utero</i>	3.5E-10	0.0E+00	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10
	<i>post natal</i>	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.2E-10	9.3E-10
	<i>total</i>	1.3E-09	9.2E-10	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
<i>Chronic</i>											
<i>-260 §</i>	<i>in utero</i>	3.3E-11	9.5E-12	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11
	<i>post natal</i>	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.3E-13	8.4E-13
	<i>total</i>	3.4E-11	1.0E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
<i>-52</i>	<i>in utero</i>	1.6E-10	4.7E-11	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10
	<i>post natal</i>	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.1E-12	4.2E-12
	<i>total</i>	1.6E-10	5.1E-11	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.6E-10
<i>during</i>	<i>in utero</i>	1.1E-09	2.0E-10	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	<i>post natal</i>	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10
	<i>total</i>	1.4E-09	5.4E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of S-35
($T_{1/2} = 87.4$ d) by the mother

Ingestion of organic sulphur: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	6.9E-15	2.0E-15	6.9E-15	6.9E-15	6.9E-15	6.9E-15	6.9E-15	6.9E-15	6.9E-15	6.9E-15
	post natal	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16	1.7E-16
	total	7.1E-15	2.1E-15	7.1E-15	7.1E-15	7.1E-15	7.1E-15	7.1E-15	7.1E-15	7.1E-15	7.1E-15
-26	in utero	8.3E-11	2.4E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11	8.3E-11
	post natal	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12
	total	8.5E-11	2.6E-11	8.5E-11	8.5E-11	8.5E-11	8.5E-11	8.5E-11	8.5E-11	8.5E-11	8.5E-11
concep ‡	in utero	1.3E-09	4.6E-10	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	post natal	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.4E-11	4.5E-11
	total	1.3E-09	5.1E-10	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
5	in utero	1.5E-09	7.2E-10	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
	post natal	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	7.0E-11
	total	1.6E-09	7.9E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
10	in utero	1.6E-09	6.6E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
	post natal	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	total	1.7E-09	7.7E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
15	in utero	1.5E-09	0.0E+00	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
	post natal	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
	total	1.7E-09	1.7E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
25	in utero	1.2E-09	0.0E+00	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09
	post natal	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10
	total	1.6E-09	4.2E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
35	in utero	4.0E-10	0.0E+00	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10
	post natal	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
	total	1.4E-09	1.0E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
Chronic											
-260 §	in utero	3.7E-11	1.1E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11
	post natal	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.4E-13	9.5E-13
	total	3.8E-11	1.2E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11
-52	in utero	1.9E-10	5.3E-11	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10
	post natal	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12
	total	1.9E-10	5.8E-11	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10
during	in utero	1.2E-09	2.3E-10	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09
	post natal	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.9E-10
	total	1.6E-09	6.1E-10	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of K-42
($T_{1/2} = 12.4$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 1.0											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	1.3E-10	0.0E+00	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.3E-10	0.0E+00	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
5	in utero	1.3E-10	6.2E-19	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.3E-10	6.2E-19	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10
10	in utero	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
15	in utero	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
25	in utero	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
35	in utero	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.1E-23	4.4E-23
	total	1.1E-10	4.1E-23	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
Chronic											
-260 §	in utero	5.3E-14	0.0E+00	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	5.3E-14	0.0E+00	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14	5.3E-14
-52	in utero	2.6E-13	0.0E+00	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.6E-13	0.0E+00	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13	2.6E-13
during	in utero	1.1E-10	2.2E-11	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.3E-13	3.6E-13
	total	1.1E-10	2.2E-11	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of K-42
($T_{1/2} = 12.4$ h) by the mother

Ingestion: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	2.6E-10	0.0E+00	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.6E-10	0.0E+00	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10
5	in utero	2.6E-10	1.3E-18	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.6E-10	1.3E-18	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10
10	in utero	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
15	in utero	2.2E-10	0.0E+00	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.2E-10	0.0E+00	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
25	in utero	2.2E-10	0.0E+00	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.2E-10	0.0E+00	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
35	in utero	2.3E-10	0.0E+00	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
	post natal	8.5E-23	8.5E-23	8.4E-23	8.5E-23	8.5E-23	8.5E-23	8.5E-23	8.5E-23	8.5E-23	9.1E-23
	total	2.3E-10	8.5E-23	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
Chronic											
-260 §	in utero	1.1E-13	0.0E+00	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.1E-13	0.0E+00	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13
-52	in utero	5.5E-13	0.0E+00	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	5.5E-13	0.0E+00	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13	5.5E-13
during	in utero	2.3E-10	4.5E-11	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
	post natal	6.8E-13	6.7E-13	6.7E-13	6.8E-13	6.7E-13	6.7E-13	6.7E-13	6.7E-13	6.7E-13	7.2E-13
	total	2.3E-10	4.5E-11	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of K-43
($T_{1/2} = 22.6$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 1.0

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	1.1E-10	1.5E-26	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.1E-10	1.5E-26	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
5	in utero	1.1E-10	2.7E-15	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.1E-10	2.7E-15	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
10	in utero	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
15	in utero	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
25	in utero	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
35	in utero	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	9.5E-18	8.5E-18	8.3E-18	9.2E-18	9.0E-18	9.1E-18	9.0E-18	9.0E-18	8.6E-18	9.5E-18
	total	1.0E-10	8.5E-18	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
Chronic											
-260 §	in utero	8.5E-14	1.5E-29	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	8.5E-14	1.5E-29	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14	8.5E-14
-52	in utero	4.2E-13	1.1E-28	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	4.2E-13	1.1E-28	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13	4.2E-13
during	in utero	1.0E-10	2.2E-11	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	3.9E-13	3.5E-13	3.4E-13	3.8E-13	3.7E-13	3.7E-13	3.7E-13	3.7E-13	3.5E-13	3.9E-13
	total	1.0E-10	2.2E-11	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of K-43
($T_{1/2} = 22.6$ h) by the mother

Ingestion: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
concep ‡	in utero	2.4E-10	5.8E-26	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.4E-10	5.8E-26	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10
5	in utero	2.3E-10	5.6E-15	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.3E-10	5.6E-15	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
10	in utero	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
15	in utero	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
25	in utero	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
35	in utero	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	2.0E-17	1.8E-17	1.7E-17	1.9E-17	1.9E-17	1.9E-17	1.9E-17	1.9E-17	1.8E-17	2.0E-17
	total	2.1E-10	1.8E-17	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
Chronic											
-260 §	in utero	1.8E-13	2.9E-29	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.8E-13	2.9E-29	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13
-52	in utero	8.8E-13	2.3E-28	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	8.8E-13	2.3E-28	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13	8.8E-13
during	in utero	2.1E-10	4.5E-11	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	7.9E-13	7.1E-13	6.9E-13	7.7E-13	7.5E-13	7.6E-13	7.5E-13	7.5E-13	7.1E-13	8.0E-13
	total	2.1E-10	4.5E-11	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ca-45
($T_{1/2} = 163$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.3$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-14	7.2E-15	6.7E-12	1.5E-14	6.7E-12	1.5E-14	1.5E-14	1.5E-14	1.5E-14	8.8E-13
	post natal	2.5E-15	2.5E-15	8.5E-13	2.5E-15	1.2E-12	2.5E-15	2.5E-15	2.5E-15	2.5E-15	1.2E-13
	total	1.8E-14	9.7E-15	7.5E-12	1.8E-14	7.9E-12	1.8E-14	1.8E-14	1.8E-14	1.8E-14	1.0E-12
-26	in utero	1.8E-12	1.0E-12	6.3E-10	1.8E-12	6.3E-10	1.8E-12	1.8E-12	1.8E-12	1.8E-12	8.3E-11
	post natal	1.6E-13	1.6E-13	5.4E-11	1.6E-13	7.5E-11	1.6E-13	1.6E-13	1.6E-13	1.6E-13	7.5E-12
	total	2.0E-12	1.2E-12	6.8E-10	2.0E-12	7.1E-10	2.0E-12	2.0E-12	2.0E-12	2.0E-12	9.1E-11
concep ‡	in utero	3.3E-11	9.6E-12	3.3E-09	3.3E-11	3.3E-09	3.3E-11	3.3E-11	3.3E-11	3.3E-11	4.6E-10
	post natal	6.6E-13	6.6E-13	2.3E-10	6.6E-13	3.2E-10	6.6E-13	6.6E-13	6.6E-13	6.6E-13	3.2E-11
	total	3.4E-11	1.0E-11	3.5E-09	3.4E-11	3.6E-09	3.4E-11	3.4E-11	3.4E-11	3.4E-11	4.9E-10
5	in utero	7.6E-11	5.9E-11	6.4E-09	7.6E-11	6.4E-09	7.6E-11	7.6E-11	7.6E-11	7.6E-11	9.0E-10
	post natal	9.3E-13	9.3E-13	3.2E-10	9.3E-13	4.5E-10	9.3E-13	9.3E-13	9.3E-13	9.3E-13	4.5E-11
	total	7.7E-11	6.0E-11	6.7E-09	7.7E-11	6.9E-09	7.7E-11	7.7E-11	7.7E-11	7.7E-11	9.4E-10
10	in utero	3.7E-11	2.7E-11	3.0E-08	3.7E-11	3.0E-08	3.7E-11	3.7E-11	3.7E-11	3.7E-11	4.0E-09
	post natal	1.7E-12	1.7E-12	5.8E-10	1.7E-12	8.0E-10	1.7E-12	1.7E-12	1.7E-12	1.7E-12	8.0E-11
	total	3.9E-11	2.9E-11	3.1E-08	3.9E-11	3.1E-08	3.9E-11	3.9E-11	3.9E-11	3.9E-11	4.1E-09
15	in utero	4.0E-11	0.0E+00	4.2E-08	4.0E-11	4.2E-08	4.0E-11	4.0E-11	4.0E-11	4.0E-11	5.5E-09
	post natal	3.9E-12	3.9E-12	1.4E-09	3.9E-12	1.9E-09	3.9E-12	3.9E-12	3.9E-12	3.9E-12	1.9E-10
	total	4.4E-11	3.9E-12	4.3E-08	4.4E-11	4.4E-08	4.4E-11	4.4E-11	4.4E-11	4.4E-11	5.7E-09
25	in utero	2.5E-11	0.0E+00	4.1E-08	2.5E-11	4.1E-08	2.5E-11	2.5E-11	2.5E-11	2.5E-11	5.4E-09
	post natal	1.4E-11	1.4E-11	5.2E-09	1.4E-11	7.0E-09	1.4E-11	1.4E-11	1.4E-11	1.4E-11	7.1E-10
	total	3.9E-11	1.4E-11	4.6E-08	3.9E-11	4.8E-08	3.9E-11	3.9E-11	3.9E-11	3.9E-11	6.1E-09
35	in utero	7.8E-12	0.0E+00	1.6E-08	7.8E-12	1.6E-08	7.8E-12	7.8E-12	7.8E-12	7.8E-12	2.1E-09
	post natal	4.2E-11	4.2E-11	1.5E-08	4.2E-11	2.1E-08	4.2E-11	4.2E-11	4.2E-11	4.2E-11	2.1E-09
	total	5.0E-11	4.2E-11	3.1E-08	5.0E-11	3.7E-08	5.0E-11	5.0E-11	5.0E-11	5.0E-11	4.2E-09
Chronic											
-260 §	in utero	7.9E-13	3.8E-13	2.0E-10	7.9E-13	2.0E-10	7.9E-13	7.9E-13	7.9E-13	7.9E-13	2.7E-11
	post natal	4.8E-14	4.8E-14	1.7E-11	4.8E-14	2.3E-11	4.8E-14	4.8E-14	4.8E-14	4.8E-14	2.3E-12
	total	8.4E-13	4.2E-13	2.2E-10	8.4E-13	2.2E-10	8.4E-13	8.4E-13	8.4E-13	8.4E-13	2.9E-11
-52	in utero	3.8E-12	1.8E-12	9.4E-10	3.8E-12	9.4E-10	3.8E-12	3.8E-12	3.8E-12	3.8E-12	1.3E-10
	post natal	2.2E-13	2.2E-13	7.6E-11	2.2E-13	1.1E-10	2.2E-13	2.2E-13	2.2E-13	2.2E-13	1.0E-11
	total	4.0E-12	2.0E-12	1.0E-09	4.0E-12	1.0E-09	4.0E-12	4.0E-12	4.0E-12	4.0E-12	1.4E-10
during	in utero	3.9E-11	1.9E-11	2.8E-08	3.9E-11	2.8E-08	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.7E-09
	post natal	1.4E-11	1.4E-11	4.8E-09	1.4E-11	6.8E-09	1.4E-11	1.4E-11	1.4E-11	1.4E-11	6.6E-10
	total	5.3E-11	3.3E-11	3.3E-08	5.3E-11	3.5E-08	5.3E-11	5.3E-11	5.3E-11	5.3E-11	4.4E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ca-45
($T_{1/2} = 163$ d) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.3E-14	1.1E-14	1.0E-11	2.3E-14	1.0E-11	2.3E-14	2.3E-14	2.3E-14	2.3E-14	1.4E-12
	post natal	3.9E-15	3.9E-15	1.3E-12	3.9E-15	1.9E-12	3.9E-15	3.9E-15	3.9E-15	3.9E-15	1.8E-13
	total	2.7E-14	1.5E-14	1.1E-11	2.7E-14	1.2E-11	2.7E-14	2.7E-14	2.7E-14	2.7E-14	1.6E-12
-26	in utero	1.7E-12	9.4E-13	6.5E-10	1.7E-12	6.5E-10	1.7E-12	1.7E-12	1.7E-12	1.7E-12	8.7E-11
	post natal	1.8E-13	1.8E-13	6.2E-11	1.8E-13	8.6E-11	1.8E-13	1.8E-13	1.8E-13	1.8E-13	8.5E-12
	total	1.9E-12	1.1E-12	7.1E-10	1.9E-12	7.4E-10	1.9E-12	1.9E-12	1.9E-12	1.9E-12	9.5E-11
concep ‡	in utero	5.4E-11	1.0E-11	3.0E-09	5.4E-11	3.0E-09	5.4E-11	5.4E-11	5.4E-11	5.4E-11	4.4E-10
	post natal	6.5E-13	6.5E-13	2.3E-10	6.5E-13	3.2E-10	6.5E-13	6.5E-13	6.5E-13	6.5E-13	3.1E-11
	total	5.5E-11	1.1E-11	3.2E-09	5.5E-11	3.3E-09	5.5E-11	5.5E-11	5.5E-11	5.5E-11	4.7E-10
5	in utero	1.4E-10	1.1E-10	7.2E-09	1.4E-10	7.2E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.1E-09
	post natal	9.0E-13	9.0E-13	3.2E-10	9.0E-13	4.4E-10	9.0E-13	9.0E-13	9.0E-13	9.0E-13	4.3E-11
	total	1.4E-10	1.1E-10	7.5E-09	1.4E-10	7.6E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.1E-09
10	in utero	7.2E-11	5.5E-11	5.6E-08	7.2E-11	5.6E-08	7.2E-11	7.2E-11	7.2E-11	7.2E-11	7.3E-09
	post natal	2.0E-12	2.0E-12	6.9E-10	2.0E-12	9.5E-10	2.0E-12	2.0E-12	2.0E-12	2.0E-12	9.4E-11
	total	7.4E-11	5.7E-11	5.7E-08	7.4E-11	5.7E-08	7.4E-11	7.4E-11	7.4E-11	7.4E-11	7.4E-09
15	in utero	8.1E-11	0.0E+00	8.3E-08	8.1E-11	8.3E-08	8.1E-11	8.1E-11	8.1E-11	8.1E-11	1.1E-08
	post natal	6.0E-12	6.0E-12	2.1E-09	6.0E-12	2.9E-09	6.0E-12	6.0E-12	6.0E-12	6.0E-12	2.9E-10
	total	8.7E-11	6.0E-12	8.5E-08	8.7E-11	8.6E-08	8.7E-11	8.7E-11	8.7E-11	8.7E-11	1.1E-08
25	in utero	5.3E-11	0.0E+00	8.8E-08	5.3E-11	8.8E-08	5.3E-11	5.3E-11	5.3E-11	5.3E-11	1.1E-08
	post natal	2.7E-11	2.7E-11	1.0E-08	2.7E-11	1.4E-08	2.7E-11	2.7E-11	2.7E-11	2.7E-11	1.4E-09
	total	8.0E-11	2.7E-11	9.8E-08	8.0E-11	1.0E-07	8.0E-11	8.0E-11	8.0E-11	8.0E-11	1.2E-08
35	in utero	1.7E-11	0.0E+00	3.5E-08	1.7E-11	3.5E-08	1.7E-11	1.7E-11	1.7E-11	1.7E-11	4.5E-09
	post natal	8.9E-11	8.9E-11	3.3E-08	8.9E-11	4.5E-08	8.9E-11	8.9E-11	8.9E-11	8.9E-11	4.5E-09
	total	1.1E-10	8.9E-11	6.8E-08	1.1E-10	8.0E-08	1.1E-10	1.1E-10	1.1E-10	1.1E-10	9.0E-09
Chronic											
-260 §	in utero	8.8E-13	3.4E-13	2.0E-10	8.8E-13	2.0E-10	8.8E-13	8.8E-13	8.8E-13	8.8E-13	2.7E-11
	post natal	5.4E-14	5.4E-14	1.9E-11	5.4E-14	2.6E-11	5.4E-14	5.4E-14	5.4E-14	5.4E-14	2.6E-12
	total	9.3E-13	4.0E-13	2.2E-10	9.3E-13	2.3E-10	9.3E-13	9.3E-13	9.3E-13	9.3E-13	3.0E-11
-52	in utero	4.2E-12	1.6E-12	9.3E-10	4.2E-12	9.3E-10	4.2E-12	4.2E-12	4.2E-12	4.2E-12	1.2E-10
	post natal	2.4E-13	2.4E-13	8.2E-11	2.4E-13	1.1E-10	2.4E-13	2.4E-13	2.4E-13	2.4E-13	1.1E-11
	total	4.4E-12	1.8E-12	1.0E-09	4.4E-12	1.0E-09	4.4E-12	4.4E-12	4.4E-12	4.4E-12	1.3E-10
during	in utero	7.7E-11	3.6E-11	5.6E-08	7.7E-11	5.6E-08	7.7E-11	7.7E-11	7.7E-11	7.7E-11	7.4E-09
	post natal	2.9E-11	2.9E-11	9.7E-09	2.9E-11	1.4E-08	2.9E-11	2.9E-11	2.9E-11	2.9E-11	1.3E-09
	total	1.1E-10	6.5E-11	6.6E-08	1.1E-10	7.0E-08	1.1E-10	1.1E-10	1.1E-10	1.1E-10	8.7E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ca-47
($T_{1/2} = 4.53$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.3$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	3.0E-23	1.6E-26	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	3.0E-23	1.6E-26	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23	3.0E-23
concep ‡	in utero	2.7E-10	4.1E-14	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10
	post natal	4.0E-29	4.3E-29	1.1E-27	2.8E-29	1.1E-27	3.4E-29	5.0E-29	3.9E-29	4.2E-29	1.8E-28
	total	2.7E-10	4.1E-14	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10
5	in utero	2.8E-10	2.6E-11	3.7E-10	2.8E-10	3.7E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.9E-10
	post natal	1.0E-26	1.1E-26	2.9E-25	7.0E-27	2.7E-25	8.6E-27	1.3E-26	1.0E-26	1.1E-26	4.6E-26
	total	2.8E-10	2.6E-11	3.7E-10	2.8E-10	3.7E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.9E-10
10	in utero	6.8E-10	6.8E-10	2.5E-08	6.8E-10	2.5E-08	6.8E-10	6.8E-10	6.8E-10	6.8E-10	3.8E-09
	post natal	3.4E-24	3.6E-24	9.6E-23	2.3E-24	8.8E-23	2.8E-24	4.2E-24	3.3E-24	3.5E-24	1.5E-23
	total	6.8E-10	6.8E-10	2.5E-08	6.8E-10	2.5E-08	6.8E-10	6.8E-10	6.8E-10	6.8E-10	3.8E-09
15	in utero	7.3E-10	0.0E+00	2.9E-08	7.3E-10	2.9E-08	7.3E-10	7.3E-10	7.3E-10	7.3E-10	4.4E-09
	post natal	1.4E-21	1.5E-21	4.2E-20	9.8E-22	3.8E-20	1.2E-21	1.8E-21	1.4E-21	1.5E-21	6.5E-21
	total	7.3E-10	1.5E-21	2.9E-08	7.3E-10	2.9E-08	7.3E-10	7.3E-10	7.3E-10	7.3E-10	4.4E-09
25	in utero	6.6E-10	0.0E+00	3.0E-08	6.6E-10	3.0E-08	6.6E-10	6.6E-10	6.6E-10	6.6E-10	4.5E-09
	post natal	1.8E-16	1.9E-16	5.4E-15	1.2E-16	4.8E-15	1.5E-16	2.3E-16	1.8E-16	1.9E-16	8.3E-16
	total	6.6E-10	1.9E-16	3.0E-08	6.6E-10	3.0E-08	6.6E-10	6.6E-10	6.6E-10	6.6E-10	4.5E-09
35	in utero	6.3E-10	0.0E+00	3.2E-08	6.3E-10	3.2E-08	6.3E-10	6.3E-10	6.3E-10	6.3E-10	4.7E-09
	post natal	1.7E-11	1.8E-11	4.5E-10	1.2E-11	4.5E-10	1.5E-11	2.1E-11	1.7E-11	1.8E-11	7.2E-11
	total	6.5E-10	1.8E-11	3.2E-08	6.4E-10	3.2E-08	6.4E-10	6.5E-10	6.5E-10	6.5E-10	4.8E-09
Chronic											
-260 §	in utero	4.8E-13	1.4E-16	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13
	post natal	1.4E-31	1.5E-31	4.0E-30	9.7E-32	3.7E-30	1.2E-31	1.8E-31	1.4E-31	1.5E-31	6.2E-31
	total	4.8E-13	1.4E-16	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13	4.8E-13
-52	in utero	2.4E-12	6.8E-16	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
	post natal	7.0E-31	7.5E-31	2.0E-29	4.9E-31	1.8E-29	5.9E-31	8.8E-31	6.9E-31	7.4E-31	3.1E-30
	total	2.4E-12	6.8E-16	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
during	in utero	5.9E-10	1.4E-10	2.3E-08	5.9E-10	2.3E-08	5.9E-10	5.9E-10	5.9E-10	5.9E-10	3.5E-09
	post natal	1.3E-11	1.3E-11	2.4E-10	9.7E-12	3.0E-10	1.1E-11	1.5E-11	1.2E-11	1.3E-11	4.4E-11
	total	6.0E-10	1.5E-10	2.3E-08	6.0E-10	2.3E-08	6.0E-10	6.0E-10	6.0E-10	6.0E-10	3.5E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ca-47
($T_{1/2} = 4.53$ d) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	4.8E-23	2.4E-26	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	4.8E-23	2.4E-26	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23	4.8E-23
concep ‡	in utero	6.0E-10	6.2E-14	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10
	post natal	4.0E-29	4.2E-29	1.1E-27	2.7E-29	1.0E-27	3.3E-29	4.9E-29	3.8E-29	4.2E-29	1.8E-28
	total	6.0E-10	6.2E-14	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10
5	in utero	6.3E-10	5.0E-11	7.8E-10	6.3E-10	7.8E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.5E-10
	post natal	1.0E-26	1.1E-26	2.8E-25	6.9E-27	2.6E-25	8.4E-27	1.2E-26	9.7E-27	1.1E-26	4.4E-26
	total	6.3E-10	5.0E-11	7.8E-10	6.3E-10	7.8E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.5E-10
10	in utero	1.5E-09	1.5E-09	5.2E-08	1.5E-09	5.2E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	8.0E-09
	post natal	4.0E-24	4.2E-24	1.2E-22	2.7E-24	1.0E-22	3.3E-24	5.0E-24	3.9E-24	4.2E-24	1.8E-23
	total	1.5E-09	1.5E-09	5.2E-08	1.5E-09	5.2E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	8.0E-09
15	in utero	1.6E-09	0.0E+00	6.3E-08	1.6E-09	6.3E-08	1.6E-09	1.6E-09	1.6E-09	1.6E-09	9.5E-09
	post natal	2.2E-21	2.4E-21	6.6E-20	1.5E-21	5.9E-20	1.9E-21	2.8E-21	2.2E-21	2.4E-21	1.0E-20
	total	1.6E-09	2.4E-21	6.3E-08	1.6E-09	6.3E-08	1.6E-09	1.6E-09	1.6E-09	1.6E-09	9.5E-09
25	in utero	1.5E-09	0.0E+00	6.8E-08	1.5E-09	6.8E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.0E-08
	post natal	3.5E-16	3.8E-16	1.1E-14	2.4E-16	9.4E-15	3.0E-16	4.4E-16	3.4E-16	3.7E-16	1.6E-15
	total	1.5E-09	3.8E-16	6.8E-08	1.5E-09	6.8E-08	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.0E-08
35	in utero	1.4E-09	0.0E+00	7.1E-08	1.4E-09	7.1E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.0E-08
	post natal	3.7E-11	4.0E-11	9.8E-10	2.6E-11	9.7E-10	3.1E-11	4.6E-11	3.6E-11	3.9E-11	1.6E-10
	total	1.4E-09	4.0E-11	7.2E-08	1.4E-09	7.2E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.0E-08
Chronic											
-260 §	in utero	9.5E-13	2.0E-16	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13
	post natal	1.4E-31	1.5E-31	3.9E-30	9.6E-32	3.7E-30	1.2E-31	1.7E-31	1.4E-31	1.5E-31	6.2E-31
	total	9.5E-13	2.0E-16	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13
-52	in utero	4.7E-12	1.0E-15	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12
	post natal	7.0E-31	7.5E-31	2.0E-29	4.8E-31	1.8E-29	5.9E-31	8.7E-31	6.8E-31	7.4E-31	3.1E-30
	total	4.7E-12	1.0E-15	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12	4.7E-12
during	in utero	1.3E-09	3.0E-10	5.0E-08	1.3E-09	5.0E-08	1.3E-09	1.3E-09	1.3E-09	1.3E-09	7.6E-09
	post natal	2.9E-11	3.0E-11	5.4E-10	2.2E-11	6.8E-10	2.5E-11	3.4E-11	2.8E-11	3.0E-11	9.8E-11
	total	1.3E-09	3.3E-10	5.1E-08	1.3E-09	5.1E-08	1.3E-09	1.3E-09	1.3E-09	1.3E-09	7.7E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-55
($T_{1/2} = 2.70$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.3E-11	7.7E-12	2.2E-10	3.3E-11	3.3E-11	9.2E-11	3.3E-11	3.3E-11	3.3E-11	5.9E-11
	post natal	2.6E-11	2.6E-11	2.6E-10	2.6E-11	2.3E-10	1.6E-10	2.6E-11	4.3E-10	2.8E-11	6.3E-11
	total	5.9E-11	3.4E-11	4.8E-10	5.9E-11	2.6E-10	2.5E-10	5.9E-11	4.6E-10	6.1E-11	1.2E-10
-26	in utero	6.6E-11	1.5E-11	4.4E-10	6.6E-11	6.6E-11	1.8E-10	6.6E-11	6.6E-11	6.6E-11	1.2E-10
	post natal	5.0E-11	5.0E-11	5.0E-10	5.0E-11	4.4E-10	3.1E-10	5.0E-11	8.3E-10	5.4E-11	1.2E-10
	total	1.2E-10	6.5E-11	9.4E-10	1.2E-10	5.1E-10	4.9E-10	1.2E-10	9.0E-10	1.2E-10	2.4E-10
concep ‡	in utero	7.9E-11	1.8E-11	5.2E-10	7.9E-11	7.9E-11	2.1E-10	7.9E-11	7.9E-11	7.9E-11	1.4E-10
	post natal	6.0E-11	6.0E-11	6.0E-10	6.0E-11	5.3E-10	3.7E-10	6.0E-11	1.0E-09	6.5E-11	1.5E-10
	total	1.4E-10	7.8E-11	1.1E-09	1.4E-10	6.1E-10	5.8E-10	1.4E-10	1.1E-09	1.4E-10	2.9E-10
5	in utero	7.0E-11	1.9E-11	5.2E-10	7.0E-11	7.0E-11	2.1E-10	7.0E-11	7.0E-11	7.0E-11	1.3E-10
	post natal	6.2E-11	6.2E-11	6.2E-10	6.2E-11	5.5E-10	3.8E-10	6.2E-11	1.0E-09	6.7E-11	1.5E-10
	total	1.3E-10	8.1E-11	1.1E-09	1.3E-10	6.2E-10	5.9E-10	1.3E-10	1.1E-09	1.4E-10	2.8E-10
10	in utero	6.0E-11	1.2E-11	4.9E-10	6.0E-11	6.0E-11	2.0E-10	6.0E-11	6.0E-11	6.0E-11	1.2E-10
	post natal	6.4E-11	6.4E-11	6.4E-10	6.4E-11	5.6E-10	3.9E-10	6.4E-11	1.1E-09	6.9E-11	1.6E-10
	total	1.2E-10	7.6E-11	1.1E-09	1.2E-10	6.2E-10	5.9E-10	1.2E-10	1.2E-09	1.3E-10	2.8E-10
15	in utero	5.1E-11	0.0E+00	4.2E-10	5.1E-11	5.1E-11	1.7E-10	5.1E-11	5.1E-11	5.1E-11	1.0E-10
	post natal	6.8E-11	6.8E-11	6.8E-10	6.8E-11	6.0E-10	4.2E-10	6.8E-11	1.1E-09	7.3E-11	1.6E-10
	total	1.2E-10	6.8E-11	1.1E-09	1.2E-10	6.5E-10	5.9E-10	1.2E-10	1.2E-09	1.2E-10	2.6E-10
25	in utero	3.2E-11	0.0E+00	2.6E-10	3.2E-11	3.2E-11	1.1E-10	3.2E-11	3.2E-11	3.2E-11	6.4E-11
	post natal	8.0E-11	8.0E-11	7.9E-10	8.0E-11	7.0E-10	4.9E-10	8.0E-11	1.3E-09	8.6E-11	1.9E-10
	total	1.1E-10	8.0E-11	1.0E-09	1.1E-10	7.3E-10	6.0E-10	1.1E-10	1.3E-09	1.2E-10	2.5E-10
35	in utero	8.0E-12	0.0E+00	6.5E-11	8.0E-12	8.0E-12	2.7E-11	8.0E-12	8.0E-12	8.0E-12	1.6E-11
	post natal	8.9E-11	8.9E-11	8.9E-10	8.9E-11	7.9E-10	5.4E-10	8.9E-11	1.5E-09	9.6E-11	2.2E-10
	total	9.7E-11	8.9E-11	9.5E-10	9.7E-11	8.0E-10	5.7E-10	9.7E-11	1.5E-09	1.0E-10	2.4E-10
Chronic											
-260 §	in utero	3.7E-11	8.6E-12	2.5E-10	3.7E-11	3.7E-11	1.0E-10	3.7E-11	3.7E-11	3.7E-11	6.6E-11
	post natal	2.9E-11	2.9E-11	2.9E-10	2.9E-11	2.6E-10	1.8E-10	2.9E-11	4.8E-10	3.1E-11	7.0E-11
	total	6.6E-11	3.8E-11	5.4E-10	6.6E-11	3.0E-10	2.8E-10	6.6E-11	5.2E-10	6.8E-11	1.4E-10
-52	in utero	6.7E-11	1.5E-11	4.4E-10	6.7E-11	6.7E-11	1.8E-10	6.7E-11	6.7E-11	6.7E-11	1.2E-10
	post natal	5.1E-11	5.1E-11	5.0E-10	5.1E-11	4.5E-10	3.1E-10	5.1E-11	8.4E-10	5.5E-11	1.2E-10
	total	1.2E-10	6.6E-11	9.4E-10	1.2E-10	5.2E-10	4.9E-10	1.2E-10	9.1E-10	1.2E-10	2.4E-10
during	in utero	4.1E-11	5.4E-12	3.2E-10	4.1E-11	4.1E-11	1.3E-10	4.1E-11	4.1E-11	4.1E-11	7.9E-11
	post natal	6.8E-11	6.8E-11	6.8E-10	6.8E-11	6.0E-10	4.2E-10	6.8E-11	1.1E-09	7.3E-11	1.6E-10
	total	1.1E-10	7.3E-11	1.0E-09	1.1E-10	6.4E-10	5.5E-10	1.1E-10	1.1E-09	1.1E-10	2.4E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-55
($T_{1/2} = 2.70$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.1E-11	2.6E-12	7.7E-11	1.1E-11	1.1E-11	3.2E-11	1.1E-11	1.1E-11	1.1E-11	2.0E-11
	post natal	8.9E-12	8.9E-12	8.8E-11	8.9E-12	7.8E-11	5.4E-11	8.9E-12	1.5E-10	9.6E-12	2.1E-11
	total	2.0E-11	1.2E-11	1.6E-10	2.0E-11	8.9E-11	8.6E-11	2.0E-11	1.6E-10	2.1E-11	4.1E-11
-26	in utero	2.2E-11	4.9E-12	1.4E-10	2.2E-11	2.2E-11	5.9E-11	2.2E-11	2.2E-11	2.2E-11	3.8E-11
	post natal	1.7E-11	1.7E-11	1.7E-10	1.7E-11	1.5E-10	1.0E-10	1.7E-11	2.8E-10	1.8E-11	4.1E-11
	total	3.9E-11	2.2E-11	3.1E-10	3.9E-11	1.7E-10	1.6E-10	3.9E-11	3.0E-10	4.0E-11	7.9E-11
concep ‡	in utero	2.3E-11	5.0E-12	1.5E-10	2.3E-11	2.3E-11	6.3E-11	2.3E-11	2.3E-11	2.3E-11	4.0E-11
	post natal	1.9E-11	1.9E-11	1.9E-10	1.9E-11	1.7E-10	1.2E-10	1.9E-11	3.2E-10	2.1E-11	4.6E-11
	total	4.2E-11	2.4E-11	3.4E-10	4.2E-11	1.9E-10	1.8E-10	4.2E-11	3.4E-10	4.4E-11	8.6E-11
5	in utero	2.0E-11	4.8E-12	1.5E-10	2.0E-11	2.0E-11	6.0E-11	2.0E-11	2.0E-11	2.0E-11	3.7E-11
	post natal	1.9E-11	1.9E-11	1.9E-10	1.9E-11	1.7E-10	1.2E-10	1.9E-11	3.2E-10	2.1E-11	4.7E-11
	total	3.9E-11	2.4E-11	3.4E-10	3.9E-11	1.9E-10	1.8E-10	3.9E-11	3.4E-10	4.1E-11	8.4E-11
10	in utero	1.7E-11	2.9E-12	1.4E-10	1.7E-11	1.7E-11	5.5E-11	1.7E-11	1.7E-11	1.7E-11	3.3E-11
	post natal	2.0E-11	2.0E-11	1.9E-10	2.0E-11	1.7E-10	1.2E-10	2.0E-11	3.3E-10	2.1E-11	4.8E-11
	total	3.7E-11	2.3E-11	3.3E-10	3.7E-11	1.9E-10	1.8E-10	3.7E-11	3.5E-10	3.8E-11	8.1E-11
15	in utero	1.4E-11	0.0E+00	1.1E-10	1.4E-11	1.4E-11	4.5E-11	1.4E-11	1.4E-11	1.4E-11	2.7E-11
	post natal	2.0E-11	2.0E-11	2.0E-10	2.0E-11	1.7E-10	1.2E-10	2.0E-11	3.3E-10	2.1E-11	4.8E-11
	total	3.4E-11	2.0E-11	3.1E-10	3.4E-11	1.8E-10	1.6E-10	3.4E-11	3.4E-10	3.5E-11	7.5E-11
25	in utero	7.4E-12	0.0E+00	6.0E-11	7.4E-12	7.4E-12	2.5E-11	7.4E-12	7.4E-12	7.4E-12	1.5E-11
	post natal	2.0E-11	2.0E-11	2.0E-10	2.0E-11	1.7E-10	1.2E-10	2.0E-11	3.3E-10	2.1E-11	4.8E-11
	total	2.7E-11	2.0E-11	2.6E-10	2.7E-11	1.8E-10	1.4E-10	2.7E-11	3.4E-10	2.8E-11	6.3E-11
35	in utero	1.6E-12	0.0E+00	1.3E-11	1.6E-12	1.6E-12	5.3E-12	1.6E-12	1.6E-12	1.6E-12	3.1E-12
	post natal	1.8E-11	1.8E-11	1.8E-10	1.8E-11	1.6E-10	1.1E-10	1.8E-11	3.0E-10	2.0E-11	4.4E-11
	total	2.0E-11	1.8E-11	1.9E-10	2.0E-11	1.6E-10	1.2E-10	2.0E-11	3.0E-10	2.2E-11	4.7E-11
Chronic											
-260 §	in utero	1.3E-11	2.9E-12	8.4E-11	1.3E-11	1.3E-11	3.5E-11	1.3E-11	1.3E-11	1.3E-11	2.2E-11
	post natal	9.8E-12	9.8E-12	9.7E-11	9.8E-12	8.7E-11	6.0E-11	9.8E-12	1.6E-10	1.1E-11	2.4E-11
	total	2.3E-11	1.3E-11	1.8E-10	2.3E-11	1.0E-10	9.5E-11	2.3E-11	1.7E-10	2.4E-11	4.6E-11
-52	in utero	2.1E-11	4.8E-12	1.4E-10	2.1E-11	2.1E-11	5.9E-11	2.1E-11	2.1E-11	2.1E-11	3.8E-11
	post natal	1.7E-11	1.7E-11	1.7E-10	1.7E-11	1.5E-10	1.0E-10	1.7E-11	2.8E-10	1.8E-11	4.1E-11
	total	3.8E-11	2.2E-11	3.1E-10	3.8E-11	1.7E-10	1.6E-10	3.8E-11	3.0E-10	3.9E-11	7.9E-11
during	in utero	1.1E-11	1.4E-12	8.8E-11	1.1E-11	1.1E-11	3.6E-11	1.1E-11	1.1E-11	1.1E-11	2.2E-11
	post natal	1.9E-11	1.9E-11	1.9E-10	1.9E-11	1.7E-10	1.2E-10	1.9E-11	3.2E-10	2.1E-11	4.7E-11
	total	3.0E-11	2.0E-11	2.8E-10	3.0E-11	1.8E-10	1.6E-10	3.0E-11	3.3E-10	3.2E-11	6.9E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-55
($T_{1/2} = 2.70$ y) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.1E-11	2.6E-12	7.5E-11	1.1E-11	1.1E-11	3.1E-11	1.1E-11	1.1E-11	1.1E-11	2.0E-11
	post natal	8.7E-12	8.7E-12	8.6E-11	8.7E-12	7.6E-11	5.3E-11	8.7E-12	1.4E-10	9.4E-12	2.1E-11
	total	2.0E-11	1.1E-11	1.6E-10	2.0E-11	8.7E-11	8.4E-11	2.0E-11	1.5E-10	2.0E-11	4.1E-11
-26	in utero	2.2E-11	5.1E-12	1.5E-10	2.2E-11	2.2E-11	6.1E-11	2.2E-11	2.2E-11	2.2E-11	3.9E-11
	post natal	1.7E-11	1.7E-11	1.7E-10	1.7E-11	1.5E-10	1.0E-10	1.7E-11	2.8E-10	1.8E-11	4.1E-11
	total	3.9E-11	2.2E-11	3.2E-10	3.9E-11	1.7E-10	1.6E-10	3.9E-11	3.0E-10	4.0E-11	8.0E-11
concep ‡	in utero	2.6E-11	6.0E-12	1.7E-10	2.6E-11	2.6E-11	7.2E-11	2.6E-11	2.6E-11	2.6E-11	4.6E-11
	post natal	2.0E-11	2.0E-11	2.0E-10	2.0E-11	1.8E-10	1.2E-10	2.0E-11	3.3E-10	2.2E-11	4.9E-11
	total	4.6E-11	2.6E-11	3.7E-10	4.6E-11	2.1E-10	1.9E-10	4.6E-11	3.6E-10	4.8E-11	9.5E-11
5	in utero	2.3E-11	6.2E-12	1.7E-10	2.3E-11	2.3E-11	7.0E-11	2.3E-11	2.3E-11	2.3E-11	4.4E-11
	post natal	2.1E-11	2.1E-11	2.1E-10	2.1E-11	1.8E-10	1.3E-10	2.1E-11	3.5E-10	2.2E-11	5.0E-11
	total	4.4E-11	2.7E-11	3.8E-10	4.4E-11	2.0E-10	2.0E-10	4.4E-11	3.7E-10	4.5E-11	9.4E-11
10	in utero	2.0E-11	4.0E-12	1.6E-10	2.0E-11	2.0E-11	6.6E-11	2.0E-11	2.0E-11	2.0E-11	4.0E-11
	post natal	2.1E-11	2.1E-11	2.1E-10	2.1E-11	1.9E-10	1.3E-10	2.1E-11	3.6E-10	2.3E-11	5.2E-11
	total	4.1E-11	2.5E-11	3.7E-10	4.1E-11	2.1E-10	2.0E-10	4.1E-11	3.8E-10	4.3E-11	9.2E-11
15	in utero	2.4E-11	0.0E+00	1.9E-10	2.4E-11	2.4E-11	7.8E-11	2.4E-11	2.4E-11	2.4E-11	4.7E-11
	post natal	3.1E-11	3.1E-11	3.1E-10	3.1E-11	2.8E-10	1.9E-10	3.1E-11	5.2E-10	3.4E-11	7.6E-11
	total	5.5E-11	3.1E-11	5.0E-10	5.5E-11	3.0E-10	2.7E-10	5.5E-11	5.4E-10	5.8E-11	1.2E-10
25	in utero	2.8E-11	0.0E+00	2.3E-10	2.8E-11	2.8E-11	9.3E-11	2.8E-11	2.8E-11	2.8E-11	5.5E-11
	post natal	6.9E-11	6.9E-11	6.8E-10	6.9E-11	6.1E-10	4.2E-10	6.9E-11	1.1E-09	7.4E-11	1.7E-10
	total	9.7E-11	6.9E-11	9.1E-10	9.7E-11	6.4E-10	5.1E-10	9.7E-11	1.1E-09	1.0E-10	2.3E-10
35	in utero	8.5E-12	0.0E+00	6.9E-11	8.5E-12	8.5E-12	2.9E-11	8.5E-12	8.5E-12	8.5E-12	1.7E-11
	post natal	9.5E-11	9.5E-11	9.5E-10	9.5E-11	8.4E-10	5.8E-10	9.5E-11	1.6E-09	1.0E-10	2.3E-10
	total	1.0E-10	9.5E-11	1.0E-09	1.0E-10	8.5E-10	6.1E-10	1.0E-10	1.6E-09	1.1E-10	2.5E-10
Chronic											
-260 §	in utero	1.3E-11	2.9E-12	8.4E-11	1.3E-11	1.3E-11	3.5E-11	1.3E-11	1.3E-11	1.3E-11	2.2E-11
	post natal	9.7E-12	9.7E-12	9.6E-11	9.7E-12	8.6E-11	5.9E-11	9.7E-12	1.6E-10	1.1E-11	2.4E-11
	total	2.3E-11	1.3E-11	1.8E-10	2.3E-11	9.9E-11	9.4E-11	2.3E-11	1.7E-10	2.4E-11	4.6E-11
-52	in utero	2.2E-11	5.1E-12	1.5E-10	2.2E-11	2.2E-11	6.1E-11	2.2E-11	2.2E-11	2.2E-11	3.9E-11
	post natal	1.7E-11	1.7E-11	1.7E-10	1.7E-11	1.5E-10	1.0E-10	1.7E-11	2.8E-10	1.8E-11	4.1E-11
	total	3.9E-11	2.2E-11	3.2E-10	3.9E-11	1.7E-10	1.6E-10	3.9E-11	3.0E-10	4.0E-11	8.0E-11
during	in utero	1.4E-11	1.8E-12	1.1E-10	1.4E-11	1.4E-11	4.3E-11	1.4E-11	1.4E-11	1.4E-11	2.6E-11
	post natal	2.3E-11	2.3E-11	2.3E-10	2.3E-11	2.0E-10	1.4E-10	2.3E-11	3.8E-10	2.5E-11	5.5E-11
	total	3.7E-11	2.5E-11	3.4E-10	3.7E-11	2.1E-10	1.8E-10	3.7E-11	3.9E-10	3.9E-11	8.1E-11

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-59
($T_{1/2} = 44.5$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.2E-15	3.2E-16	2.0E-15	1.2E-15	1.2E-15	1.4E-15	1.2E-15	1.2E-15	1.2E-15	1.3E-15
	post natal	8.3E-18	7.0E-18	2.6E-17	7.8E-18	2.8E-17	2.4E-17	8.9E-18	2.8E-17	7.4E-18	1.1E-17
	total	1.2E-15	3.3E-16	2.0E-15	1.2E-15	1.2E-15	1.4E-15	1.2E-15	1.2E-15	1.2E-15	1.3E-15
-26	in utero	1.2E-10	3.2E-11	2.1E-10	1.2E-10	1.2E-10	1.5E-10	1.2E-10	1.2E-10	1.2E-10	1.3E-10
	post natal	8.3E-13	7.0E-13	2.6E-12	7.9E-13	2.9E-12	2.4E-12	8.9E-13	2.8E-12	7.5E-13	1.1E-12
	total	1.2E-10	3.3E-11	2.1E-10	1.2E-10	1.2E-10	1.5E-10	1.2E-10	1.2E-10	1.2E-10	1.3E-10
concep ‡	in utero	2.3E-09	5.8E-10	3.8E-09	2.3E-09	2.3E-09	2.7E-09	2.3E-09	2.3E-09	2.3E-09	2.5E-09
	post natal	1.5E-11	1.3E-11	4.7E-11	1.4E-11	5.1E-11	4.3E-11	1.6E-11	5.1E-11	1.3E-11	2.0E-11
	total	2.3E-09	5.9E-10	3.8E-09	2.3E-09	2.4E-09	2.7E-09	2.3E-09	2.4E-09	2.3E-09	2.5E-09
5	in utero	2.2E-09	1.0E-09	4.9E-09	2.2E-09	2.2E-09	3.0E-09	2.2E-09	2.2E-09	2.2E-09	2.6E-09
	post natal	2.6E-11	2.2E-11	8.2E-11	2.5E-11	8.9E-11	7.4E-11	2.8E-11	8.8E-11	2.3E-11	3.5E-11
	total	2.2E-09	1.0E-09	5.0E-09	2.2E-09	2.3E-09	3.1E-09	2.2E-09	2.3E-09	2.2E-09	2.6E-09
10	in utero	2.2E-09	1.0E-09	5.8E-09	2.2E-09	2.2E-09	3.3E-09	2.2E-09	2.2E-09	2.2E-09	2.7E-09
	post natal	4.5E-11	3.8E-11	1.4E-10	4.3E-11	1.5E-10	1.3E-10	4.8E-11	1.5E-10	4.0E-11	6.0E-11
	total	2.2E-09	1.0E-09	5.9E-09	2.2E-09	2.3E-09	3.4E-09	2.2E-09	2.3E-09	2.2E-09	2.8E-09
15	in utero	2.2E-09	0.0E+00	5.8E-09	2.2E-09	2.2E-09	3.4E-09	2.2E-09	2.2E-09	2.2E-09	2.7E-09
	post natal	8.1E-11	6.8E-11	2.5E-10	7.6E-11	2.8E-10	2.3E-10	8.6E-11	2.7E-10	7.2E-11	1.1E-10
	total	2.3E-09	6.8E-11	6.1E-09	2.3E-09	2.5E-09	3.6E-09	2.3E-09	2.5E-09	2.3E-09	2.8E-09
25	in utero	2.0E-09	0.0E+00	5.4E-09	2.0E-09	2.0E-09	3.3E-09	2.0E-09	2.0E-09	2.0E-09	2.5E-09
	post natal	2.7E-10	2.2E-10	8.4E-10	2.5E-10	9.2E-10	7.6E-10	2.9E-10	9.0E-10	2.4E-10	3.6E-10
	total	2.3E-09	2.2E-10	6.2E-09	2.2E-09	2.9E-09	4.1E-09	2.3E-09	2.9E-09	2.2E-09	2.9E-09
35	in utero	8.2E-10	0.0E+00	2.1E-09	8.2E-10	8.2E-10	1.3E-09	8.2E-10	8.2E-10	8.1E-10	1.0E-09
	post natal	8.5E-10	7.1E-10	2.7E-09	8.0E-10	2.9E-09	2.4E-09	9.1E-10	2.9E-09	7.6E-10	1.1E-09
	total	1.7E-09	7.1E-10	4.8E-09	1.6E-09	3.7E-09	3.7E-09	1.7E-09	3.7E-09	1.6E-09	2.1E-09
Chronic											
-260 §	in utero	7.7E-11	2.0E-11	1.3E-10	7.7E-11	7.7E-11	9.2E-11	7.7E-11	7.7E-11	7.6E-11	8.4E-11
	post natal	5.2E-13	4.4E-13	1.6E-12	4.9E-13	1.8E-12	1.5E-12	5.6E-13	1.8E-12	4.7E-13	7.0E-13
	total	7.8E-11	2.1E-11	1.3E-10	7.7E-11	7.9E-11	9.3E-11	7.8E-11	7.9E-11	7.6E-11	8.5E-11
-52	in utero	3.8E-10	1.0E-10	6.5E-10	3.8E-10	3.8E-10	4.6E-10	3.8E-10	3.8E-10	3.8E-10	4.2E-10
	post natal	2.6E-12	2.2E-12	8.1E-12	2.4E-12	8.9E-12	7.4E-12	2.8E-12	8.7E-12	2.3E-12	3.5E-12
	total	3.8E-10	1.0E-10	6.6E-10	3.8E-10	3.9E-10	4.7E-10	3.8E-10	3.9E-10	3.8E-10	4.2E-10
during	in utero	1.8E-09	3.3E-10	4.5E-09	1.8E-09	1.8E-09	2.7E-09	1.8E-09	1.8E-09	1.8E-09	2.2E-09
	post natal	2.3E-10	2.0E-10	7.3E-10	2.2E-10	8.0E-10	6.6E-10	2.5E-10	7.9E-10	2.1E-10	3.1E-10
	total	2.0E-09	5.3E-10	5.2E-09	2.0E-09	2.6E-09	3.4E-09	2.0E-09	2.6E-09	2.0E-09	2.5E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-59
($T_{1/2} = 44.5$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.1E-16	1.1E-16	7.0E-16	4.1E-16	4.1E-16	5.0E-16	4.1E-16	4.1E-16	4.1E-16	4.5E-16
	post natal	2.8E-18	2.4E-18	8.9E-18	2.7E-18	9.7E-18	8.1E-18	3.1E-18	9.6E-18	2.6E-18	3.8E-18
	total	4.1E-16	1.1E-16	7.1E-16	4.1E-16	4.2E-16	5.1E-16	4.1E-16	4.2E-16	4.1E-16	4.5E-16
-26	in utero	3.9E-11	1.0E-11	6.7E-11	3.9E-11	3.9E-11	4.7E-11	3.9E-11	3.9E-11	3.9E-11	4.3E-11
	post natal	2.8E-13	2.4E-13	8.8E-13	2.6E-13	9.6E-13	8.0E-13	3.0E-13	9.4E-13	2.5E-13	3.7E-13
	total	3.9E-11	1.1E-11	6.8E-11	3.9E-11	4.0E-11	4.8E-11	3.9E-11	4.0E-11	3.9E-11	4.3E-11
concep ‡	in utero	8.4E-10	1.7E-10	1.3E-09	8.4E-10	8.4E-10	9.7E-10	8.4E-10	8.4E-10	8.4E-10	9.0E-10
	post natal	4.8E-12	4.0E-12	1.5E-11	4.5E-12	1.6E-11	1.4E-11	5.2E-12	1.6E-11	4.3E-12	6.4E-12
	total	8.4E-10	1.7E-10	1.3E-09	8.4E-10	8.6E-10	9.8E-10	8.5E-10	8.6E-10	8.4E-10	9.1E-10
5	in utero	8.3E-10	2.7E-10	1.6E-09	8.3E-10	8.3E-10	1.0E-09	8.3E-10	8.3E-10	8.2E-10	9.3E-10
	post natal	8.2E-12	6.9E-12	2.6E-11	7.8E-12	2.8E-11	2.3E-11	8.8E-12	2.8E-11	7.4E-12	1.1E-11
	total	8.4E-10	2.8E-10	1.6E-09	8.4E-10	8.6E-10	1.0E-09	8.4E-10	8.6E-10	8.3E-10	9.4E-10
10	in utero	8.0E-10	4.6E-10	1.8E-09	8.0E-10	8.0E-10	1.1E-09	8.0E-10	8.0E-10	8.0E-10	9.3E-10
	post natal	1.4E-11	1.2E-11	4.4E-11	1.3E-11	4.8E-11	4.0E-11	1.5E-11	4.7E-11	1.3E-11	1.9E-11
	total	8.1E-10	4.8E-10	1.8E-09	8.1E-10	8.5E-10	1.1E-09	8.2E-10	8.5E-10	8.1E-10	9.5E-10
15	in utero	7.8E-10	0.0E+00	1.7E-09	7.8E-10	7.8E-10	1.1E-09	7.8E-10	7.8E-10	7.8E-10	9.1E-10
	post natal	2.4E-11	2.0E-11	7.5E-11	2.3E-11	8.2E-11	6.8E-11	2.6E-11	8.0E-11	2.1E-11	3.2E-11
	total	8.0E-10	2.0E-11	1.8E-09	8.0E-10	8.6E-10	1.2E-09	8.1E-10	8.6E-10	8.0E-10	9.4E-10
25	in utero	6.5E-10	0.0E+00	1.4E-09	6.5E-10	6.5E-10	9.2E-10	6.5E-10	6.5E-10	6.4E-10	7.5E-10
	post natal	6.7E-11	5.6E-11	2.1E-10	6.3E-11	2.3E-10	1.9E-10	7.2E-11	2.3E-10	6.0E-11	9.0E-11
	total	7.2E-10	5.6E-11	1.6E-09	7.1E-10	8.8E-10	1.1E-09	7.2E-10	8.8E-10	7.0E-10	8.4E-10
35	in utero	2.9E-10	0.0E+00	5.4E-10	2.9E-10	2.9E-10	3.9E-10	2.9E-10	2.9E-10	2.8E-10	3.2E-10
	post natal	1.8E-10	1.5E-10	5.5E-10	1.7E-10	6.0E-10	5.0E-10	1.9E-10	5.9E-10	1.6E-10	2.3E-10
	total	4.7E-10	1.5E-10	1.1E-09	4.6E-10	8.9E-10	8.9E-10	4.8E-10	8.8E-10	4.4E-10	5.5E-10
Chronic											
-260 §	in utero	2.3E-11	6.1E-12	3.9E-11	2.3E-11	2.3E-11	2.7E-11	2.3E-11	2.3E-11	2.3E-11	2.5E-11
	post natal	1.7E-13	1.4E-13	5.3E-13	1.6E-13	5.8E-13	4.8E-13	1.8E-13	5.7E-13	1.5E-13	2.3E-13
	total	2.3E-11	6.2E-12	4.0E-11	2.3E-11	2.4E-11	2.7E-11	2.3E-11	2.4E-11	2.3E-11	2.5E-11
-52	in utero	1.1E-10	3.0E-11	1.9E-10	1.1E-10	1.1E-10	1.4E-10	1.1E-10	1.1E-10	1.1E-10	1.2E-10
	post natal	8.5E-13	7.1E-13	2.7E-12	8.0E-13	2.9E-12	2.4E-12	9.1E-13	2.9E-12	7.6E-13	1.1E-12
	total	1.1E-10	3.1E-11	1.9E-10	1.1E-10	1.1E-10	1.4E-10	1.1E-10	1.1E-10	1.1E-10	1.2E-10
during	in utero	6.6E-10	1.3E-10	1.4E-09	6.6E-10	6.6E-10	8.9E-10	6.6E-10	6.6E-10	6.5E-10	7.5E-10
	post natal	6.1E-11	5.2E-11	1.9E-10	5.8E-11	2.1E-10	1.7E-10	6.6E-11	2.1E-10	5.5E-11	8.2E-11
	total	7.2E-10	1.8E-10	1.6E-09	7.2E-10	8.7E-10	1.1E-09	7.3E-10	8.7E-10	7.1E-10	8.3E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Fe-59
($T_{1/2} = 44.5$ d) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.0E-16	1.1E-16	6.9E-16	4.0E-16	4.0E-16	4.8E-16	4.0E-16	4.0E-16	4.0E-16	4.4E-16
	post natal	2.8E-18	2.3E-18	8.7E-18	2.6E-18	9.5E-18	7.9E-18	3.0E-18	9.4E-18	2.5E-18	3.7E-18
	total	4.0E-16	1.1E-16	7.0E-16	4.0E-16	4.1E-16	4.9E-16	4.0E-16	4.1E-16	4.0E-16	4.4E-16
-26	in utero	4.1E-11	1.1E-11	7.0E-11	4.1E-11	4.1E-11	4.9E-11	4.1E-11	4.1E-11	4.1E-11	4.5E-11
	post natal	2.8E-13	2.3E-13	8.8E-13	2.6E-13	9.6E-13	8.0E-13	3.0E-13	9.4E-13	2.5E-13	3.7E-13
	total	4.1E-11	1.1E-11	7.1E-11	4.1E-11	4.2E-11	5.0E-11	4.1E-11	4.2E-11	4.1E-11	4.5E-11
concep ‡	in utero	1.3E-09	1.9E-10	1.8E-09	1.3E-09	1.3E-09	1.5E-09	1.3E-09	1.3E-09	1.3E-09	1.4E-09
	post natal	5.0E-12	4.2E-12	1.6E-11	4.7E-12	1.7E-11	1.4E-11	5.4E-12	1.7E-11	4.5E-12	6.7E-12
	total	1.3E-09	2.0E-10	1.8E-09	1.3E-09	1.3E-09	1.5E-09	1.3E-09	1.3E-09	1.3E-09	1.4E-09
5	in utero	1.3E-09	3.4E-10	2.2E-09	1.3E-09	1.3E-09	1.6E-09	1.3E-09	1.3E-09	1.3E-09	1.4E-09
	post natal	8.7E-12	7.3E-12	2.7E-11	8.2E-12	3.0E-11	2.5E-11	9.3E-12	2.9E-11	7.8E-12	1.2E-11
	total	1.3E-09	3.4E-10	2.2E-09	1.3E-09	1.3E-09	1.6E-09	1.3E-09	1.3E-09	1.3E-09	1.4E-09
10	in utero	1.3E-09	8.7E-10	2.5E-09	1.3E-09	1.3E-09	1.6E-09	1.3E-09	1.3E-09	1.3E-09	1.4E-09
	post natal	1.5E-11	1.3E-11	4.8E-11	1.4E-11	5.2E-11	4.3E-11	1.6E-11	5.1E-11	1.4E-11	2.0E-11
	total	1.3E-09	8.9E-10	2.5E-09	1.3E-09	1.4E-09	1.6E-09	1.3E-09	1.4E-09	1.3E-09	1.4E-09
15	in utero	1.5E-09	0.0E+00	3.2E-09	1.5E-09	1.5E-09	2.0E-09	1.5E-09	1.5E-09	1.5E-09	1.7E-09
	post natal	3.7E-11	3.1E-11	1.2E-10	3.5E-11	1.3E-10	1.1E-10	4.0E-11	1.3E-10	3.3E-11	5.0E-11
	total	1.5E-09	3.1E-11	3.3E-09	1.5E-09	1.6E-09	2.1E-09	1.5E-09	1.6E-09	1.5E-09	1.8E-09
25	in utero	2.0E-09	0.0E+00	4.9E-09	2.0E-09	2.0E-09	3.1E-09	2.0E-09	2.0E-09	2.0E-09	2.4E-09
	post natal	2.3E-10	1.9E-10	7.3E-10	2.2E-10	7.9E-10	6.6E-10	2.5E-10	7.8E-10	2.1E-10	3.1E-10
	total	2.2E-09	1.9E-10	5.6E-09	2.2E-09	2.8E-09	3.8E-09	2.2E-09	2.8E-09	2.2E-09	2.7E-09
35	in utero	1.0E-09	0.0E+00	2.4E-09	1.0E-09	1.0E-09	1.6E-09	1.0E-09	1.0E-09	1.0E-09	1.2E-09
	post natal	9.1E-10	7.6E-10	2.8E-09	8.6E-10	3.1E-09	2.6E-09	9.7E-10	3.1E-09	8.1E-10	1.2E-09
	total	1.9E-09	7.6E-10	5.2E-09	1.9E-09	4.1E-09	4.2E-09	2.0E-09	4.1E-09	1.8E-09	2.4E-09
Chronic											
-260 §	in utero	2.6E-11	6.8E-12	4.4E-11	2.6E-11	2.6E-11	3.1E-11	2.6E-11	2.6E-11	2.6E-11	2.8E-11
	post natal	1.7E-13	1.5E-13	5.5E-13	1.6E-13	6.0E-13	5.0E-13	1.9E-13	5.9E-13	1.6E-13	2.3E-13
	total	2.6E-11	6.9E-12	4.5E-11	2.6E-11	2.7E-11	3.2E-11	2.6E-11	2.7E-11	2.6E-11	2.8E-11
-52	in utero	1.3E-10	3.4E-11	2.2E-10	1.3E-10	1.3E-10	1.6E-10	1.3E-10	1.3E-10	1.3E-10	1.4E-10
	post natal	8.7E-13	7.3E-13	2.7E-12	8.2E-13	3.0E-12	2.5E-12	9.3E-13	2.9E-12	7.8E-13	1.2E-12
	total	1.3E-10	3.4E-11	2.2E-10	1.3E-10	1.3E-10	1.6E-10	1.3E-10	1.3E-10	1.3E-10	1.4E-10
during	in utero	1.0E-09	2.2E-10	1.9E-09	1.0E-09	1.0E-09	1.3E-09	1.0E-09	1.0E-09	1.0E-09	1.2E-09
	post natal	7.8E-11	6.6E-11	2.5E-10	7.4E-11	2.7E-10	2.2E-10	8.4E-11	2.6E-10	7.0E-11	1.0E-10
	total	1.1E-09	2.9E-10	2.1E-09	1.1E-09	1.3E-09	1.5E-09	1.1E-09	1.3E-09	1.1E-09	1.3E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Co-60
($T_{1/2} = 5.27$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-10	3.4E-11	1.5E-10	1.5E-10	1.5E-10	1.6E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	post natal	1.7E-11	1.4E-11	1.3E-11	1.7E-11	1.6E-11	3.2E-11	1.7E-11	1.6E-11	1.4E-11	1.6E-11
	total	1.7E-10	4.8E-11	1.6E-10	1.7E-10	1.7E-10	1.9E-10	1.7E-10	1.7E-10	1.6E-10	1.7E-10
-26	in utero	4.1E-10	9.5E-11	4.1E-10	4.1E-10	4.1E-10	4.3E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10
	post natal	4.2E-11	3.3E-11	3.3E-11	4.1E-11	3.9E-11	8.0E-11	4.3E-11	4.0E-11	3.5E-11	4.0E-11
	total	4.5E-10	1.3E-10	4.4E-10	4.5E-10	4.5E-10	5.1E-10	4.5E-10	4.5E-10	4.5E-10	4.5E-10
concep ‡	in utero	1.4E-09	1.8E-10	1.4E-09	1.4E-09	1.4E-09	1.5E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
	post natal	2.7E-10	2.1E-10	2.1E-10	2.6E-10	2.5E-10	5.1E-10	2.7E-10	2.6E-10	2.3E-10	2.5E-10
	total	1.7E-09	3.9E-10	1.6E-09	1.7E-09	1.7E-09	2.0E-09	1.7E-09	1.7E-09	1.6E-09	1.7E-09
5	in utero	1.3E-09	2.3E-10	1.3E-09	1.3E-09	1.3E-09	1.5E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	post natal	2.9E-10	2.3E-10	2.2E-10	2.8E-10	2.6E-10	5.4E-10	2.9E-10	2.7E-10	2.4E-10	2.7E-10
	total	1.6E-09	4.6E-10	1.5E-09	1.6E-09	1.6E-09	2.0E-09	1.6E-09	1.6E-09	1.5E-09	1.6E-09
10	in utero	1.2E-09	7.0E-10	1.2E-09	1.2E-09	1.2E-09	1.4E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09
	post natal	3.0E-10	2.4E-10	2.4E-10	2.9E-10	2.8E-10	5.7E-10	3.1E-10	2.9E-10	2.5E-10	2.9E-10
	total	1.5E-09	9.4E-10	1.4E-09	1.5E-09	1.5E-09	2.0E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
15	in utero	1.1E-09	0.0E+00	1.1E-09	1.1E-09	1.1E-09	1.3E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	post natal	3.3E-10	2.6E-10	2.5E-10	3.1E-10	3.0E-10	6.1E-10	3.3E-10	3.1E-10	2.7E-10	3.1E-10
	total	1.4E-09	2.6E-10	1.4E-09	1.4E-09	1.4E-09	1.9E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
25	in utero	8.1E-10	0.0E+00	8.1E-10	8.1E-10	8.1E-10	9.3E-10	8.1E-10	8.1E-10	8.1E-10	8.2E-10
	post natal	3.8E-10	3.0E-10	3.0E-10	3.7E-10	3.5E-10	7.2E-10	3.9E-10	3.7E-10	3.2E-10	3.6E-10
	total	1.2E-09	3.0E-10	1.1E-09	1.2E-09	1.2E-09	1.7E-09	1.2E-09	1.2E-09	1.1E-09	1.2E-09
35	in utero	4.0E-10	0.0E+00	4.0E-10	4.0E-10	4.0E-10	4.5E-10	4.0E-10	4.0E-10	4.0E-10	4.1E-10
	post natal	5.4E-10	4.2E-10	4.2E-10	5.2E-10	4.9E-10	1.0E-09	5.4E-10	5.1E-10	4.5E-10	5.1E-10
	total	9.4E-10	4.2E-10	8.2E-10	9.2E-10	8.9E-10	1.5E-09	9.4E-10	9.1E-10	8.5E-10	9.2E-10
Chronic											
-260 §	in utero	2.0E-10	4.5E-11	2.0E-10	2.0E-10	2.0E-10	2.1E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
	post natal	2.1E-11	1.7E-11	1.6E-11	2.0E-11	1.9E-11	4.0E-11	2.1E-11	2.0E-11	1.8E-11	2.0E-11
	total	2.2E-10	6.2E-11	2.2E-10	2.2E-10	2.2E-10	2.5E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
-52	in utero	4.4E-10	1.0E-10	4.4E-10	4.4E-10	4.4E-10	4.6E-10	4.4E-10	4.4E-10	4.4E-10	4.4E-10
	post natal	4.3E-11	3.4E-11	3.3E-11	4.1E-11	3.9E-11	8.1E-11	4.3E-11	4.1E-11	3.6E-11	4.0E-11
	total	4.8E-10	1.3E-10	4.7E-10	4.8E-10	4.8E-10	5.4E-10	4.8E-10	4.8E-10	4.8E-10	4.8E-10
during	in utero	9.4E-10	1.8E-10	9.4E-10	9.4E-10	9.4E-10	1.1E-09	9.4E-10	9.4E-10	9.3E-10	9.4E-10
	post natal	3.9E-10	3.1E-10	3.0E-10	3.7E-10	3.5E-10	7.3E-10	3.9E-10	3.7E-10	3.2E-10	3.6E-10
	total	1.3E-09	4.9E-10	1.2E-09	1.3E-09	1.3E-09	1.8E-09	1.3E-09	1.3E-09	1.2E-09	1.3E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Co-60
($T_{1/2} = 5.27$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.05$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.1E-10	2.3E-11	1.1E-10	1.1E-10	1.1E-10	1.2E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	4.7E-12	3.7E-12	3.6E-12	4.5E-12	4.3E-12	8.8E-12	4.7E-12	4.4E-12	3.9E-12	4.4E-12
	total	1.1E-10	2.7E-11	1.1E-10	1.1E-10	1.1E-10	1.3E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
-26	in utero	2.7E-10	5.7E-11	2.7E-10	2.7E-10	2.7E-10	2.8E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10
	post natal	1.0E-11	8.0E-12	7.9E-12	9.8E-12	9.2E-12	1.9E-11	1.0E-11	9.6E-12	8.4E-12	9.5E-12
	total	2.8E-10	6.5E-11	2.8E-10	2.8E-10	2.8E-10	3.0E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10
concep ‡	in utero	1.0E-09	9.8E-11	1.0E-09	1.0E-09	1.0E-09	1.1E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
	post natal	6.4E-11	5.1E-11	5.0E-11	6.2E-11	5.9E-11	1.2E-10	6.5E-11	6.1E-11	5.3E-11	6.0E-11
	total	1.1E-09	1.5E-10	1.0E-09	1.1E-09	1.1E-09	1.2E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
5	in utero	1.0E-09	1.3E-10	1.0E-09	1.0E-09	1.0E-09	1.1E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
	post natal	6.8E-11	5.4E-11	5.3E-11	6.6E-11	6.2E-11	1.3E-10	6.8E-11	6.5E-11	5.7E-11	6.4E-11
	total	1.1E-09	1.8E-10	1.1E-09	1.1E-09	1.1E-09	1.2E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
10	in utero	9.4E-10	6.5E-10	9.4E-10	9.4E-10	9.4E-10	9.8E-10	9.4E-10	9.4E-10	9.4E-10	9.4E-10
	post natal	7.3E-11	5.8E-11	5.7E-11	7.0E-11	6.7E-11	1.4E-10	7.3E-11	6.9E-11	6.1E-11	6.9E-11
	total	1.0E-09	7.1E-10	1.0E-09	1.0E-09	1.0E-09	1.1E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
15	in utero	8.7E-10	0.0E+00	8.7E-10	8.7E-10	8.7E-10	9.1E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10
	post natal	7.9E-11	6.3E-11	6.2E-11	7.6E-11	7.2E-11	1.5E-10	8.0E-11	7.5E-11	6.6E-11	7.4E-11
	total	9.5E-10	6.3E-11	9.3E-10	9.5E-10	9.4E-10	1.1E-09	9.5E-10	9.4E-10	9.4E-10	9.4E-10
25	in utero	6.6E-10	0.0E+00	6.6E-10	6.6E-10	6.6E-10	6.9E-10	6.6E-10	6.6E-10	6.5E-10	6.6E-10
	post natal	9.9E-11	7.8E-11	7.7E-11	9.5E-11	9.0E-11	1.9E-10	9.9E-11	9.4E-11	8.2E-11	9.3E-11
	total	7.6E-10	7.8E-11	7.4E-10	7.6E-10	7.5E-10	8.8E-10	7.6E-10	7.5E-10	7.3E-10	7.5E-10
35	in utero	3.5E-10	0.0E+00	3.5E-10	3.5E-10	3.5E-10	3.7E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10
	post natal	1.6E-10	1.2E-10	1.2E-10	1.5E-10	1.4E-10	2.9E-10	1.6E-10	1.5E-10	1.3E-10	1.5E-10
	total	5.1E-10	1.2E-10	4.7E-10	5.0E-10	4.9E-10	6.6E-10	5.1E-10	5.0E-10	4.8E-10	5.0E-10
Chronic											
-260 §	in utero	1.4E-10	2.9E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	5.4E-12	4.3E-12	4.2E-12	5.2E-12	5.0E-12	1.0E-11	5.5E-12	5.2E-12	4.5E-12	5.1E-12
	total	1.5E-10	3.4E-11	1.4E-10	1.5E-10	1.4E-10	1.5E-10	1.5E-10	1.5E-10	1.4E-10	1.5E-10
-52	in utero	2.9E-10	6.0E-11	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	1.0E-11	8.1E-12	8.0E-12	9.9E-12	9.4E-12	1.9E-11	1.0E-11	9.8E-12	8.6E-12	9.6E-12
	total	3.0E-10	6.8E-11	3.0E-10	3.0E-10	3.0E-10	3.1E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
during	in utero	7.4E-10	1.5E-10	7.4E-10	7.4E-10	7.4E-10	7.8E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10
	post natal	1.0E-10	8.0E-11	7.8E-11	9.7E-11	9.2E-11	1.9E-10	1.0E-10	9.6E-11	8.4E-11	9.5E-11
	total	8.4E-10	2.3E-10	8.2E-10	8.4E-10	8.3E-10	9.7E-10	8.4E-10	8.4E-10	8.2E-10	8.4E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Co-60
($T_{1/2} = 5.27$ y) by the mother

Ingestion: $f_1 = 0.1$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.4E-10	3.2E-11	1.4E-10	1.4E-10	1.4E-10	1.5E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	1.6E-11	1.3E-11	1.3E-11	1.6E-11	1.5E-11	3.0E-11	1.6E-11	1.5E-11	1.3E-11	1.5E-11
	total	1.6E-10	4.5E-11	1.5E-10	1.6E-10	1.5E-10	1.8E-10	1.6E-10	1.5E-10	1.5E-10	1.5E-10
-26	in utero	3.6E-10	8.2E-11	3.6E-10	3.6E-10	3.6E-10	3.8E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10
	post natal	4.0E-11	3.1E-11	3.1E-11	3.8E-11	3.6E-11	7.5E-11	4.0E-11	3.8E-11	3.3E-11	3.7E-11
	total	4.0E-10	1.1E-10	3.9E-10	4.0E-10	4.0E-10	4.6E-10	4.0E-10	4.0E-10	3.9E-10	4.0E-10
concep ‡	in utero	2.1E-09	1.6E-10	2.1E-09	2.1E-09	2.1E-09	2.2E-09	2.1E-09	2.1E-09	2.1E-09	2.1E-09
	post natal	2.6E-10	2.1E-10	2.0E-10	2.5E-10	2.4E-10	4.9E-10	2.6E-10	2.5E-10	2.2E-10	2.5E-10
	total	2.4E-09	3.7E-10	2.3E-09	2.3E-09	2.3E-09	2.7E-09	2.4E-09	2.3E-09	2.3E-09	2.3E-09
5	in utero	2.0E-09	2.1E-10	2.0E-09	2.0E-09	2.0E-09	2.2E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
	post natal	2.8E-10	2.2E-10	2.2E-10	2.7E-10	2.6E-10	5.3E-10	2.8E-10	2.7E-10	2.3E-10	2.6E-10
	total	2.3E-09	4.3E-10	2.2E-09	2.3E-09	2.3E-09	2.7E-09	2.3E-09	2.3E-09	2.2E-09	2.3E-09
10	in utero	1.9E-09	1.4E-09	1.9E-09	1.9E-09	1.9E-09	2.1E-09	1.9E-09	1.9E-09	1.9E-09	1.9E-09
	post natal	3.0E-10	2.4E-10	2.4E-10	2.9E-10	2.8E-10	5.7E-10	3.0E-10	2.9E-10	2.5E-10	2.8E-10
	total	2.2E-09	1.7E-09	2.1E-09	2.2E-09	2.2E-09	2.7E-09	2.2E-09	2.2E-09	2.1E-09	2.2E-09
15	in utero	1.7E-09	0.0E+00	1.7E-09	1.7E-09	1.7E-09	1.9E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
	post natal	3.3E-10	2.6E-10	2.6E-10	3.2E-10	3.0E-10	6.3E-10	3.3E-10	3.2E-10	2.8E-10	3.1E-10
	total	2.0E-09	2.6E-10	2.0E-09	2.0E-09	2.0E-09	2.5E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
25	in utero	1.3E-09	0.0E+00	1.3E-09	1.3E-09	1.3E-09	1.5E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	post natal	4.2E-10	3.3E-10	3.3E-10	4.1E-10	3.9E-10	8.0E-10	4.3E-10	4.0E-10	3.5E-10	4.0E-10
	total	1.7E-09	3.3E-10	1.6E-09	1.7E-09	1.7E-09	2.3E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
35	in utero	7.8E-10	0.0E+00	7.8E-10	7.8E-10	7.8E-10	8.4E-10	7.8E-10	7.8E-10	7.7E-10	7.8E-10
	post natal	7.0E-10	5.6E-10	5.5E-10	6.8E-10	6.4E-10	1.3E-09	7.1E-10	6.7E-10	5.9E-10	6.6E-10
	total	1.5E-09	5.6E-10	1.3E-09	1.5E-09	1.4E-09	2.1E-09	1.5E-09	1.5E-09	1.4E-09	1.4E-09
Chronic											
-260 §	in utero	1.8E-10	4.1E-11	1.8E-10	1.8E-10	1.8E-10	1.9E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
	post natal	2.0E-11	1.6E-11	1.5E-11	1.9E-11	1.8E-11	3.7E-11	2.0E-11	1.9E-11	1.7E-11	1.9E-11
	total	2.0E-10	5.7E-11	2.0E-10	2.0E-10	2.0E-10	2.3E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
-52	in utero	3.9E-10	8.8E-11	3.9E-10	3.9E-10	3.9E-10	4.1E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10
	post natal	4.1E-11	3.2E-11	3.1E-11	3.9E-11	3.7E-11	7.6E-11	4.1E-11	3.9E-11	3.4E-11	3.8E-11
	total	4.3E-10	1.2E-10	4.2E-10	4.3E-10	4.3E-10	4.9E-10	4.3E-10	4.3E-10	4.2E-10	4.3E-10
during	in utero	1.5E-09	3.3E-10	1.5E-09	1.5E-09	1.5E-09	1.7E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
	post natal	4.4E-10	3.5E-10	3.4E-10	4.2E-10	4.0E-10	8.2E-10	4.4E-10	4.2E-10	3.6E-10	4.1E-10
	total	1.9E-09	6.8E-10	1.8E-09	1.9E-09	1.9E-09	2.5E-09	1.9E-09	1.9E-09	1.9E-09	1.9E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Co-60
($T_{1/2} = 5.27$ y) by the mother

Ingestion: $f_1 = 0.05$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	7.0E-11	1.6E-11	7.0E-11	7.0E-11	7.0E-11	7.4E-11	7.0E-11	7.0E-11	7.0E-11	7.0E-11
	post natal	8.1E-12	6.4E-12	6.3E-12	7.8E-12	7.4E-12	1.5E-11	8.1E-12	7.7E-12	6.7E-12	7.6E-12
	total	7.8E-11	2.2E-11	7.6E-11	7.8E-11	7.7E-11	8.9E-11	7.8E-11	7.8E-11	7.7E-11	7.8E-11
-26	in utero	1.8E-10	4.1E-11	1.8E-10	1.8E-10	1.8E-10	1.9E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
	post natal	2.0E-11	1.6E-11	1.5E-11	1.9E-11	1.8E-11	3.8E-11	2.0E-11	1.9E-11	1.7E-11	1.9E-11
	total	2.0E-10	5.7E-11	2.0E-10	2.0E-10	2.0E-10	2.3E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
concep ‡	in utero	1.8E-09	8.1E-11	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
	post natal	1.3E-10	1.0E-10	1.0E-10	1.3E-10	1.2E-10	2.5E-10	1.3E-10	1.2E-10	1.1E-10	1.2E-10
	total	1.9E-09	1.8E-10	1.9E-09	1.9E-09	1.9E-09	2.0E-09	1.9E-09	1.9E-09	1.9E-09	1.9E-09
5	in utero	1.7E-09	1.0E-10	1.7E-09	1.7E-09	1.7E-09	1.8E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
	post natal	1.4E-10	1.1E-10	1.1E-10	1.4E-10	1.3E-10	2.6E-10	1.4E-10	1.3E-10	1.2E-10	1.3E-10
	total	1.8E-09	2.1E-10	1.8E-09	1.8E-09	1.8E-09	2.1E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
10	in utero	1.6E-09	1.4E-09	1.6E-09	1.6E-09	1.6E-09	1.7E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09
	post natal	1.5E-10	1.2E-10	1.2E-10	1.5E-10	1.4E-10	2.9E-10	1.5E-10	1.4E-10	1.3E-10	1.4E-10
	total	1.8E-09	1.5E-09	1.7E-09	1.8E-09	1.7E-09	2.0E-09	1.8E-09	1.7E-09	1.7E-09	1.7E-09
15	in utero	1.5E-09	0.0E+00	1.5E-09	1.5E-09	1.5E-09	1.6E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
	post natal	1.7E-10	1.3E-10	1.3E-10	1.6E-10	1.5E-10	3.1E-10	1.7E-10	1.6E-10	1.4E-10	1.6E-10
	total	1.7E-09	1.3E-10	1.6E-09	1.7E-09	1.7E-09	1.9E-09	1.7E-09	1.7E-09	1.6E-09	1.7E-09
25	in utero	1.2E-09	0.0E+00	1.2E-09	1.2E-09	1.2E-09	1.3E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09
	post natal	2.1E-10	1.7E-10	1.6E-10	2.0E-10	1.9E-10	4.0E-10	2.1E-10	2.0E-10	1.8E-10	2.0E-10
	total	1.4E-09	1.7E-10	1.4E-09	1.4E-09	1.4E-09	1.7E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
35	in utero	7.2E-10	0.0E+00	7.2E-10	7.2E-10	7.2E-10	7.6E-10	7.2E-10	7.2E-10	7.2E-10	7.3E-10
	post natal	3.5E-10	2.8E-10	2.7E-10	3.4E-10	3.2E-10	6.6E-10	3.5E-10	3.4E-10	2.9E-10	3.3E-10
	total	1.1E-09	2.8E-10	9.9E-10	1.1E-09	1.0E-09	1.4E-09	1.1E-09	1.1E-09	1.0E-09	1.1E-09
Chronic											
-260 §	in utero	9.0E-11	2.0E-11	9.0E-11	9.0E-11	9.0E-11	9.5E-11	9.0E-11	9.0E-11	9.0E-11	9.1E-11
	post natal	9.9E-12	7.9E-12	7.7E-12	9.6E-12	9.1E-12	1.9E-11	1.0E-11	9.5E-12	8.3E-12	9.3E-12
	total	1.0E-10	2.8E-11	9.8E-11	1.0E-10	9.9E-11	1.1E-10	1.0E-10	9.9E-11	9.8E-11	1.0E-10
-52	in utero	2.0E-10	4.4E-11	2.0E-10	2.0E-10	2.0E-10	2.1E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
	post natal	2.0E-11	1.6E-11	1.6E-11	2.0E-11	1.8E-11	3.8E-11	2.0E-11	1.9E-11	1.7E-11	1.9E-11
	total	2.2E-10	6.0E-11	2.2E-10	2.2E-10	2.2E-10	2.5E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
during	in utero	1.3E-09	3.1E-10	1.3E-09	1.3E-09	1.3E-09	1.4E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	post natal	2.2E-10	1.7E-10	1.7E-10	2.1E-10	2.0E-10	4.1E-10	2.2E-10	2.1E-10	1.8E-10	2.1E-10
	total	1.5E-09	4.8E-10	1.5E-09	1.5E-09	1.5E-09	1.8E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Zn-65
($T_{1/2} = 244$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.5$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.8E-11	6.4E-12	3.4E-11	2.8E-11	3.4E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11
	post natal	6.9E-12	5.7E-12	6.9E-12	6.5E-12	8.3E-12	6.3E-12	6.6E-12	6.3E-12	5.8E-12	6.1E-12
	total	3.5E-11	1.2E-11	4.1E-11	3.5E-11	4.2E-11	3.4E-11	3.5E-11	3.4E-11	3.4E-11	3.4E-11
-26	in utero	6.8E-10	1.6E-10	8.6E-10	6.8E-10	8.6E-10	6.8E-10	6.8E-10	6.8E-10	6.8E-10	7.1E-10
	post natal	1.7E-10	1.4E-10	1.7E-10	1.6E-10	2.1E-10	1.6E-10	1.6E-10	1.6E-10	1.4E-10	1.5E-10
	total	8.5E-10	3.0E-10	1.0E-09	8.4E-10	1.1E-09	8.4E-10	8.4E-10	8.4E-10	8.2E-10	8.6E-10
concep ‡	in utero	1.7E-09	3.7E-10	2.1E-09	1.7E-09	2.1E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
	post natal	3.8E-10	3.2E-10	3.9E-10	3.6E-10	4.7E-10	3.5E-10	3.7E-10	3.6E-10	3.2E-10	3.4E-10
	total	2.1E-09	6.9E-10	2.5E-09	2.1E-09	2.6E-09	2.0E-09	2.1E-09	2.1E-09	2.0E-09	2.0E-09
5	in utero	1.6E-09	4.7E-10	2.1E-09	1.6E-09	2.1E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.7E-09
	post natal	4.5E-10	3.7E-10	4.5E-10	4.2E-10	5.4E-10	4.1E-10	4.3E-10	4.2E-10	3.8E-10	4.0E-10
	total	2.0E-09	8.4E-10	2.5E-09	2.0E-09	2.6E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.1E-09
10	in utero	1.5E-09	4.2E-10	2.0E-09	1.5E-09	2.0E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.6E-09
	post natal	5.2E-10	4.4E-10	5.3E-10	5.0E-10	6.4E-10	4.8E-10	5.0E-10	4.9E-10	4.4E-10	4.7E-10
	total	2.0E-09	8.6E-10	2.5E-09	2.0E-09	2.6E-09	2.0E-09	2.0E-09	2.0E-09	1.9E-09	2.1E-09
15	in utero	1.4E-09	0.0E+00	1.9E-09	1.4E-09	1.9E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.5E-09
	post natal	6.1E-10	5.1E-10	6.2E-10	5.8E-10	7.4E-10	5.6E-10	5.9E-10	5.7E-10	5.1E-10	5.5E-10
	total	2.0E-09	5.1E-10	2.5E-09	2.0E-09	2.6E-09	2.0E-09	2.0E-09	2.0E-09	1.9E-09	2.0E-09
25	in utero	1.0E-09	0.0E+00	1.4E-09	1.0E-09	1.4E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.1E-09
	post natal	8.5E-10	7.0E-10	8.5E-10	8.0E-10	1.0E-09	7.7E-10	8.1E-10	7.8E-10	7.1E-10	7.6E-10
	total	1.9E-09	7.0E-10	2.2E-09	1.8E-09	2.4E-09	1.8E-09	1.8E-09	1.8E-09	1.7E-09	1.9E-09
35	in utero	3.3E-10	0.0E+00	4.5E-10	3.3E-10	4.5E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.4E-10
	post natal	1.3E-09	1.1E-09	1.3E-09	1.2E-09	1.6E-09	1.2E-09	1.2E-09	1.2E-09	1.1E-09	1.1E-09
	total	1.6E-09	1.1E-09	1.8E-09	1.5E-09	2.0E-09	1.5E-09	1.5E-09	1.5E-09	1.4E-09	1.4E-09
Chronic											
-260 §	in utero	1.9E-10	4.5E-11	2.4E-10	1.9E-10	2.4E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	2.0E-10
	post natal	4.7E-11	3.9E-11	4.8E-11	4.5E-11	5.7E-11	4.3E-11	4.5E-11	4.4E-11	4.0E-11	4.2E-11
	total	2.4E-10	8.4E-11	2.9E-10	2.3E-10	3.0E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.4E-10
-52	in utero	7.7E-10	1.8E-10	9.6E-10	7.7E-10	9.6E-10	7.7E-10	7.7E-10	7.7E-10	7.7E-10	8.0E-10
	post natal	1.9E-10	1.6E-10	1.9E-10	1.8E-10	2.3E-10	1.7E-10	1.8E-10	1.8E-10	1.6E-10	1.7E-10
	total	9.6E-10	3.4E-10	1.1E-09	9.5E-10	1.2E-09	9.4E-10	9.5E-10	9.5E-10	9.3E-10	9.7E-10
during	in utero	1.1E-09	1.5E-10	1.5E-09	1.1E-09	1.5E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.2E-09
	post natal	7.7E-10	6.4E-10	7.7E-10	7.2E-10	9.3E-10	7.0E-10	7.3E-10	7.1E-10	6.4E-10	6.8E-10
	total	1.9E-09	7.9E-10	2.3E-09	1.8E-09	2.4E-09	1.8E-09	1.8E-09	1.8E-09	1.7E-09	1.9E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Zn-65
($T_{1/2} = 244$ d) by the mother

Ingestion: $f_1 = 0.5$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.2E-11	1.2E-11	6.6E-11	5.2E-11	6.6E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.4E-11
	post natal	1.3E-11	1.1E-11	1.3E-11	1.3E-11	1.6E-11	1.2E-11	1.3E-11	1.2E-11	1.1E-11	1.2E-11
	total	6.5E-11	2.3E-11	7.9E-11	6.5E-11	8.2E-11	6.4E-11	6.5E-11	6.4E-11	6.3E-11	6.6E-11
-26	in utero	1.4E-09	3.4E-10	1.8E-09	1.4E-09	1.8E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.5E-09
	post natal	3.7E-10	3.0E-10	3.7E-10	3.5E-10	4.4E-10	3.3E-10	3.5E-10	3.4E-10	3.1E-10	3.3E-10
	total	1.8E-09	6.4E-10	2.2E-09	1.8E-09	2.2E-09	1.7E-09	1.8E-09	1.7E-09	1.7E-09	1.8E-09
concep ‡	in utero	3.7E-09	8.2E-10	4.6E-09	3.7E-09	4.6E-09	3.7E-09	3.7E-09	3.7E-09	3.7E-09	3.8E-09
	post natal	8.4E-10	7.0E-10	8.5E-10	7.9E-10	1.0E-09	7.7E-10	8.0E-10	7.8E-10	7.0E-10	7.5E-10
	total	4.5E-09	1.5E-09	5.5E-09	4.5E-09	5.6E-09	4.5E-09	4.5E-09	4.5E-09	4.4E-09	4.5E-09
5	in utero	3.5E-09	1.0E-09	4.6E-09	3.5E-09	4.6E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.7E-09
	post natal	9.9E-10	8.2E-10	9.9E-10	9.3E-10	1.2E-09	9.0E-10	9.4E-10	9.1E-10	8.3E-10	8.8E-10
	total	4.5E-09	1.9E-09	5.6E-09	4.4E-09	5.8E-09	4.4E-09	4.4E-09	4.4E-09	4.3E-09	4.6E-09
10	in utero	3.4E-09	9.7E-10	4.5E-09	3.4E-09	4.5E-09	3.4E-09	3.4E-09	3.4E-09	3.4E-09	3.5E-09
	post natal	1.2E-09	9.6E-10	1.2E-09	1.1E-09	1.4E-09	1.1E-09	1.1E-09	1.1E-09	9.7E-10	1.0E-09
	total	4.6E-09	1.9E-09	5.7E-09	4.5E-09	5.9E-09	4.5E-09	4.5E-09	4.5E-09	4.4E-09	4.5E-09
15	in utero	3.1E-09	0.0E+00	4.2E-09	3.1E-09	4.2E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.3E-09
	post natal	1.4E-09	1.1E-09	1.4E-09	1.3E-09	1.6E-09	1.2E-09	1.3E-09	1.3E-09	1.1E-09	1.2E-09
	total	4.5E-09	1.1E-09	5.6E-09	4.4E-09	5.8E-09	4.3E-09	4.4E-09	4.4E-09	4.2E-09	4.5E-09
25	in utero	2.2E-09	0.0E+00	3.1E-09	2.2E-09	3.1E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.4E-09
	post natal	1.9E-09	1.6E-09	1.9E-09	1.8E-09	2.3E-09	1.7E-09	1.8E-09	1.8E-09	1.6E-09	1.7E-09
	total	4.1E-09	1.6E-09	5.0E-09	4.0E-09	5.4E-09	3.9E-09	4.0E-09	4.0E-09	3.8E-09	4.1E-09
35	in utero	7.5E-10	0.0E+00	1.0E-09	7.5E-10	1.0E-09	7.5E-10	7.5E-10	7.5E-10	7.5E-10	7.9E-10
	post natal	3.0E-09	2.5E-09	3.0E-09	2.8E-09	3.6E-09	2.7E-09	2.8E-09	2.8E-09	2.5E-09	2.7E-09
	total	3.7E-09	2.5E-09	4.0E-09	3.6E-09	4.6E-09	3.5E-09	3.6E-09	3.6E-09	3.3E-09	3.5E-09
Chronic											
-260 §	in utero	4.0E-10	9.5E-11	5.1E-10	4.0E-10	5.1E-10	4.0E-10	4.0E-10	4.0E-10	4.0E-10	4.2E-10
	post natal	1.0E-10	8.4E-11	1.0E-10	9.6E-11	1.2E-10	9.3E-11	9.7E-11	9.4E-11	8.5E-11	9.1E-11
	total	5.0E-10	1.8E-10	6.1E-10	5.0E-10	6.3E-10	4.9E-10	5.0E-10	4.9E-10	4.8E-10	5.1E-10
-52	in utero	1.6E-09	3.9E-10	2.1E-09	1.6E-09	2.1E-09	1.6E-09	1.6E-09	1.6E-09	1.6E-09	1.7E-09
	post natal	4.1E-10	3.4E-10	4.1E-10	3.9E-10	5.0E-10	3.7E-10	3.9E-10	3.8E-10	3.4E-10	3.7E-10
	total	2.0E-09	7.3E-10	2.5E-09	2.0E-09	2.6E-09	2.0E-09	2.0E-09	2.0E-09	1.9E-09	2.1E-09
during	in utero	2.5E-09	3.5E-10	3.4E-09	2.5E-09	3.4E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.6E-09
	post natal	1.7E-09	1.4E-09	1.7E-09	1.6E-09	2.1E-09	1.6E-09	1.6E-09	1.6E-09	1.4E-09	1.5E-09
	total	4.2E-09	1.7E-09	5.1E-09	4.1E-09	5.5E-09	4.1E-09	4.1E-09	4.1E-09	3.9E-09	4.1E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Sr-90
($T_{1/2} = 29.1$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.3$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.9E-11	5.0E-12	1.5E-09	2.9E-11	1.5E-09	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.2E-10
	post natal	3.7E-12	3.7E-12	7.8E-10	3.7E-12	9.8E-10	3.7E-12	3.7E-12	3.7E-12	3.7E-12	1.1E-10
	total	3.3E-11	8.7E-12	2.3E-09	3.3E-11	2.5E-09	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-10
-26	in utero	1.0E-10	2.6E-11	4.9E-09	1.0E-10	4.9E-09	1.0E-10	1.0E-10	1.0E-10	1.0E-10	7.2E-10
	post natal	8.4E-12	8.4E-12	1.8E-09	8.4E-12	2.3E-09	8.4E-12	8.4E-12	8.4E-12	8.4E-12	2.5E-10
	total	1.1E-10	3.4E-11	6.7E-09	1.1E-10	7.2E-09	1.1E-10	1.1E-10	1.1E-10	1.1E-10	9.7E-10
concep ‡	in utero	7.7E-10	1.4E-10	1.3E-08	7.7E-10	1.3E-08	7.7E-10	7.7E-10	7.7E-10	7.7E-10	2.4E-09
	post natal	1.7E-11	1.7E-11	3.7E-09	1.7E-11	4.6E-09	1.7E-11	1.7E-11	1.7E-11	1.7E-11	5.1E-10
	total	7.9E-10	1.6E-10	1.7E-08	7.9E-10	1.8E-08	7.9E-10	7.9E-10	7.9E-10	7.9E-10	2.9E-09
5	in utero	1.4E-09	9.9E-10	2.0E-08	1.4E-09	2.0E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	3.9E-09
	post natal	1.7E-11	1.7E-11	3.8E-09	1.7E-11	4.7E-09	1.7E-11	1.7E-11	1.7E-11	1.7E-11	5.2E-10
	total	1.4E-09	1.0E-09	2.4E-08	1.4E-09	2.5E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	4.4E-09
10	in utero	3.8E-09	2.7E-09	1.2E-07	3.8E-09	1.2E-07	3.8E-09	3.8E-09	3.8E-09	3.8E-09	1.9E-08
	post natal	3.0E-11	3.0E-11	6.6E-09	3.0E-11	8.2E-09	3.0E-11	3.0E-11	3.0E-11	3.0E-11	9.1E-10
	total	3.8E-09	2.7E-09	1.3E-07	3.8E-09	1.3E-07	3.8E-09	3.8E-09	3.8E-09	3.8E-09	2.0E-08
15	in utero	4.6E-09	0.0E+00	2.0E-07	4.6E-09	2.0E-07	4.6E-09	4.6E-09	4.6E-09	4.6E-09	2.9E-08
	post natal	8.3E-11	8.3E-11	1.8E-08	8.3E-11	2.3E-08	8.3E-11	8.3E-11	8.3E-11	8.3E-11	2.5E-09
	total	4.7E-09	8.3E-11	2.2E-07	4.7E-09	2.2E-07	4.7E-09	4.7E-09	4.7E-09	4.7E-09	3.2E-08
25	in utero	2.6E-09	0.0E+00	2.3E-07	2.6E-09	2.3E-07	2.6E-09	2.6E-09	2.6E-09	2.6E-09	3.2E-08
	post natal	3.1E-10	3.1E-10	7.1E-08	3.1E-10	8.8E-08	3.1E-10	3.1E-10	3.1E-10	3.1E-10	9.7E-09
	total	2.9E-09	3.1E-10	3.0E-07	2.9E-09	3.2E-07	2.9E-09	2.9E-09	2.9E-09	2.9E-09	4.2E-08
35	in utero	6.1E-10	0.0E+00	1.1E-07	6.1E-10	1.1E-07	6.1E-10	6.1E-10	6.1E-10	6.1E-10	1.5E-08
	post natal	1.0E-09	1.0E-09	2.3E-07	1.0E-09	2.8E-07	1.0E-09	1.0E-09	1.0E-09	1.0E-09	3.1E-08
	total	1.6E-09	1.0E-09	3.4E-07	1.6E-09	3.9E-07	1.6E-09	1.6E-09	1.6E-09	1.6E-09	4.6E-08
Chronic											
-260 §	in utero	5.2E-11	1.1E-11	2.3E-09	5.2E-11	2.3E-09	5.2E-11	5.2E-11	5.2E-11	5.2E-11	3.5E-10
	post natal	4.7E-12	4.7E-12	1.0E-09	4.7E-12	1.3E-09	4.7E-12	4.7E-12	4.7E-12	4.7E-12	1.4E-10
	total	5.7E-11	1.6E-11	3.3E-09	5.7E-11	3.6E-09	5.7E-11	5.7E-11	5.7E-11	5.7E-11	4.9E-10
-52	in utero	1.5E-10	3.5E-11	5.8E-09	1.5E-10	5.8E-09	1.5E-10	1.5E-10	1.5E-10	1.5E-10	8.8E-10
	post natal	9.4E-12	9.4E-12	2.0E-09	9.4E-12	2.5E-09	9.4E-12	9.4E-12	9.4E-12	9.4E-12	2.8E-10
	total	1.6E-10	4.4E-11	7.8E-09	1.6E-10	8.3E-09	1.6E-10	1.6E-10	1.6E-10	1.6E-10	1.2E-09
during	in utero	2.5E-09	5.6E-10	1.4E-07	2.5E-09	1.4E-07	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.1E-08
	post natal	3.4E-10	3.4E-10	7.1E-08	3.4E-10	8.9E-08	3.4E-10	3.4E-10	3.4E-10	3.4E-10	9.9E-09
	total	2.8E-09	9.0E-10	2.1E-07	2.8E-09	2.3E-07	2.8E-09	2.8E-09	2.8E-09	2.8E-09	3.1E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Sr-90
($T_{1/2} = 29.1$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.01$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.5E-12	8.1E-13	1.9E-10	3.5E-12	1.9E-10	3.5E-12	3.5E-12	3.5E-12	3.5E-12	2.7E-11
	post natal	4.0E-13	4.0E-13	8.6E-11	4.0E-13	1.1E-10	4.0E-13	4.0E-13	4.0E-13	4.0E-13	1.2E-11
	total	3.9E-12	1.2E-12	2.8E-10	3.9E-12	3.0E-10	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-11
-26	in utero	7.3E-12	1.8E-12	3.8E-10	7.3E-12	3.8E-10	7.3E-12	7.3E-12	7.3E-12	7.3E-12	5.5E-11
	post natal	7.7E-13	7.7E-13	1.6E-10	7.7E-13	2.1E-10	7.7E-13	7.7E-13	7.7E-13	7.7E-13	2.3E-11
	total	8.1E-12	2.6E-12	5.4E-10	8.1E-12	5.9E-10	8.1E-12	8.1E-12	8.1E-12	8.1E-12	7.8E-11
concep ‡	in utero	1.9E-11	4.5E-12	5.9E-10	1.9E-11	5.9E-10	1.9E-11	1.9E-11	1.9E-11	1.9E-11	9.4E-11
	post natal	1.0E-12	1.0E-12	2.2E-10	1.0E-12	2.8E-10	1.0E-12	1.0E-12	1.0E-12	1.0E-12	3.1E-11
	total	2.0E-11	5.5E-12	8.1E-10	2.0E-11	8.7E-10	2.0E-11	2.0E-11	2.0E-11	2.0E-11	1.3E-10
5	in utero	3.1E-11	1.8E-11	7.9E-10	3.1E-11	7.9E-10	3.1E-11	3.1E-11	3.1E-11	3.1E-11	1.3E-10
	post natal	1.1E-12	1.1E-12	2.4E-10	1.1E-12	3.0E-10	1.1E-12	1.1E-12	1.1E-12	1.1E-12	3.3E-11
	total	3.2E-11	1.9E-11	1.0E-09	3.2E-11	1.1E-09	3.2E-11	3.2E-11	3.2E-11	3.2E-11	1.6E-10
10	in utero	7.1E-11	4.4E-11	2.5E-09	7.1E-11	2.5E-09	7.1E-11	7.1E-11	7.1E-11	7.1E-11	3.9E-10
	post natal	1.4E-12	1.4E-12	3.1E-10	1.4E-12	3.9E-10	1.4E-12	1.4E-12	1.4E-12	1.4E-12	4.3E-11
	total	7.2E-11	4.6E-11	2.8E-09	7.2E-11	2.9E-09	7.2E-11	7.2E-11	7.2E-11	7.2E-11	4.3E-10
15	in utero	9.0E-11	0.0E+00	4.1E-09	9.0E-11	4.1E-09	9.0E-11	9.0E-11	9.0E-11	9.0E-11	6.0E-10
	post natal	2.6E-12	2.6E-12	5.7E-10	2.6E-12	7.1E-10	2.6E-12	2.6E-12	2.6E-12	2.6E-12	7.9E-11
	total	9.3E-11	2.6E-12	4.7E-09	9.3E-11	4.8E-09	9.3E-11	9.3E-11	9.3E-11	9.3E-11	6.8E-10
25	in utero	6.0E-11	0.0E+00	5.3E-09	6.0E-11	5.3E-09	6.0E-11	6.0E-11	6.0E-11	6.0E-11	7.4E-10
	post natal	8.1E-12	8.1E-12	1.9E-09	8.1E-12	2.3E-09	8.1E-12	8.1E-12	8.1E-12	8.1E-12	2.6E-10
	total	6.8E-11	8.1E-12	7.2E-09	6.8E-11	7.6E-09	6.8E-11	6.8E-11	6.8E-11	6.8E-11	1.0E-09
35	in utero	1.3E-11	0.0E+00	2.5E-09	1.3E-11	2.5E-09	1.3E-11	1.3E-11	1.3E-11	1.3E-11	3.3E-10
	post natal	2.3E-11	2.3E-11	5.2E-09	2.3E-11	6.5E-09	2.3E-11	2.3E-11	2.3E-11	2.3E-11	7.1E-10
	total	3.6E-11	2.3E-11	7.7E-09	3.6E-11	9.0E-09	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.0E-09
Chronic											
-260 §	in utero	4.3E-12	1.0E-12	2.2E-10	4.3E-12	2.2E-10	4.3E-12	4.3E-12	4.3E-12	4.3E-12	3.2E-11
	post natal	4.6E-13	4.6E-13	9.8E-11	4.6E-13	1.2E-10	4.6E-13	4.6E-13	4.6E-13	4.6E-13	1.4E-11
	total	4.8E-12	1.5E-12	3.2E-10	4.8E-12	3.4E-10	4.8E-12	4.8E-12	4.8E-12	4.8E-12	4.6E-11
-52	in utero	8.1E-12	2.0E-12	4.0E-10	8.1E-12	4.0E-10	8.1E-12	8.1E-12	8.1E-12	8.1E-12	5.9E-11
	post natal	7.9E-13	7.9E-13	1.7E-10	7.9E-13	2.1E-10	7.9E-13	7.9E-13	7.9E-13	7.9E-13	2.3E-11
	total	8.9E-12	2.8E-12	5.7E-10	8.9E-12	6.1E-10	8.9E-12	8.9E-12	8.9E-12	8.9E-12	8.2E-11
during	in utero	5.2E-11	9.6E-12	3.2E-09	5.2E-11	3.2E-09	5.2E-11	5.2E-11	5.2E-11	5.2E-11	4.7E-10
	post natal	8.3E-12	8.3E-12	1.8E-09	8.3E-12	2.2E-09	8.3E-12	8.3E-12	8.3E-12	8.3E-12	2.4E-10
	total	6.0E-11	1.8E-11	5.0E-09	6.0E-11	5.4E-09	6.0E-11	6.0E-11	6.0E-11	6.0E-11	7.1E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Sr-90
($T_{1/2} = 29.1$ y) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.6E-11	4.5E-12	1.3E-09	2.6E-11	1.3E-09	2.6E-11	2.6E-11	2.6E-11	2.6E-11	1.9E-10
	post natal	3.3E-12	3.3E-12	7.0E-10	3.3E-12	8.7E-10	3.3E-12	3.3E-12	3.3E-12	3.3E-12	9.6E-11
	total	2.9E-11	7.8E-12	2.0E-09	2.9E-11	2.2E-09	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-10
-26	in utero	9.3E-11	2.3E-11	4.3E-09	9.3E-11	4.3E-09	9.3E-11	9.3E-11	9.3E-11	9.3E-11	6.4E-10
	post natal	7.4E-12	7.4E-12	1.6E-09	7.4E-12	2.0E-09	7.4E-12	7.4E-12	7.4E-12	7.4E-12	2.2E-10
	total	1.0E-10	3.1E-11	5.9E-09	1.0E-10	6.3E-09	1.0E-10	1.0E-10	1.0E-10	1.0E-10	8.6E-10
concep ‡	in utero	6.9E-10	1.3E-10	1.2E-08	6.9E-10	1.2E-08	6.9E-10	6.9E-10	6.9E-10	6.9E-10	2.1E-09
	post natal	1.5E-11	1.5E-11	3.3E-09	1.5E-11	4.1E-09	1.5E-11	1.5E-11	1.5E-11	1.5E-11	4.5E-10
	total	7.1E-10	1.4E-10	1.5E-08	7.1E-10	1.6E-08	7.1E-10	7.1E-10	7.1E-10	7.1E-10	2.5E-09
5	in utero	1.4E-09	9.9E-10	2.0E-08	1.4E-09	2.0E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	3.8E-09
	post natal	1.7E-11	1.7E-11	3.7E-09	1.7E-11	4.7E-09	1.7E-11	1.7E-11	1.7E-11	1.7E-11	5.2E-10
	total	1.4E-09	1.0E-09	2.4E-08	1.4E-09	2.5E-08	1.4E-09	1.4E-09	1.4E-09	1.4E-09	4.3E-09
10	in utero	4.1E-09	2.9E-09	1.3E-07	4.1E-09	1.3E-07	4.1E-09	4.1E-09	4.1E-09	4.1E-09	2.0E-08
	post natal	3.2E-11	3.2E-11	7.1E-09	3.2E-11	8.9E-09	3.2E-11	3.2E-11	3.2E-11	3.2E-11	9.8E-10
	total	4.1E-09	2.9E-09	1.4E-07	4.1E-09	1.4E-07	4.1E-09	4.1E-09	4.1E-09	4.1E-09	2.1E-08
15	in utero	5.5E-09	0.0E+00	2.4E-07	5.5E-09	2.4E-07	5.5E-09	5.5E-09	5.5E-09	5.5E-09	3.6E-08
	post natal	1.0E-10	1.0E-10	2.2E-08	1.0E-10	2.8E-08	1.0E-10	1.0E-10	1.0E-10	1.0E-10	3.1E-09
	total	5.6E-09	1.0E-10	2.6E-07	5.6E-09	2.7E-07	5.6E-09	5.6E-09	5.6E-09	5.6E-09	3.9E-08
25	in utero	3.9E-09	0.0E+00	3.4E-07	3.9E-09	3.4E-07	3.9E-09	3.9E-09	3.9E-09	3.9E-09	4.8E-08
	post natal	4.6E-10	4.6E-10	1.1E-07	4.6E-10	1.3E-07	4.6E-10	4.6E-10	4.6E-10	4.6E-10	1.5E-08
	total	4.4E-09	4.6E-10	4.5E-07	4.4E-09	4.7E-07	4.4E-09	4.4E-09	4.4E-09	4.4E-09	6.3E-08
35	in utero	9.1E-10	0.0E+00	1.7E-07	9.1E-10	1.7E-07	9.1E-10	9.1E-10	9.1E-10	9.1E-10	2.3E-08
	post natal	1.5E-09	1.5E-09	3.4E-07	1.5E-09	4.3E-07	1.5E-09	1.5E-09	1.5E-09	1.5E-09	4.7E-08
	total	2.4E-09	1.5E-09	5.1E-07	2.4E-09	6.0E-07	2.4E-09	2.4E-09	2.4E-09	2.4E-09	7.0E-08
Chronic											
-260 §	in utero	4.6E-11	9.8E-12	2.1E-09	4.6E-11	2.1E-09	4.6E-11	4.6E-11	4.6E-11	4.6E-11	3.1E-10
	post natal	4.2E-12	4.2E-12	8.9E-10	4.2E-12	1.1E-09	4.2E-12	4.2E-12	4.2E-12	4.2E-12	1.2E-10
	total	5.0E-11	1.4E-11	3.0E-09	5.0E-11	3.2E-09	5.0E-11	5.0E-11	5.0E-11	5.0E-11	4.3E-10
-52	in utero	1.3E-10	3.1E-11	5.1E-09	1.3E-10	5.1E-09	1.3E-10	1.3E-10	1.3E-10	1.3E-10	7.8E-10
	post natal	8.3E-12	8.3E-12	1.8E-09	8.3E-12	2.2E-09	8.3E-12	8.3E-12	8.3E-12	8.3E-12	2.5E-10
	total	1.4E-10	3.9E-11	6.9E-09	1.4E-10	7.3E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.0E-09
during	in utero	3.2E-09	6.0E-10	2.0E-07	3.2E-09	2.0E-07	3.2E-09	3.2E-09	3.2E-09	3.2E-09	2.8E-08
	post natal	4.9E-10	4.9E-10	1.0E-07	4.9E-10	1.3E-07	4.9E-10	4.9E-10	4.9E-10	4.9E-10	1.5E-08
	total	3.7E-09	1.1E-09	3.0E-07	3.7E-09	3.3E-07	3.7E-09	3.7E-09	3.7E-09	3.7E-09	4.3E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Sr-90
($T_{1/2} = 29.1$ y) by the mother

Ingestion: $f_1 = 0.01$ (Strontium titanate)											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	8.5E-13	1.5E-13	4.4E-11	8.5E-13	4.4E-11	8.5E-13	8.5E-13	8.5E-13	8.5E-13	6.5E-12
	post natal	1.1E-13	1.1E-13	2.3E-11	1.1E-13	2.9E-11	1.1E-13	1.1E-13	1.1E-13	1.1E-13	3.2E-12
	total	9.6E-13	2.6E-13	6.7E-11	9.6E-13	7.3E-11	9.6E-13	9.6E-13	9.6E-13	9.6E-13	9.7E-12
-26	in utero	3.1E-12	7.7E-13	1.4E-10	3.1E-12	1.4E-10	3.1E-12	3.1E-12	3.1E-12	3.1E-12	2.1E-11
	post natal	2.5E-13	2.5E-13	5.3E-11	2.5E-13	6.7E-11	2.5E-13	2.5E-13	2.5E-13	2.5E-13	7.4E-12
	total	3.4E-12	1.0E-12	1.9E-10	3.4E-12	2.1E-10	3.4E-12	3.4E-12	3.4E-12	3.4E-12	2.8E-11
concep ‡	in utero	2.3E-11	4.2E-12	3.9E-10	2.3E-11	3.9E-10	2.3E-11	2.3E-11	2.3E-11	2.3E-11	7.0E-11
	post natal	5.0E-13	5.0E-13	1.1E-10	5.0E-13	1.4E-10	5.0E-13	5.0E-13	5.0E-13	5.0E-13	1.5E-11
	total	2.3E-11	4.7E-12	5.0E-10	2.3E-11	5.3E-10	2.3E-11	2.3E-11	2.3E-11	2.3E-11	8.5E-11
5	in utero	4.8E-11	3.3E-11	6.6E-10	4.8E-11	6.6E-10	4.8E-11	4.8E-11	4.8E-11	4.8E-11	1.3E-10
	post natal	5.7E-13	5.7E-13	1.2E-10	5.7E-13	1.6E-10	5.7E-13	5.7E-13	5.7E-13	5.7E-13	1.7E-11
	total	4.9E-11	3.4E-11	7.8E-10	4.9E-11	8.2E-10	4.9E-11	4.9E-11	4.9E-11	4.9E-11	1.5E-10
10	in utero	1.4E-10	9.6E-11	4.3E-09	1.4E-10	4.3E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	6.8E-10
	post natal	1.1E-12	1.1E-12	2.4E-10	1.1E-12	3.0E-10	1.1E-12	1.1E-12	1.1E-12	1.1E-12	3.3E-11
	total	1.4E-10	9.7E-11	4.5E-09	1.4E-10	4.6E-09	1.4E-10	1.4E-10	1.4E-10	1.4E-10	7.1E-10
15	in utero	1.9E-10	0.0E+00	7.9E-09	1.9E-10	7.9E-09	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.2E-09
	post natal	3.4E-12	3.4E-12	7.5E-10	3.4E-12	9.3E-10	3.4E-12	3.4E-12	3.4E-12	3.4E-12	1.0E-10
	total	1.9E-10	3.4E-12	8.6E-09	1.9E-10	8.8E-09	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.3E-09
25	in utero	1.3E-10	0.0E+00	1.1E-08	1.3E-10	1.1E-08	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.6E-09
	post natal	1.5E-11	1.5E-11	3.5E-09	1.5E-11	4.4E-09	1.5E-11	1.5E-11	1.5E-11	1.5E-11	4.9E-10
	total	1.4E-10	1.5E-11	1.5E-08	1.4E-10	1.5E-08	1.4E-10	1.4E-10	1.4E-10	1.4E-10	2.1E-09
35	in utero	3.0E-11	0.0E+00	5.6E-09	3.0E-11	5.6E-09	3.0E-11	3.0E-11	3.0E-11	3.0E-11	7.5E-10
	post natal	5.0E-11	5.0E-11	1.1E-08	5.0E-11	1.4E-08	5.0E-11	5.0E-11	5.0E-11	5.0E-11	1.6E-09
	total	8.0E-11	5.0E-11	1.7E-08	8.0E-11	2.0E-08	8.0E-11	8.0E-11	8.0E-11	8.0E-11	2.3E-09
Chronic											
-260 §	in utero	1.5E-12	3.3E-13	6.9E-11	1.5E-12	6.9E-11	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.0E-11
	post natal	1.4E-13	1.4E-13	3.0E-11	1.4E-13	3.7E-11	1.4E-13	1.4E-13	1.4E-13	1.4E-13	4.1E-12
	total	1.6E-12	4.7E-13	9.9E-11	1.6E-12	1.1E-10	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.4E-11
-52	in utero	4.4E-12	1.0E-12	1.7E-10	4.4E-12	1.7E-10	4.4E-12	4.4E-12	4.4E-12	4.4E-12	2.6E-11
	post natal	2.8E-13	2.8E-13	6.0E-11	2.8E-13	7.5E-11	2.8E-13	2.8E-13	2.8E-13	2.8E-13	8.3E-12
	total	4.7E-12	1.3E-12	2.3E-10	4.7E-12	2.4E-10	4.7E-12	4.7E-12	4.7E-12	4.7E-12	3.4E-11
during	in utero	1.1E-10	2.0E-11	6.5E-09	1.1E-10	6.5E-09	1.1E-10	1.1E-10	1.1E-10	1.1E-10	9.4E-10
	post natal	1.6E-11	1.6E-11	3.5E-09	1.6E-11	4.4E-09	1.6E-11	1.6E-11	1.6E-11	1.6E-11	4.8E-10
	total	1.3E-10	3.6E-11	1.0E-08	1.3E-10	1.1E-08	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.4E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Tc-99m
($T_{1/2} = 6.02$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.8$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-32	2.7E-33	1.5E-32	1.5E-31	1.5E-32	1.5E-32	1.5E-32	1.5E-32	1.5E-32	3.8E-32
	post natal	1.3E-36	1.3E-36	1.3E-36	9.8E-36	1.3E-36	1.3E-36	1.3E-36	1.3E-36	1.3E-36	1.3E-35
	total	1.5E-32	2.7E-33	1.5E-32	1.5E-31	1.5E-32	1.5E-32	1.5E-32	1.5E-32	1.5E-32	3.8E-32
-26	in utero	1.5E-22	2.6E-23	1.5E-22	1.4E-21	1.5E-22	1.5E-22	1.5E-22	1.5E-22	1.5E-22	3.7E-22
	post natal	1.3E-26	1.3E-26	1.3E-26	9.5E-26	1.3E-26	1.3E-26	1.3E-26	1.3E-26	1.3E-26	1.2E-25
	total	1.5E-22	2.6E-23	1.5E-22	1.4E-21	1.5E-22	1.5E-22	1.5E-22	1.5E-22	1.5E-22	3.7E-22
concep ‡	in utero	3.8E-12	8.3E-21	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12
	post natal	4.1E-24	4.1E-24	4.1E-24	3.0E-23	4.1E-24	4.2E-24	4.1E-24	4.1E-24	4.1E-24	3.9E-23
	total	3.8E-12	8.3E-21	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12
5	in utero	3.6E-12	2.8E-20	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12
	post natal	1.2E-23	1.2E-23	1.2E-23	9.1E-23	1.2E-23	1.3E-23	1.2E-23	1.2E-23	1.2E-23	1.2E-22
	total	3.6E-12	2.8E-20	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12	3.6E-12
10	in utero	3.5E-12	3.5E-12	3.5E-12	2.1E-11	3.5E-12	3.4E-12	3.5E-12	3.5E-12	3.5E-12	7.2E-12
	post natal	3.7E-23	3.7E-23	3.7E-23	2.7E-22	3.7E-23	3.8E-23	3.7E-23	3.7E-23	3.7E-23	3.6E-22
	total	3.5E-12	3.5E-12	3.5E-12	2.1E-11	3.5E-12	3.4E-12	3.5E-12	3.5E-12	3.5E-12	7.2E-12
15	in utero	3.3E-12	0.0E+00	3.3E-12	4.5E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	8.4E-12
	post natal	1.1E-22	1.1E-22	1.1E-22	8.3E-22	1.1E-22	1.1E-22	1.1E-22	1.1E-22	1.1E-22	1.1E-21
	total	3.3E-12	1.1E-22	3.3E-12	4.5E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	8.4E-12
25	in utero	3.3E-12	0.0E+00	3.3E-12	5.7E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	9.0E-12
	post natal	1.0E-21	1.0E-21	1.0E-21	7.5E-21	1.0E-21	1.0E-21	1.0E-21	1.0E-21	1.0E-21	9.7E-21
	total	3.3E-12	1.0E-21	3.3E-12	5.7E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	9.0E-12
35	in utero	3.0E-12	0.0E+00	3.0E-12	5.6E-11	3.0E-12	3.0E-12	3.0E-12	3.0E-12	3.0E-12	8.7E-12
	post natal	1.1E-20	1.1E-20	1.1E-20	7.9E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.1E-20	1.0E-19
	total	3.0E-12	1.1E-20	3.0E-12	5.6E-11	3.0E-12	3.0E-12	3.0E-12	3.0E-12	3.0E-12	8.7E-12
Chronic											
-260 §	in utero	7.3E-16	1.4E-22	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16
	post natal	7.1E-26	7.1E-26	7.1E-26	5.3E-25	7.1E-26	7.2E-26	7.1E-26	7.1E-26	7.1E-26	6.8E-25
	total	7.3E-16	1.4E-22	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16	7.3E-16
-52	in utero	3.7E-15	7.2E-22	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15
	post natal	3.6E-25	3.6E-25	3.6E-25	2.6E-24	3.6E-25	3.6E-25	3.6E-25	3.6E-25	3.6E-25	3.4E-24
	total	3.7E-15	7.2E-22	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15
during	in utero	3.3E-12	7.2E-13	3.3E-12	3.8E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	7.5E-12
	post natal	1.8E-15	1.3E-15	1.3E-15	5.7E-14	2.0E-15	1.7E-15	1.5E-15	1.8E-15	1.4E-15	9.3E-15
	total	3.3E-12	7.2E-13	3.3E-12	3.8E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	7.5E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Tc-99m
($T_{1/2} = 6.02$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.8$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.9E-23	1.1E-23	3.9E-23	2.2E-21	3.9E-23	3.7E-23	3.9E-23	3.9E-23	3.9E-23	3.1E-22
	post natal	7.7E-25	7.7E-25	7.7E-25	5.7E-24	7.7E-25	7.8E-25	7.7E-25	7.7E-25	7.7E-25	7.4E-24
	total	4.0E-23	1.1E-23	4.0E-23	2.2E-21	4.0E-23	3.8E-23	4.0E-23	4.0E-23	4.0E-23	3.2E-22
-26	in utero	2.9E-21	7.7E-22	2.9E-21	1.5E-19	2.9E-21	2.7E-21	2.9E-21	2.9E-21	2.9E-21	2.2E-20
	post natal	5.2E-23	5.2E-23	5.2E-23	3.9E-22	5.2E-23	5.3E-23	5.2E-23	5.2E-23	5.2E-23	5.0E-22
	total	3.0E-21	8.2E-22	3.0E-21	1.5E-19	3.0E-21	2.8E-21	3.0E-21	3.0E-21	3.0E-21	2.2E-20
concep ‡	in utero	3.9E-12	1.0E-20	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12
	post natal	1.6E-22	1.6E-22	1.6E-22	1.2E-21	1.6E-22	1.6E-22	1.6E-22	1.6E-22	1.6E-22	1.5E-21
	total	3.9E-12	1.0E-20	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12	3.9E-12
5	in utero	3.8E-12	2.7E-20	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12
	post natal	2.0E-22	2.0E-22	2.0E-22	1.5E-21	2.0E-22	2.1E-22	2.0E-22	2.0E-22	2.0E-22	2.0E-21
	total	3.8E-12	2.7E-20	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12	3.8E-12
10	in utero	3.6E-12	3.6E-12	3.6E-12	1.6E-11	3.6E-12	3.5E-12	3.6E-12	3.6E-12	3.6E-12	6.1E-12
	post natal	2.8E-22	2.8E-22	2.8E-22	2.0E-21	2.8E-22	2.8E-22	2.8E-22	2.8E-22	2.8E-22	2.7E-21
	total	3.6E-12	3.6E-12	3.6E-12	1.6E-11	3.6E-12	3.5E-12	3.6E-12	3.6E-12	3.6E-12	6.1E-12
15	in utero	3.4E-12	0.0E+00	3.4E-12	3.2E-11	3.4E-12	3.4E-12	3.4E-12	3.4E-12	3.4E-12	6.9E-12
	post natal	4.1E-22	4.1E-22	4.1E-22	3.0E-21	4.1E-22	4.2E-22	4.1E-22	4.1E-22	4.1E-22	4.0E-21
	total	3.4E-12	4.1E-22	3.4E-12	3.2E-11	3.4E-12	3.4E-12	3.4E-12	3.4E-12	3.4E-12	6.9E-12
25	in utero	3.3E-12	0.0E+00	3.3E-12	4.0E-11	3.3E-12	3.2E-12	3.3E-12	3.3E-12	3.3E-12	7.2E-12
	post natal	1.4E-21	1.4E-21	1.4E-21	1.1E-20	1.4E-21	1.5E-21	1.4E-21	1.4E-21	1.4E-21	1.4E-20
	total	3.3E-12	1.4E-21	3.3E-12	4.0E-11	3.3E-12	3.2E-12	3.3E-12	3.3E-12	3.3E-12	7.2E-12
35	in utero	2.7E-12	0.0E+00	2.7E-12	3.9E-11	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	6.7E-12
	post natal	9.9E-21	9.9E-21	9.9E-21	7.3E-20	9.9E-21	1.0E-20	9.9E-21	9.9E-21	9.9E-21	9.5E-20
	total	2.7E-12	9.9E-21	2.7E-12	3.9E-11	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	6.7E-12
Chronic											
-260 §	in utero	7.2E-16	3.5E-22	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16
	post natal	1.4E-23	1.4E-23	1.4E-23	1.1E-22	1.4E-23	1.5E-23	1.4E-23	1.4E-23	1.4E-23	1.4E-22
	total	7.2E-16	3.6E-22	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16	7.2E-16
-52	in utero	3.6E-15	1.6E-21	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15
	post natal	6.4E-23	6.4E-23	6.4E-23	4.7E-22	6.4E-23	6.5E-23	6.4E-23	6.4E-23	6.4E-23	6.1E-22
	total	3.6E-15	1.7E-21	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15	3.6E-15
during	in utero	3.3E-12	7.4E-13	3.3E-12	2.7E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	6.2E-12
	post natal	1.2E-15	8.7E-16	8.8E-16	3.9E-14	1.3E-15	1.1E-15	1.1E-15	1.2E-15	9.6E-16	6.4E-15
	total	3.3E-12	7.4E-13	3.3E-12	2.7E-11	3.3E-12	3.3E-12	3.3E-12	3.3E-12	3.3E-12	6.2E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Tc-99m
($T_{1/2} = 6.02$ h) by the mother

Ingestion: $f_1 = 0.8$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.8E-32	4.9E-33	2.8E-32	2.7E-31	2.8E-32	2.7E-32	2.8E-32	2.8E-32	2.8E-32	6.9E-32
	post natal	2.4E-36	2.4E-36	2.4E-36	1.8E-35	2.4E-36	2.5E-36	2.4E-36	2.4E-36	2.4E-36	2.3E-35
	total	2.8E-32	4.9E-33	2.8E-32	2.7E-31	2.8E-32	2.7E-32	2.8E-32	2.8E-32	2.8E-32	6.9E-32
-26	in utero	2.7E-22	4.8E-23	2.7E-22	2.6E-21	2.7E-22	2.7E-22	2.7E-22	2.7E-22	2.7E-22	6.7E-22
	post natal	2.4E-26	2.4E-26	2.4E-26	1.7E-25	2.4E-26	2.4E-26	2.4E-26	2.4E-26	2.4E-26	2.2E-25
	total	2.7E-22	4.8E-23	2.7E-22	2.6E-21	2.7E-22	2.7E-22	2.7E-22	2.7E-22	2.7E-22	6.7E-22
concep ‡	in utero	9.7E-12	1.5E-20	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12
	post natal	7.5E-24	7.5E-24	7.5E-24	5.5E-23	7.5E-24	7.6E-24	7.5E-24	7.5E-24	7.5E-24	7.2E-23
	total	9.7E-12	1.5E-20	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12	9.7E-12
5	in utero	9.4E-12	5.0E-20	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12
	post natal	2.3E-23	2.3E-23	2.3E-23	1.7E-22	2.3E-23	2.3E-23	2.3E-23	2.3E-23	2.3E-23	2.2E-22
	total	9.4E-12	5.0E-20	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12	9.4E-12
10	in utero	8.8E-12	8.8E-12	8.8E-12	3.8E-11	8.8E-12	8.7E-12	8.8E-12	8.8E-12	8.8E-12	1.5E-11
	post natal	6.8E-23	6.8E-23	6.8E-23	5.0E-22	6.8E-23	6.9E-23	6.8E-23	6.8E-23	6.8E-23	6.5E-22
	total	8.8E-12	8.8E-12	8.8E-12	3.8E-11	8.8E-12	8.7E-12	8.8E-12	8.8E-12	8.8E-12	1.5E-11
15	in utero	8.5E-12	0.0E+00	8.5E-12	7.7E-11	8.5E-12	8.4E-12	8.5E-12	8.5E-12	8.5E-12	1.7E-11
	post natal	2.0E-22	2.0E-22	2.0E-22	1.5E-21	2.0E-22	2.1E-22	2.0E-22	2.0E-22	2.0E-22	2.0E-21
	total	8.5E-12	2.0E-22	8.5E-12	7.7E-11	8.5E-12	8.4E-12	8.5E-12	8.5E-12	8.5E-12	1.7E-11
25	in utero	8.0E-12	0.0E+00	8.0E-12	9.5E-11	8.0E-12	8.0E-12	8.0E-12	8.0E-12	8.0E-12	1.7E-11
	post natal	1.9E-21	1.9E-21	1.9E-21	1.4E-20	1.9E-21	1.9E-21	1.9E-21	1.9E-21	1.9E-21	1.8E-20
	total	8.0E-12	1.9E-21	8.0E-12	9.5E-11	8.0E-12	8.0E-12	8.0E-12	8.0E-12	8.0E-12	1.7E-11
35	in utero	6.7E-12	0.0E+00	6.7E-12	9.2E-11	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	1.6E-11
	post natal	2.0E-20	2.0E-20	2.0E-20	1.4E-19	2.0E-20	2.0E-20	2.0E-20	2.0E-20	2.0E-20	1.9E-19
	total	6.7E-12	2.0E-20	6.7E-12	9.2E-11	6.7E-12	6.7E-12	6.7E-12	6.7E-12	6.7E-12	1.6E-11
Chronic											
-260 §	in utero	1.7E-15	2.6E-22	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15
	post natal	1.3E-25	1.3E-25	1.3E-25	9.6E-25	1.3E-25	1.3E-25	1.3E-25	1.3E-25	1.3E-25	1.2E-24
	total	1.7E-15	2.6E-22	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15	1.7E-15
-52	in utero	8.6E-15	1.3E-21	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15
	post natal	6.5E-25	6.5E-25	6.5E-25	4.8E-24	6.5E-25	6.6E-25	6.5E-25	6.5E-25	6.5E-25	6.2E-24
	total	8.6E-15	1.3E-21	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15	8.6E-15
during	in utero	8.2E-12	1.8E-12	8.2E-12	6.5E-11	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	1.5E-11
	post natal	3.0E-15	2.1E-15	2.1E-15	9.3E-14	3.2E-15	2.7E-15	2.5E-15	2.9E-15	2.3E-15	1.5E-14
	total	8.2E-12	1.9E-12	8.2E-12	6.5E-11	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	1.5E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ru-106
($T_{1/2} = 1.01$ y) by the mother

Inhalation of ruthenium tetroxide vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.1E-10	3.0E-11	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12
	total	2.1E-10	3.2E-11	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
-26	in utero	1.4E-09	2.0E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
	post natal	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11
	total	1.4E-09	2.2E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
concep ‡	in utero	6.0E-09	7.8E-10	6.0E-09	6.0E-09	6.0E-09	6.0E-09	6.0E-09	6.0E-09	6.0E-09	6.0E-09
	post natal	5.2E-10	5.1E-10	5.1E-10	5.2E-10	5.2E-10	5.2E-10	5.2E-10	5.2E-10	5.1E-10	5.2E-10
	total	6.5E-09	1.3E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09
5	in utero	4.1E-09	1.2E-09	4.1E-09	4.1E-09	4.1E-09	4.1E-09	4.1E-09	4.1E-09	4.1E-09	4.1E-09
	post natal	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10	5.7E-10
	total	4.7E-09	1.8E-09	4.7E-09	4.7E-09	4.7E-09	4.7E-09	4.7E-09	4.7E-09	4.7E-09	4.7E-09
10	in utero	2.0E-09	7.7E-10	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
	post natal	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.3E-10	6.4E-10
	total	2.6E-09	1.4E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09
15	in utero	1.8E-09	0.0E+00	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
	post natal	7.2E-10	7.1E-10	7.1E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.1E-10	7.2E-10
	total	2.5E-09	7.1E-10	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09
25	in utero	1.3E-09	0.0E+00	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
	post natal	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09	1.0E-09
	total	2.3E-09	1.0E-09	2.3E-09	2.3E-09	2.3E-09	2.3E-09	2.3E-09	2.3E-09	2.3E-09	2.3E-09
35	in utero	5.3E-10	0.0E+00	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10
	post natal	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09
	total	2.7E-09	2.2E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09
Chronic											
-260 §	in utero	5.3E-10	7.0E-11	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10	5.3E-10
	post natal	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12	5.4E-12
	total	5.4E-10	7.6E-11	5.4E-10	5.4E-10	5.4E-10	5.4E-10	5.4E-10	5.4E-10	5.4E-10	5.4E-10
-52	in utero	1.7E-09	2.2E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
	post natal	1.7E-11	1.7E-11	1.6E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11
	total	1.7E-09	2.4E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
during	in utero	2.0E-09	3.4E-10	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
	post natal	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	total	3.1E-09	1.4E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ru-106
($T_{1/2} = 1.01$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.05$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.2E-10	1.6E-11	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
	post natal	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12
	total	1.2E-10	1.8E-11	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
-26	in utero	7.9E-10	1.1E-10	7.9E-10	7.9E-10	7.9E-10	7.9E-10	7.9E-10	7.9E-10	7.9E-10	7.9E-10
	post natal	8.8E-12	8.7E-12	8.7E-12	8.8E-12	8.7E-12	8.8E-12	8.7E-12	8.7E-12	8.7E-12	8.8E-12
	total	8.0E-10	1.2E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10	8.0E-10
concep ‡	in utero	3.3E-09	4.3E-10	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09
	post natal	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.9E-10
	total	3.6E-09	7.1E-10	3.6E-09	3.6E-09	3.6E-09	3.6E-09	3.6E-09	3.6E-09	3.6E-09	3.6E-09
5	in utero	2.2E-09	6.7E-10	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09	2.2E-09
	post natal	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10
	total	2.5E-09	9.8E-10	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09
10	in utero	1.1E-09	4.1E-10	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	post natal	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10
	total	1.5E-09	7.6E-10	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
15	in utero	9.9E-10	0.0E+00	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10
	post natal	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	4.0E-10
	total	1.4E-09	3.9E-10	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09	1.4E-09
25	in utero	7.2E-10	0.0E+00	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10	7.2E-10
	post natal	5.6E-10	5.5E-10	5.5E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.5E-10	5.6E-10
	total	1.3E-09	5.5E-10	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09	1.3E-09
35	in utero	2.9E-10	0.0E+00	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09
	total	1.5E-09	1.2E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09
Chronic											
-260 §	in utero	2.9E-10	3.9E-11	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	3.0E-12	2.9E-12	2.9E-12	3.0E-12	3.0E-12	3.0E-12	3.0E-12	3.0E-12	2.9E-12	3.0E-12
	total	2.9E-10	4.1E-11	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
-52	in utero	9.5E-10	1.2E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10	9.5E-10
	post natal	9.1E-12	9.1E-12	9.0E-12	9.1E-12	9.1E-12	9.1E-12	9.1E-12	9.1E-12	9.1E-12	9.2E-12
	total	9.6E-10	1.3E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10	9.6E-10
during	in utero	1.1E-09	1.9E-10	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.1E-09
	post natal	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	6.0E-10
	total	1.7E-09	7.8E-10	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ru-106
($T_{1/2} = 1.01$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.05$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.4E-11	4.8E-12	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
	post natal	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13	3.9E-13
	total	3.4E-11	5.2E-12	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11
-26	in utero	2.2E-10	3.1E-11	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
	post natal	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12	2.5E-12
	total	2.2E-10	3.4E-11	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10
concep ‡	in utero	7.3E-10	1.0E-10	7.3E-10	7.3E-10	7.3E-10	7.3E-10	7.3E-10	7.3E-10	7.3E-10	7.3E-10
	post natal	8.0E-11	7.9E-11	7.9E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	7.9E-11	8.0E-11
	total	8.1E-10	1.8E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10	8.1E-10
5	in utero	5.1E-10	1.4E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10
	post natal	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.7E-11	8.8E-11
	total	6.0E-10	2.2E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10	6.0E-10
10	in utero	2.9E-10	1.2E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10	2.9E-10
	post natal	9.6E-11	9.5E-11	9.5E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.6E-11	9.5E-11	9.7E-11
	total	3.9E-10	2.2E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10	3.9E-10
15	in utero	2.6E-10	0.0E+00	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.6E-10
	post natal	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	total	3.7E-10	1.1E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10	3.7E-10
25	in utero	1.9E-10	0.0E+00	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10
	post natal	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	total	3.3E-10	1.4E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10	3.3E-10
35	in utero	7.5E-11	0.0E+00	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11
	post natal	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10	2.3E-10
	total	3.0E-10	2.3E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
Chronic											
-260 §	in utero	7.9E-11	1.1E-11	7.9E-11	7.9E-11	7.9E-11	7.9E-11	7.9E-11	7.9E-11	7.9E-11	7.9E-11
	post natal	8.6E-13	8.5E-13	8.5E-13	8.6E-13	8.5E-13	8.6E-13	8.5E-13	8.5E-13	8.5E-13	8.6E-13
	total	8.0E-11	1.2E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11	8.0E-11
-52	in utero	2.5E-10	3.4E-11	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10
	post natal	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12	2.6E-12
	total	2.5E-10	3.6E-11	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10
during	in utero	2.7E-10	4.7E-11	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10
	post natal	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	total	4.1E-10	1.9E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10	4.1E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ru-106
($T_{1/2} = 1.01$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.05$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.2E-11	1.8E-12	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
	post natal	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
	total	1.2E-11	1.9E-12	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11
-26	in utero	7.5E-11	1.1E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11	7.5E-11
	post natal	7.7E-13	7.6E-13	7.6E-13	7.7E-13	7.6E-13	7.6E-13	7.6E-13	7.6E-13	7.6E-13	7.7E-13
	total	7.6E-11	1.2E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11	7.6E-11
concep ‡	in utero	3.2E-10	3.8E-11	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10
	post natal	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.4E-11
	total	3.4E-10	6.2E-11	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10	3.4E-10
5	in utero	2.4E-10	5.7E-11	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10	2.4E-10
	post natal	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11	2.6E-11
	total	2.7E-10	8.3E-11	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10	2.7E-10
10	in utero	1.5E-10	8.4E-11	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10
	post natal	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11
	total	1.8E-10	1.1E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10	1.8E-10
15	in utero	1.4E-10	0.0E+00	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	3.3E-11	3.2E-11	3.2E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.2E-11	3.3E-11
	total	1.7E-10	3.2E-11	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
25	in utero	1.0E-10	0.0E+00	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	post natal	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.5E-11	4.6E-11
	total	1.4E-10	4.5E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.5E-10
35	in utero	4.8E-11	0.0E+00	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.8E-11
	post natal	9.4E-11	9.3E-11	9.3E-11	9.4E-11	9.3E-11	9.3E-11	9.3E-11	9.3E-11	9.3E-11	9.4E-11
	total	1.4E-10	9.3E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
Chronic											
-260 §	in utero	2.8E-11	3.9E-12	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11
	post natal	2.7E-13	2.6E-13	2.6E-13	2.7E-13	2.7E-13	2.7E-13	2.7E-13	2.7E-13	2.6E-13	2.7E-13
	total	2.8E-11	4.2E-12	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11
-52	in utero	8.8E-11	1.2E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11
	post natal	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	8.0E-13
	total	8.9E-11	1.3E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11	8.9E-11
during	in utero	1.4E-10	2.6E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.7E-11	4.8E-11
	total	1.9E-10	7.3E-11	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10	1.9E-10

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ru-106
($T_{1/2} = 1.01$ y) by the mother

Ingestion: $f_1 = 0.05$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.0E-11	2.8E-12	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11
	post natal	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13	2.3E-13
	total	2.0E-11	3.1E-12	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11
-26	in utero	1.4E-10	1.9E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12	1.5E-12
	total	1.4E-10	2.0E-11	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
concep ‡	in utero	6.9E-10	7.4E-11	6.9E-10	6.9E-10	6.9E-10	6.9E-10	6.9E-10	6.9E-10	6.9E-10	6.9E-10
	post natal	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11	4.9E-11
	total	7.4E-10	1.2E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10	7.4E-10
5	in utero	5.1E-10	1.2E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10	5.1E-10
	post natal	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.4E-11	5.5E-11
	total	5.6E-10	1.7E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10	5.6E-10
10	in utero	3.0E-10	1.9E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10	3.0E-10
	post natal	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.1E-11
	total	3.6E-10	2.5E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10
15	in utero	2.8E-10	0.0E+00	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10
	post natal	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.8E-11	6.9E-11
	total	3.5E-10	6.8E-11	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10	3.5E-10
25	in utero	2.1E-10	0.0E+00	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	post natal	9.7E-11	9.6E-11	9.6E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.7E-11	9.6E-11	9.7E-11
	total	3.1E-10	9.6E-11	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10	3.1E-10
35	in utero	1.1E-10	0.0E+00	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10
	post natal	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10
	total	3.2E-10	2.1E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10	3.2E-10
Chronic											
-260 §	in utero	5.1E-11	6.7E-12	5.1E-11	5.1E-11	5.1E-11	5.1E-11	5.1E-11	5.1E-11	5.1E-11	5.1E-11
	post natal	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.1E-13	5.2E-13
	total	5.2E-11	7.2E-12	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11
-52	in utero	1.7E-10	2.1E-11	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
	post natal	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12	1.6E-12
	total	1.7E-10	2.3E-11	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10
during	in utero	2.8E-10	5.7E-11	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10
	post natal	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10	1.0E-10
	total	3.8E-10	1.6E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10	3.8E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-125
($T_{1/2} = 60.1$ d) by the mother

Inhalation of elemental iodine vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.2E-17	2.2E-18	1.2E-17	2.0E-15	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.1E-16
	post natal	2.2E-20	1.7E-20	1.6E-20	1.0E-16	7.6E-20	1.4E-20	1.2E-20	1.3E-20	5.7E-20	5.3E-18
	total	1.2E-17	2.2E-18	1.2E-17	2.1E-15	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-17	1.2E-16
-26	in utero	1.7E-12	3.3E-13	1.7E-12	2.9E-10	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.6E-11
	post natal	3.3E-15	2.5E-15	2.4E-15	1.6E-11	1.1E-14	2.0E-15	1.7E-15	1.9E-15	8.5E-15	7.8E-13
	total	1.7E-12	3.3E-13	1.7E-12	3.1E-10	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-12	1.7E-11
concep ‡	in utero	3.3E-11	6.2E-12	3.3E-11	5.6E-09	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.1E-10
	post natal	6.5E-14	4.8E-14	4.7E-14	3.0E-10	2.2E-13	3.9E-14	3.4E-14	3.8E-14	1.7E-13	1.5E-11
	total	3.3E-11	6.2E-12	3.3E-11	5.9E-09	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.2E-10
5	in utero	3.8E-11	1.4E-11	3.8E-11	1.7E-08	3.8E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	8.6E-10
	post natal	1.9E-13	1.4E-13	1.4E-13	9.1E-10	6.6E-13	1.2E-13	1.0E-13	1.1E-13	5.0E-13	4.6E-11
	total	3.8E-11	1.4E-11	3.8E-11	1.8E-08	3.9E-11	3.8E-11	3.8E-11	3.8E-11	3.8E-11	9.1E-10
10	in utero	3.6E-11	1.2E-11	3.6E-11	3.0E-08	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.5E-09
	post natal	3.8E-13	2.8E-13	2.8E-13	1.8E-09	1.3E-12	2.3E-13	2.0E-13	2.2E-13	9.8E-13	9.1E-11
	total	3.6E-11	1.2E-11	3.6E-11	3.2E-08	3.7E-11	3.6E-11	3.6E-11	3.6E-11	3.7E-11	1.6E-09
15	in utero	6.2E-11	0.0E+00	6.2E-11	1.0E-07	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	5.1E-09
	post natal	7.3E-13	5.4E-13	5.3E-13	3.4E-09	2.5E-12	4.4E-13	3.8E-13	4.3E-13	1.9E-12	1.7E-10
	total	6.3E-11	5.4E-13	6.3E-11	1.0E-07	6.5E-11	6.2E-11	6.2E-11	6.2E-11	6.4E-11	5.3E-09
25	in utero	1.2E-10	0.0E+00	1.2E-10	2.3E-07	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-08
	post natal	3.0E-12	2.2E-12	2.2E-12	1.4E-08	1.0E-11	1.8E-12	1.6E-12	1.7E-12	7.7E-12	7.1E-10
	total	1.2E-10	2.2E-12	1.2E-10	2.4E-07	1.3E-10	1.2E-10	1.2E-10	1.2E-10	1.3E-10	1.3E-08
35	in utero	1.1E-10	0.0E+00	1.1E-10	2.2E-07	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-08
	post natal	2.7E-11	2.0E-11	1.9E-11	1.2E-07	9.0E-11	1.6E-11	1.4E-11	1.6E-11	6.7E-11	6.2E-09
	total	1.4E-10	2.0E-11	1.3E-10	3.4E-07	2.0E-10	1.3E-10	1.2E-10	1.3E-10	1.8E-10	1.7E-08
Chronic											
-260 §	in utero	1.0E-12	2.1E-13	1.0E-12	1.9E-10	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-11
	post natal	2.2E-15	1.6E-15	1.6E-15	1.0E-11	7.5E-15	1.3E-15	1.1E-15	1.3E-15	5.6E-15	5.2E-13
	total	1.0E-12	2.2E-13	1.0E-12	2.0E-10	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.0E-12	1.1E-11
-52	in utero	5.1E-12	1.1E-12	5.1E-12	9.5E-10	5.1E-12	5.1E-12	5.1E-12	5.1E-12	5.1E-12	5.2E-11
	post natal	1.1E-14	8.1E-15	7.9E-15	5.1E-11	3.7E-14	6.6E-15	5.7E-15	6.4E-15	2.8E-14	2.6E-12
	total	5.1E-12	1.1E-12	5.1E-12	1.0E-09	5.1E-12	5.1E-12	5.1E-12	5.1E-12	5.1E-12	5.5E-11
during	in utero	7.8E-11	4.9E-12	7.8E-11	1.3E-07	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	6.7E-09
	post natal	6.3E-12	4.7E-12	4.6E-12	3.0E-08	2.2E-11	3.8E-12	3.3E-12	3.7E-12	1.7E-11	1.5E-09
	total	8.4E-11	9.6E-12	8.3E-11	1.6E-07	1.0E-10	8.2E-11	8.1E-11	8.2E-11	9.5E-11	8.2E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-125
($T_{1/2} = 60.1$ d) by the mother

Inhalation of methyl iodide											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	9.0E-18	1.7E-18	9.0E-18	1.5E-15	9.0E-18	9.0E-18	9.0E-18	9.0E-18	9.0E-18	8.5E-17
	post natal	1.7E-20	1.3E-20	1.3E-20	8.2E-17	6.0E-20	1.1E-20	9.1E-21	1.0E-20	4.5E-20	4.1E-18
	total	9.0E-18	1.7E-18	9.0E-18	1.6E-15	9.1E-18	9.0E-18	9.0E-18	9.0E-18	9.0E-18	8.9E-17
-26	in utero	1.3E-12	2.6E-13	1.3E-12	2.3E-10	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-11
	post natal	2.6E-15	1.9E-15	1.9E-15	1.2E-11	8.8E-15	1.6E-15	1.3E-15	1.5E-15	6.6E-15	6.1E-13
	total	1.3E-12	2.6E-13	1.3E-12	2.4E-10	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.3E-12	1.4E-11
concep ‡	in utero	2.5E-11	4.8E-12	2.5E-11	4.4E-09	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.4E-10
	post natal	5.1E-14	3.8E-14	3.7E-14	2.4E-10	1.7E-13	3.1E-14	2.6E-14	3.0E-14	1.3E-13	1.2E-11
	total	2.5E-11	4.8E-12	2.5E-11	4.6E-09	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-10
5	in utero	2.9E-11	1.1E-11	2.9E-11	1.3E-08	2.9E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	6.7E-10
	post natal	1.5E-13	1.1E-13	1.1E-13	7.1E-10	5.1E-13	9.1E-14	7.9E-14	8.8E-14	3.9E-13	3.6E-11
	total	2.9E-11	1.1E-11	2.9E-11	1.4E-08	3.0E-11	2.9E-11	2.9E-11	2.9E-11	2.9E-11	7.1E-10
10	in utero	2.8E-11	9.2E-12	2.8E-11	2.4E-08	2.8E-11	2.8E-11	2.8E-11	2.8E-11	2.8E-11	1.2E-09
	post natal	3.0E-13	2.2E-13	2.2E-13	1.4E-09	1.0E-12	1.8E-13	1.6E-13	1.7E-13	7.7E-13	7.1E-11
	total	2.8E-11	9.5E-12	2.8E-11	2.5E-08	2.9E-11	2.8E-11	2.8E-11	2.8E-11	2.9E-11	1.3E-09
15	in utero	4.8E-11	0.0E+00	4.8E-11	7.8E-08	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.8E-11	4.0E-09
	post natal	5.7E-13	4.2E-13	4.1E-13	2.7E-09	2.0E-12	3.5E-13	3.0E-13	3.3E-13	1.5E-12	1.4E-10
	total	4.9E-11	4.2E-13	4.8E-11	8.1E-08	5.0E-11	4.8E-11	4.8E-11	4.8E-11	5.0E-11	4.1E-09
25	in utero	9.3E-11	0.0E+00	9.3E-11	1.8E-07	9.3E-11	9.3E-11	9.3E-11	9.3E-11	9.3E-11	9.0E-09
	post natal	2.3E-12	1.7E-12	1.7E-12	1.1E-08	8.0E-12	1.4E-12	1.2E-12	1.4E-12	6.0E-12	5.5E-10
	total	9.5E-11	1.7E-12	9.5E-11	1.9E-07	1.0E-10	9.4E-11	9.4E-11	9.4E-11	9.9E-11	9.5E-09
35	in utero	8.2E-11	0.0E+00	8.2E-11	1.7E-07	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.2E-11	8.7E-09
	post natal	2.1E-11	1.5E-11	1.5E-11	9.6E-08	7.0E-11	1.3E-11	1.1E-11	1.2E-11	5.3E-11	4.8E-09
	total	1.0E-10	1.5E-11	9.7E-11	2.7E-07	1.5E-10	9.5E-11	9.3E-11	9.4E-11	1.3E-10	1.4E-08
Chronic											
-260 §	in utero	7.9E-13	1.7E-13	7.9E-13	1.5E-10	7.9E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	8.2E-12
	post natal	1.7E-15	1.3E-15	1.2E-15	8.0E-12	5.8E-15	1.0E-15	8.9E-16	9.9E-16	4.4E-15	4.0E-13
	total	7.9E-13	1.7E-13	7.9E-13	1.6E-10	8.0E-13	7.9E-13	7.9E-13	7.9E-13	7.9E-13	8.6E-12
-52	in utero	4.0E-12	8.3E-13	4.0E-12	7.4E-10	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.1E-11
	post natal	8.5E-15	6.3E-15	6.2E-15	4.0E-11	2.9E-14	5.1E-15	4.4E-15	5.0E-15	2.2E-14	2.0E-12
	total	4.0E-12	8.4E-13	4.0E-12	7.8E-10	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.0E-12	4.3E-11
during	in utero	6.1E-11	3.8E-12	6.1E-11	1.0E-07	6.1E-11	6.1E-11	6.1E-11	6.1E-11	6.1E-11	5.2E-09
	post natal	4.9E-12	3.7E-12	3.6E-12	2.4E-08	1.7E-11	3.0E-12	2.6E-12	2.9E-12	1.3E-11	1.2E-09
	total	6.6E-11	7.5E-12	6.5E-11	1.2E-07	7.8E-11	6.4E-11	6.4E-11	6.4E-11	7.4E-11	6.4E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-125
($T_{1/2} = 60.1$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.98$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	6.1E-18	1.2E-18	6.1E-18	1.0E-15	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	5.8E-17
	post natal	1.2E-20	8.8E-21	8.6E-21	5.6E-17	4.1E-20	7.2E-21	6.2E-21	6.9E-21	3.1E-20	2.8E-18
	total	6.1E-18	1.2E-18	6.1E-18	1.1E-15	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-18	6.1E-17
-26	in utero	9.0E-13	1.8E-13	9.0E-13	1.5E-10	9.0E-13	9.0E-13	9.0E-13	9.0E-13	9.0E-13	8.5E-12
	post natal	1.8E-15	1.3E-15	1.3E-15	8.3E-12	6.0E-15	1.1E-15	9.2E-16	1.0E-15	4.5E-15	4.2E-13
	total	9.0E-13	1.8E-13	9.0E-13	1.6E-10	9.1E-13	9.0E-13	9.0E-13	9.0E-13	9.0E-13	8.9E-12
concep ‡	in utero	1.7E-11	3.3E-12	1.7E-11	3.0E-09	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-10
	post natal	3.4E-14	2.6E-14	2.5E-14	1.6E-10	1.2E-13	2.1E-14	1.8E-14	2.0E-14	8.9E-14	8.2E-12
	total	1.7E-11	3.3E-12	1.7E-11	3.2E-09	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.7E-11	1.8E-10
5	in utero	2.0E-11	7.5E-12	2.0E-11	8.8E-09	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	4.6E-10
	post natal	1.0E-13	7.6E-14	7.5E-14	4.8E-10	3.5E-13	6.2E-14	5.4E-14	6.0E-14	2.6E-13	2.4E-11
	total	2.0E-11	7.6E-12	2.0E-11	9.3E-09	2.0E-11	2.0E-11	2.0E-11	2.0E-11	2.0E-11	4.8E-10
10	in utero	1.9E-11	6.3E-12	1.9E-11	1.6E-08	1.9E-11	1.9E-11	1.9E-11	1.9E-11	1.9E-11	8.2E-10
	post natal	2.0E-13	1.5E-13	1.5E-13	9.6E-10	6.9E-13	1.2E-13	1.1E-13	1.2E-13	5.2E-13	4.8E-11
	total	1.9E-11	6.5E-12	1.9E-11	1.7E-08	2.0E-11	1.9E-11	1.9E-11	1.9E-11	2.0E-11	8.7E-10
15	in utero	3.3E-11	0.0E+00	3.3E-11	5.3E-08	3.3E-11	3.3E-11	3.3E-11	3.3E-11	3.3E-11	2.7E-09
	post natal	3.9E-13	2.9E-13	2.8E-13	1.8E-09	1.3E-12	2.4E-13	2.0E-13	2.3E-13	1.0E-12	9.2E-11
	total	3.3E-11	2.9E-13	3.3E-11	5.5E-08	3.4E-11	3.3E-11	3.3E-11	3.3E-11	3.4E-11	2.8E-09
25	in utero	6.3E-11	0.0E+00	6.3E-11	1.2E-07	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.3E-11	6.2E-09
	post natal	1.6E-12	1.2E-12	1.2E-12	7.5E-09	5.4E-12	9.6E-13	8.3E-13	9.3E-13	4.1E-12	3.8E-10
	total	6.5E-11	1.2E-12	6.4E-11	1.3E-07	6.8E-11	6.4E-11	6.4E-11	6.4E-11	6.7E-11	6.6E-09
35	in utero	5.6E-11	0.0E+00	5.6E-11	1.2E-07	5.6E-11	5.6E-11	5.6E-11	5.6E-11	5.6E-11	6.0E-09
	post natal	1.4E-11	1.0E-11	1.0E-11	6.5E-08	4.8E-11	8.6E-12	7.4E-12	8.3E-12	3.6E-11	3.3E-09
	total	7.0E-11	1.0E-11	6.6E-11	1.9E-07	1.0E-10	6.5E-11	6.3E-11	6.4E-11	9.2E-11	9.3E-09
Chronic											
-260 §	in utero	5.4E-13	1.1E-13	5.4E-13	1.0E-10	5.4E-13	5.4E-13	5.4E-13	5.4E-13	5.4E-13	5.6E-12
	post natal	1.2E-15	8.6E-16	8.4E-16	5.5E-12	4.0E-15	7.0E-16	6.1E-16	6.8E-16	3.0E-15	2.8E-13
	total	5.4E-13	1.1E-13	5.4E-13	1.1E-10	5.4E-13	5.4E-13	5.4E-13	5.4E-13	5.4E-13	5.9E-12
-52	in utero	2.7E-12	5.7E-13	2.7E-12	5.0E-10	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.8E-11
	post natal	5.8E-15	4.3E-15	4.2E-15	2.7E-11	2.0E-14	3.5E-15	3.0E-15	3.4E-15	1.5E-14	1.4E-12
	total	2.7E-12	5.7E-13	2.7E-12	5.3E-10	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.7E-12	2.9E-11
during	in utero	4.1E-11	2.6E-12	4.1E-11	7.0E-08	4.1E-11	4.1E-11	4.1E-11	4.1E-11	4.1E-11	3.6E-09
	post natal	3.4E-12	2.5E-12	2.5E-12	1.6E-08	1.2E-11	2.0E-12	1.8E-12	2.0E-12	8.8E-12	8.1E-10
	total	4.4E-11	5.1E-12	4.3E-11	8.6E-08	5.3E-11	4.3E-11	4.3E-11	4.3E-11	5.0E-11	4.4E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-125
($T_{1/2} = 60.1$ d) by the mother

Ingestion: $f_1 = 0.98$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.3E-17	2.5E-18	1.3E-17	2.2E-15	1.3E-17	1.3E-17	1.3E-17	1.3E-17	1.3E-17	1.2E-16
	post natal	2.5E-20	1.8E-20	1.8E-20	1.2E-16	8.4E-20	1.5E-20	1.3E-20	1.4E-20	6.4E-20	5.9E-18
	total	1.3E-17	2.5E-18	1.3E-17	2.3E-15	1.3E-17	1.3E-17	1.3E-17	1.3E-17	1.3E-17	1.3E-16
-26	in utero	1.9E-12	3.6E-13	1.9E-12	3.2E-10	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.8E-11
	post natal	3.7E-15	2.7E-15	2.7E-15	1.7E-11	1.2E-14	2.2E-15	1.9E-15	2.1E-15	9.4E-15	8.7E-13
	total	1.9E-12	3.7E-13	1.9E-12	3.4E-10	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-12	1.9E-11
concep ‡	in utero	3.6E-11	6.8E-12	3.6E-11	6.2E-09	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.5E-10
	post natal	7.2E-14	5.3E-14	5.2E-14	3.4E-10	2.5E-13	4.3E-14	3.7E-14	4.2E-14	1.8E-13	1.7E-11
	total	3.6E-11	6.9E-12	3.6E-11	6.5E-09	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.7E-10
5	in utero	4.2E-11	1.6E-11	4.2E-11	1.8E-08	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	9.5E-10
	post natal	2.1E-13	1.6E-13	1.6E-13	1.0E-09	7.3E-13	1.3E-13	1.1E-13	1.2E-13	5.5E-13	5.1E-11
	total	4.2E-11	1.6E-11	4.2E-11	1.9E-08	4.3E-11	4.2E-11	4.2E-11	4.2E-11	4.3E-11	1.0E-09
10	in utero	3.9E-11	1.3E-11	3.9E-11	3.3E-08	3.9E-11	3.9E-11	3.9E-11	3.9E-11	3.9E-11	1.7E-09
	post natal	4.2E-13	3.1E-13	3.1E-13	2.0E-09	1.4E-12	2.6E-13	2.2E-13	2.5E-13	1.1E-12	1.0E-10
	total	3.9E-11	1.4E-11	3.9E-11	3.5E-08	4.0E-11	3.9E-11	3.9E-11	3.9E-11	4.0E-11	1.8E-09
15	in utero	6.9E-11	0.0E+00	6.9E-11	1.1E-07	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	5.6E-09
	post natal	8.1E-13	6.0E-13	5.9E-13	3.8E-09	2.8E-12	4.9E-13	4.2E-13	4.7E-13	2.1E-12	1.9E-10
	total	7.0E-11	6.0E-13	7.0E-11	1.1E-07	7.2E-11	6.9E-11	6.9E-11	6.9E-11	7.1E-11	5.8E-09
25	in utero	1.3E-10	0.0E+00	1.3E-10	2.5E-07	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-08
	post natal	3.3E-12	2.5E-12	2.4E-12	1.6E-08	1.1E-11	2.0E-12	1.7E-12	1.9E-12	8.5E-12	7.8E-10
	total	1.3E-10	2.5E-12	1.3E-10	2.7E-07	1.4E-10	1.3E-10	1.3E-10	1.3E-10	1.4E-10	1.4E-08
35	in utero	1.2E-10	0.0E+00	1.2E-10	2.5E-07	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-08
	post natal	3.0E-11	2.2E-11	2.1E-11	1.4E-07	9.9E-11	1.8E-11	1.5E-11	1.7E-11	7.5E-11	6.8E-09
	total	1.5E-10	2.2E-11	1.4E-10	3.9E-07	2.2E-10	1.4E-10	1.3E-10	1.4E-10	2.0E-10	1.9E-08
Chronic											
-260 §	in utero	1.1E-12	2.4E-13	1.1E-12	2.1E-10	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.2E-11
	post natal	2.4E-15	1.8E-15	1.8E-15	1.1E-11	8.2E-15	1.5E-15	1.3E-15	1.4E-15	6.2E-15	5.7E-13
	total	1.1E-12	2.4E-13	1.1E-12	2.2E-10	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.3E-11
-52	in utero	5.6E-12	1.2E-12	5.6E-12	1.0E-09	5.6E-12	5.6E-12	5.6E-12	5.6E-12	5.6E-12	5.8E-11
	post natal	1.2E-14	8.9E-15	8.7E-15	5.7E-11	4.1E-14	7.3E-15	6.3E-15	7.0E-15	3.1E-14	2.9E-12
	total	5.6E-12	1.2E-12	5.6E-12	1.1E-09	5.6E-12	5.6E-12	5.6E-12	5.6E-12	5.6E-12	6.1E-11
during	in utero	8.6E-11	5.5E-12	8.6E-11	1.5E-07	8.6E-11	8.6E-11	8.6E-11	8.6E-11	8.6E-11	7.4E-09
	post natal	7.0E-12	5.2E-12	5.1E-12	3.4E-08	2.4E-11	4.2E-12	3.6E-12	4.1E-12	1.8E-11	1.7E-09
	total	9.3E-11	1.1E-11	9.1E-11	1.8E-07	1.1E-10	9.0E-11	9.0E-11	9.0E-11	1.0E-10	9.1E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-131
($T_{1/2} = 8.04$ d) by the mother

Inhalation of elemental iodine vapour											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	2.8E-18	2.7E-20	2.8E-18	3.1E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18
	post natal	1.8E-29	2.2E-29	2.1E-29	1.6E-25	2.5E-29	1.8E-29	1.6E-29	1.8E-29	3.5E-29	8.0E-27
	total	2.8E-18	2.7E-20	2.8E-18	3.1E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18	2.8E-18
concep ‡	in utero	6.9E-11	4.3E-13	6.9E-11	7.3E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11
	post natal	3.1E-22	3.8E-22	3.5E-22	2.7E-18	4.2E-22	3.0E-22	2.7E-22	3.0E-22	6.0E-22	1.4E-19
	total	6.9E-11	4.3E-13	6.9E-11	7.3E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11	6.9E-11
5	in utero	6.4E-11	1.2E-11	6.4E-11	2.1E-10	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	7.2E-11
	post natal	1.3E-20	1.5E-20	1.4E-20	1.1E-16	1.7E-20	1.2E-20	1.1E-20	1.2E-20	2.4E-20	5.5E-18
	total	6.4E-11	1.2E-11	6.4E-11	2.1E-10	6.4E-11	6.4E-11	6.4E-11	6.4E-11	6.4E-11	7.2E-11
10	in utero	4.6E-11	4.5E-11	4.6E-11	2.8E-09	4.6E-11	4.6E-11	4.6E-11	4.6E-11	4.6E-11	1.9E-10
	post natal	3.4E-19	4.1E-19	3.9E-19	3.0E-15	4.7E-19	3.3E-19	3.0E-19	3.3E-19	6.6E-19	1.5E-16
	total	4.6E-11	4.5E-11	4.6E-11	2.8E-09	4.6E-11	4.6E-11	4.6E-11	4.6E-11	4.6E-11	1.9E-10
15	in utero	7.8E-11	0.0E+00	7.8E-11	2.2E-07	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	1.1E-08
	post natal	8.8E-18	1.1E-17	1.0E-17	7.7E-14	1.2E-17	8.7E-18	7.7E-18	8.6E-18	1.7E-17	3.9E-15
	total	7.8E-11	1.1E-17	7.8E-11	2.2E-07	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	1.1E-08
25	in utero	1.5E-10	0.0E+00	1.5E-10	6.2E-07	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	3.1E-08
	post natal	6.7E-15	8.2E-15	7.7E-15	5.9E-11	9.3E-15	6.6E-15	5.9E-15	6.5E-15	1.3E-14	2.9E-12
	total	1.5E-10	8.2E-15	1.5E-10	6.2E-07	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	3.1E-08
35	in utero	2.5E-10	0.0E+00	2.5E-10	9.9E-07	2.5E-10	2.5E-10	2.5E-10	2.5E-10	2.5E-10	5.0E-08
	post natal	1.1E-11	1.4E-11	1.3E-11	9.5E-08	1.5E-11	1.1E-11	9.9E-12	1.1E-11	2.2E-11	4.8E-09
	total	2.6E-10	1.4E-11	2.6E-10	1.1E-06	2.6E-10	2.6E-10	2.6E-10	2.6E-10	2.7E-10	5.5E-08
Chronic											
-260 §	in utero	1.7E-13	2.6E-15	1.7E-13	1.9E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13
	post natal	1.8E-24	2.2E-24	2.1E-24	1.6E-20	2.5E-24	1.8E-24	1.6E-24	1.8E-24	3.6E-24	8.1E-22
	total	1.7E-13	2.6E-15	1.7E-13	1.9E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13	1.7E-13
-52	in utero	8.6E-13	1.3E-14	8.6E-13	9.7E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13
	post natal	9.2E-24	1.1E-23	1.1E-23	8.0E-20	1.3E-23	9.1E-24	8.0E-24	8.9E-24	1.8E-23	4.0E-21
	total	8.6E-13	1.3E-14	8.6E-13	9.7E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13	8.6E-13
during	in utero	1.2E-10	1.2E-11	1.2E-10	3.9E-07	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.9E-08
	post natal	3.7E-12	4.8E-12	4.5E-12	3.7E-08	5.5E-12	3.8E-12	3.3E-12	3.7E-12	7.9E-12	1.9E-09
	total	1.2E-10	1.6E-11	1.2E-10	4.3E-07	1.3E-10	1.2E-10	1.2E-10	1.2E-10	1.3E-10	2.1E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-131
($T_{1/2} = 8.04$ d) by the mother

Inhalation of methyl iodide											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	2.2E-18	2.1E-20	2.2E-18	2.4E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18
	post natal	1.4E-29	1.7E-29	1.6E-29	1.2E-25	2.0E-29	1.4E-29	1.2E-29	1.4E-29	2.8E-29	6.2E-27
	total	2.2E-18	2.1E-20	2.2E-18	2.4E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18	2.2E-18
concep ‡	in utero	5.3E-11	3.4E-13	5.3E-11	5.7E-11	5.3E-11	5.3E-11	5.3E-11	5.3E-11	5.3E-11	5.4E-11
	post natal	2.4E-22	2.9E-22	2.7E-22	2.1E-18	3.3E-22	2.4E-22	2.1E-22	2.3E-22	4.7E-22	1.1E-19
	total	5.3E-11	3.4E-13	5.3E-11	5.7E-11	5.3E-11	5.3E-11	5.3E-11	5.3E-11	5.3E-11	5.4E-11
5	in utero	5.0E-11	9.2E-12	5.0E-11	1.7E-10	5.0E-11	5.0E-11	5.0E-11	5.0E-11	5.0E-11	5.6E-11
	post natal	9.8E-21	1.2E-20	1.1E-20	8.5E-17	1.3E-20	9.6E-21	8.5E-21	9.5E-21	1.9E-20	4.3E-18
	total	5.0E-11	9.2E-12	5.0E-11	1.7E-10	5.0E-11	5.0E-11	5.0E-11	5.0E-11	5.0E-11	5.6E-11
10	in utero	3.6E-11	3.4E-11	3.6E-11	2.2E-09	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.4E-10
	post natal	2.6E-19	3.2E-19	3.0E-19	2.3E-15	3.6E-19	2.6E-19	2.3E-19	2.6E-19	5.1E-19	1.2E-16
	total	3.6E-11	3.4E-11	3.6E-11	2.2E-09	3.6E-11	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.4E-10
15	in utero	6.0E-11	0.0E+00	6.0E-11	1.7E-07	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	8.6E-09
	post natal	6.9E-18	8.4E-18	7.9E-18	6.0E-14	9.5E-18	6.8E-18	6.0E-18	6.7E-18	1.3E-17	3.0E-15
	total	6.0E-11	8.4E-18	6.0E-11	1.7E-07	6.0E-11	6.0E-11	6.0E-11	6.0E-11	6.0E-11	8.6E-09
25	in utero	1.2E-10	0.0E+00	1.2E-10	4.8E-07	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	2.4E-08
	post natal	5.3E-15	6.4E-15	6.0E-15	4.6E-11	7.2E-15	5.2E-15	4.6E-15	5.1E-15	1.0E-14	2.3E-12
	total	1.2E-10	6.4E-15	1.2E-10	4.8E-07	1.2E-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10	2.4E-08
35	in utero	2.0E-10	0.0E+00	2.0E-10	7.7E-07	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	3.9E-08
	post natal	8.8E-12	1.1E-11	1.0E-11	7.4E-08	1.2E-11	8.6E-12	7.7E-12	8.5E-12	1.7E-11	3.7E-09
	total	2.1E-10	1.1E-11	2.1E-10	8.4E-07	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.2E-10	4.3E-08
Chronic											
-260 §	in utero	1.3E-13	2.0E-15	1.3E-13	1.5E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
	post natal	1.4E-24	1.8E-24	1.6E-24	1.3E-20	2.0E-24	1.4E-24	1.3E-24	1.4E-24	2.8E-24	6.3E-22
	total	1.3E-13	2.0E-15	1.3E-13	1.5E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
-52	in utero	6.6E-13	1.0E-14	6.6E-13	7.6E-13	6.6E-13	6.6E-13	6.6E-13	6.6E-13	6.6E-13	6.7E-13
	post natal	7.2E-24	8.8E-24	8.2E-24	6.3E-20	9.9E-24	7.1E-24	6.3E-24	7.0E-24	1.4E-23	3.1E-21
	total	6.6E-13	1.0E-14	6.6E-13	7.6E-13	6.6E-13	6.6E-13	6.6E-13	6.6E-13	6.6E-13	6.7E-13
during	in utero	9.4E-11	8.9E-12	9.4E-11	3.0E-07	9.4E-11	9.4E-11	9.4E-11	9.4E-11	9.4E-11	1.5E-08
	post natal	2.9E-12	3.8E-12	3.5E-12	2.9E-08	4.3E-12	2.9E-12	2.6E-12	2.9E-12	6.1E-12	1.4E-09
	total	9.7E-11	1.3E-11	9.8E-11	3.3E-07	9.8E-11	9.7E-11	9.7E-11	9.7E-11	1.0E-10	1.6E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-131
($T_{1/2} = 8.04$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.98$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	1.5E-18	1.4E-20	1.5E-18	1.6E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18
	post natal	9.7E-30	1.2E-29	1.1E-29	8.5E-26	1.3E-29	9.5E-30	8.5E-30	9.4E-30	1.9E-29	4.3E-27
	total	1.5E-18	1.4E-20	1.5E-18	1.6E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18	1.5E-18
concep ‡	in utero	3.7E-11	2.3E-13	3.7E-11	3.9E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11
	post natal	1.6E-22	2.0E-22	1.9E-22	1.4E-18	2.3E-22	1.6E-22	1.4E-22	1.6E-22	3.2E-22	7.2E-20
	total	3.7E-11	2.3E-13	3.7E-11	3.9E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11	3.7E-11
5	in utero	3.4E-11	6.2E-12	3.4E-11	1.1E-10	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.8E-11
	post natal	6.7E-21	8.1E-21	7.6E-21	5.8E-17	9.2E-21	6.5E-21	5.8E-21	6.5E-21	1.3E-20	2.9E-18
	total	3.4E-11	6.2E-12	3.4E-11	1.1E-10	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.4E-11	3.8E-11
10	in utero	2.5E-11	2.4E-11	2.5E-11	1.5E-09	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-11	9.9E-11
	post natal	1.8E-19	2.2E-19	2.1E-19	1.6E-15	2.5E-19	1.8E-19	1.6E-19	1.7E-19	3.5E-19	7.9E-17
	total	2.5E-11	2.4E-11	2.5E-11	1.5E-09	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-11	9.9E-11
15	in utero	4.2E-11	0.0E+00	4.2E-11	1.2E-07	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	5.8E-09
	post natal	4.7E-18	5.7E-18	5.4E-18	4.1E-14	6.5E-18	4.6E-18	4.1E-18	4.6E-18	9.1E-18	2.1E-15
	total	4.2E-11	5.7E-18	4.2E-11	1.2E-07	4.2E-11	4.2E-11	4.2E-11	4.2E-11	4.2E-11	5.8E-09
25	in utero	8.1E-11	0.0E+00	8.1E-11	3.3E-07	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	1.6E-08
	post natal	3.6E-15	4.4E-15	4.1E-15	3.1E-11	4.9E-15	3.5E-15	3.1E-15	3.5E-15	7.0E-15	1.6E-12
	total	8.1E-11	4.4E-15	8.1E-11	3.3E-07	8.1E-11	8.1E-11	8.1E-11	8.1E-11	8.1E-11	1.6E-08
35	in utero	1.4E-10	0.0E+00	1.4E-10	5.3E-07	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	2.6E-08
	post natal	6.0E-12	7.2E-12	6.8E-12	5.1E-08	8.2E-12	5.9E-12	5.2E-12	5.8E-12	1.1E-11	2.5E-09
	total	1.5E-10	7.2E-12	1.5E-10	5.8E-07	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	2.9E-08
Chronic											
-260 §	in utero	9.1E-14	1.4E-15	9.1E-14	1.0E-13	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.2E-14
	post natal	9.8E-25	1.2E-24	1.1E-24	8.5E-21	1.4E-24	9.6E-25	8.5E-25	9.5E-25	1.9E-24	4.3E-22
	total	9.1E-14	1.4E-15	9.1E-14	1.0E-13	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.1E-14	9.2E-14
-52	in utero	4.6E-13	7.0E-15	4.6E-13	5.2E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13
	post natal	4.9E-24	6.0E-24	5.6E-24	4.3E-20	6.8E-24	4.8E-24	4.3E-24	4.8E-24	9.5E-24	2.1E-21
	total	4.6E-13	7.0E-15	4.6E-13	5.2E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13	4.6E-13
during	in utero	6.5E-11	6.2E-12	6.5E-11	2.0E-07	6.5E-11	6.5E-11	6.5E-11	6.5E-11	6.5E-11	1.0E-08
	post natal	2.0E-12	2.6E-12	2.4E-12	2.0E-08	2.9E-12	2.0E-12	1.8E-12	2.0E-12	4.2E-12	9.9E-10
	total	6.7E-11	8.8E-12	6.7E-11	2.2E-07	6.8E-11	6.7E-11	6.7E-11	6.7E-11	6.9E-11	1.1E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of I-131
($T_{1/2} = 8.04$ d) by the mother

Ingestion: $f_1 = 0.98$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	3.1E-18	3.0E-20	3.1E-18	3.4E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18
	post natal	2.0E-29	2.5E-29	2.3E-29	1.8E-25	2.8E-29	2.0E-29	1.8E-29	2.0E-29	3.9E-29	8.8E-27
	total	3.1E-18	3.0E-20	3.1E-18	3.4E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18	3.1E-18
concep ‡	in utero	7.8E-11	4.8E-13	7.8E-11	8.2E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11
	post natal	3.4E-22	4.2E-22	3.9E-22	3.0E-18	4.7E-22	3.3E-22	3.0E-22	3.3E-22	6.6E-22	1.5E-19
	total	7.8E-11	4.8E-13	7.8E-11	8.2E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11	7.8E-11
5	in utero	7.3E-11	1.3E-11	7.3E-11	2.4E-10	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11	8.1E-11
	post natal	1.4E-20	1.7E-20	1.6E-20	1.2E-16	1.9E-20	1.4E-20	1.2E-20	1.3E-20	2.7E-20	6.1E-18
	total	7.3E-11	1.3E-11	7.3E-11	2.4E-10	7.3E-11	7.3E-11	7.3E-11	7.3E-11	7.3E-11	8.1E-11
10	in utero	5.2E-11	5.1E-11	5.2E-11	3.1E-09	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	2.1E-10
	post natal	3.7E-19	4.6E-19	4.3E-19	3.3E-15	5.2E-19	3.7E-19	3.3E-19	3.6E-19	7.3E-19	1.6E-16
	total	5.2E-11	5.1E-11	5.2E-11	3.1E-09	5.2E-11	5.2E-11	5.2E-11	5.2E-11	5.2E-11	2.1E-10
15	in utero	8.8E-11	0.0E+00	8.8E-11	2.4E-07	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	1.2E-08
	post natal	9.8E-18	1.2E-17	1.1E-17	8.5E-14	1.3E-17	9.6E-18	8.5E-18	9.5E-18	1.9E-17	4.3E-15
	total	8.8E-11	1.2E-17	8.8E-11	2.4E-07	8.8E-11	8.8E-11	8.8E-11	8.8E-11	8.8E-11	1.2E-08
25	in utero	1.7E-10	0.0E+00	1.7E-10	6.8E-07	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	3.4E-08
	post natal	7.5E-15	9.1E-15	8.5E-15	6.5E-11	1.0E-14	7.3E-15	6.5E-15	7.2E-15	1.4E-14	3.3E-12
	total	1.7E-10	9.1E-15	1.7E-10	6.8E-07	1.7E-10	1.7E-10	1.7E-10	1.7E-10	1.7E-10	3.4E-08
35	in utero	2.8E-10	0.0E+00	2.8E-10	1.1E-06	2.8E-10	2.8E-10	2.8E-10	2.8E-10	2.8E-10	5.5E-08
	post natal	1.3E-11	1.5E-11	1.4E-11	1.1E-07	1.7E-11	1.2E-11	1.1E-11	1.2E-11	2.4E-11	5.3E-09
	total	2.9E-10	1.5E-11	2.9E-10	1.2E-06	3.0E-10	2.9E-10	2.9E-10	2.9E-10	3.0E-10	6.0E-08
Chronic											
-260 §	in utero	1.9E-13	2.9E-15	1.9E-13	2.2E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13
	post natal	2.0E-24	2.5E-24	2.3E-24	1.8E-20	2.8E-24	2.0E-24	1.8E-24	2.0E-24	4.0E-24	8.9E-22
	total	1.9E-13	2.9E-15	1.9E-13	2.2E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13	1.9E-13
-52	in utero	9.5E-13	1.5E-14	9.5E-13	1.1E-12	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.6E-13
	post natal	1.0E-23	1.2E-23	1.2E-23	8.9E-20	1.4E-23	1.0E-23	8.9E-24	9.9E-24	2.0E-23	4.5E-21
	total	9.5E-13	1.5E-14	9.5E-13	1.1E-12	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.5E-13	9.6E-13
during	in utero	1.4E-10	1.3E-11	1.4E-10	4.3E-07	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	2.1E-08
	post natal	4.1E-12	5.3E-12	4.9E-12	4.1E-08	6.0E-12	4.2E-12	3.7E-12	4.1E-12	8.7E-12	2.1E-09
	total	1.4E-10	1.8E-11	1.4E-10	4.7E-07	1.5E-10	1.4E-10	1.4E-10	1.4E-10	1.5E-10	2.3E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Cs-137
($T_{1/2} = 30.0$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 1.0

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	9.8E-13	2.7E-13	9.8E-13	9.8E-13	9.8E-13	9.8E-13	9.8E-13	9.8E-13	9.8E-13	9.8E-13
	post natal	1.4E-14	1.3E-14	1.3E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.4E-14	1.3E-14	1.5E-14
	total	9.9E-13	2.8E-13	9.9E-13	9.9E-13	9.9E-13	9.9E-13	9.9E-13	9.9E-13	9.9E-13	1.0E-12
-26	in utero	8.7E-10	2.4E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10	8.7E-10
	post natal	1.3E-11	1.1E-11	1.1E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.2E-11	1.3E-11
	total	8.8E-10	2.5E-10	8.8E-10	8.8E-10	8.8E-10	8.8E-10	8.8E-10	8.8E-10	8.8E-10	8.8E-10
concep ‡	in utero	3.5E-09	9.4E-10	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09
	post natal	2.0E-11	1.8E-11	1.8E-11	2.0E-11	1.9E-11	2.0E-11	1.9E-11	1.9E-11	1.9E-11	2.2E-11
	total	3.5E-09	9.6E-10	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09	3.5E-09
5	in utero	3.3E-09	1.5E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09
	post natal	3.3E-11	3.0E-11	3.0E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.2E-11	3.0E-11	3.5E-11
	total	3.3E-09	1.6E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09
10	in utero	3.2E-09	1.3E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09	3.2E-09
	post natal	5.4E-11	4.9E-11	4.8E-11	5.2E-11	5.2E-11	5.2E-11	5.1E-11	5.2E-11	4.9E-11	5.7E-11
	total	3.3E-09	1.4E-09	3.2E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.3E-09	3.2E-09	3.3E-09
15	in utero	3.0E-09	0.0E+00	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09
	post natal	8.8E-11	8.0E-11	7.8E-11	8.5E-11	8.4E-11	8.4E-11	8.4E-11	8.4E-11	8.0E-11	9.3E-11
	total	3.1E-09	8.0E-11	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09	3.1E-09
25	in utero	2.4E-09	0.0E+00	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09	2.4E-09
	post natal	2.3E-10	2.1E-10	2.1E-10	2.3E-10	2.2E-10	2.2E-10	2.2E-10	2.2E-10	2.1E-10	2.5E-10
	total	2.6E-09	2.1E-10	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09	2.6E-09
35	in utero	8.6E-10	0.0E+00	8.6E-10	8.6E-10	8.6E-10	8.6E-10	8.6E-10	8.6E-10	8.6E-10	8.6E-10
	post natal	6.2E-10	5.6E-10	5.5E-10	6.0E-10	5.9E-10	5.9E-10	5.9E-10	5.9E-10	5.7E-10	6.6E-10
	total	1.5E-09	5.6E-10	1.4E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.5E-09	1.4E-09	1.5E-09
Chronic											
-260 §	in utero	2.0E-10	5.5E-11	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
	post natal	1.2E-12	1.1E-12	1.1E-12	1.2E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.3E-12
	total	2.0E-10	5.6E-11	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10	2.0E-10
-52	in utero	9.8E-10	2.7E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10	9.8E-10
	post natal	5.8E-12	5.3E-12	5.2E-12	5.6E-12	5.5E-12	5.6E-12	5.5E-12	5.5E-12	5.3E-12	6.1E-12
	total	9.9E-10	2.7E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10	9.9E-10
during	in utero	2.5E-09	4.7E-10	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.5E-09
	post natal	2.2E-10	2.0E-10	2.0E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.1E-10	2.0E-10	2.3E-10
	total	2.7E-09	6.7E-10	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09	2.7E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Cs-137
($T_{1/2} = 30.0$ y) by the mother

Ingestion: $f_1 = 1.0$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.0E-12	5.6E-13	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
	post natal	3.0E-14	2.7E-14	2.6E-14	2.9E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.7E-14	3.1E-14
	total	2.0E-12	5.8E-13	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12	2.0E-12
-26	in utero	1.8E-09	5.0E-10	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
	post natal	2.6E-11	2.4E-11	2.3E-11	2.6E-11	2.5E-11	2.5E-11	2.5E-11	2.5E-11	2.4E-11	2.8E-11
	total	1.8E-09	5.2E-10	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
concep ‡	in utero	7.2E-09	1.9E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09
	post natal	4.2E-11	3.8E-11	3.8E-11	4.1E-11	4.0E-11	4.1E-11	4.0E-11	4.0E-11	3.9E-11	4.5E-11
	total	7.2E-09	2.0E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09	7.2E-09
5	in utero	6.9E-09	3.2E-09	6.9E-09	6.9E-09	6.9E-09	6.9E-09	6.9E-09	6.9E-09	6.9E-09	6.9E-09
	post natal	6.9E-11	6.3E-11	6.1E-11	6.7E-11	6.6E-11	6.6E-11	6.6E-11	6.6E-11	6.3E-11	7.3E-11
	total	7.0E-09	3.2E-09	7.0E-09	7.0E-09	7.0E-09	7.0E-09	7.0E-09	7.0E-09	7.0E-09	7.0E-09
10	in utero	6.6E-09	2.7E-09	6.6E-09	6.6E-09	6.6E-09	6.6E-09	6.6E-09	6.6E-09	6.6E-09	6.6E-09
	post natal	1.1E-10	1.0E-10	1.0E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.1E-10	1.0E-10	1.2E-10
	total	6.7E-09	2.8E-09	6.7E-09	6.7E-09	6.7E-09	6.7E-09	6.7E-09	6.7E-09	6.7E-09	6.7E-09
15	in utero	6.3E-09	0.0E+00	6.3E-09	6.3E-09	6.3E-09	6.3E-09	6.3E-09	6.3E-09	6.3E-09	6.3E-09
	post natal	1.8E-10	1.7E-10	1.6E-10	1.8E-10	1.7E-10	1.8E-10	1.7E-10	1.7E-10	1.7E-10	1.9E-10
	total	6.5E-09	1.7E-10	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09	6.5E-09
25	in utero	5.0E-09	0.0E+00	5.0E-09	5.0E-09	5.0E-09	5.0E-09	5.0E-09	5.0E-09	5.0E-09	5.0E-09
	post natal	4.9E-10	4.4E-10	4.3E-10	4.7E-10	4.6E-10	4.6E-10	4.6E-10	4.6E-10	4.4E-10	5.1E-10
	total	5.5E-09	4.4E-10	5.4E-09	5.5E-09	5.5E-09	5.5E-09	5.5E-09	5.5E-09	5.4E-09	5.5E-09
35	in utero	1.8E-09	0.0E+00	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09	1.8E-09
	post natal	1.3E-09	1.2E-09	1.1E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.4E-09
	total	3.1E-09	1.2E-09	2.9E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.0E-09	3.2E-09
Chronic											
-260 §	in utero	4.2E-10	1.1E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10
	post natal	2.5E-12	2.3E-12	2.2E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.4E-12	2.3E-12	2.6E-12
	total	4.2E-10	1.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10	4.2E-10
-52	in utero	2.0E-09	5.5E-10	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
	post natal	1.2E-11	1.1E-11	1.1E-11	1.2E-11	1.1E-11	1.2E-11	1.1E-11	1.1E-11	1.1E-11	1.3E-11
	total	2.0E-09	5.6E-10	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.0E-09
during	in utero	5.2E-09	9.7E-10	5.2E-09	5.2E-09	5.2E-09	5.2E-09	5.2E-09	5.2E-09	5.2E-09	5.2E-09
	post natal	4.6E-10	4.1E-10	4.1E-10	4.4E-10	4.3E-10	4.4E-10	4.3E-10	4.3E-10	4.2E-10	4.8E-10
	total	5.7E-09	1.4E-09	5.6E-09	5.6E-09	5.6E-09	5.6E-09	5.6E-09	5.6E-09	5.6E-09	5.7E-09

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pb-210
($T_{1/2} = 22.3$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.2$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.1E-08	2.6E-09	1.5E-07	1.1E-08	1.6E-07	1.7E-07	3.1E-07	2.2E-06	1.3E-08	3.8E-08
	post natal	2.1E-08	2.1E-08	3.0E-07	2.1E-08	6.1E-07	3.4E-07	6.2E-07	6.8E-07	3.2E-08	7.7E-08
	total	3.2E-08	2.4E-08	4.5E-07	3.2E-08	7.7E-07	5.1E-07	9.3E-07	2.9E-06	4.5E-08	1.2E-07
-26	in utero	2.0E-08	3.5E-09	1.6E-07	2.0E-08	1.7E-07	1.8E-07	3.3E-07	2.2E-06	2.2E-08	4.7E-08
	post natal	3.0E-08	3.0E-08	4.2E-07	3.0E-08	8.6E-07	4.9E-07	8.8E-07	9.7E-07	4.6E-08	1.1E-07
	total	5.0E-08	3.3E-08	5.8E-07	5.0E-08	1.0E-06	6.7E-07	1.2E-06	3.2E-06	6.8E-08	1.6E-07
concep ‡	in utero	2.1E-08	4.2E-09	1.6E-07	2.1E-08	1.7E-07	1.7E-07	3.2E-07	2.0E-06	2.3E-08	4.6E-08
	post natal	3.7E-08	3.7E-08	5.1E-07	3.7E-08	1.1E-06	6.0E-07	1.1E-06	1.2E-06	5.6E-08	1.3E-07
	total	5.8E-08	4.1E-08	6.7E-07	5.8E-08	1.3E-06	7.7E-07	1.4E-06	3.2E-06	7.9E-08	1.8E-07
5	in utero	1.1E-08	2.9E-09	1.4E-07	1.1E-08	1.5E-07	1.5E-07	2.9E-07	1.7E-06	1.3E-08	3.5E-08
	post natal	3.9E-08	3.9E-08	5.4E-07	3.9E-08	1.1E-06	6.4E-07	1.1E-06	1.3E-06	6.0E-08	1.4E-07
	total	5.0E-08	4.2E-08	6.8E-07	5.0E-08	1.2E-06	7.9E-07	1.4E-06	3.0E-06	7.3E-08	1.7E-07
10	in utero	7.4E-09	5.6E-10	1.2E-07	7.4E-09	1.2E-07	1.3E-07	2.4E-07	8.9E-07	1.2E-08	2.8E-08
	post natal	4.2E-08	4.2E-08	5.8E-07	4.2E-08	1.2E-06	6.8E-07	1.2E-06	1.4E-06	6.4E-08	1.5E-07
	total	4.9E-08	4.3E-08	7.0E-07	4.9E-08	1.3E-06	8.1E-07	1.4E-06	2.3E-06	7.6E-08	1.8E-07
15	in utero	5.8E-09	0.0E+00	9.1E-08	5.8E-09	9.6E-08	1.0E-07	1.8E-07	4.8E-07	1.6E-08	2.2E-08
	post natal	4.6E-08	4.6E-08	6.3E-07	4.6E-08	1.3E-06	7.4E-07	1.3E-06	1.5E-06	7.0E-08	1.7E-07
	total	5.2E-08	4.6E-08	7.2E-07	5.2E-08	1.4E-06	8.4E-07	1.5E-06	2.0E-06	8.6E-08	1.9E-07
25	in utero	2.6E-09	0.0E+00	4.1E-08	2.6E-09	4.4E-08	4.6E-08	8.7E-08	1.5E-07	8.6E-09	1.0E-08
	post natal	5.9E-08	5.9E-08	8.0E-07	5.9E-08	1.7E-06	9.4E-07	1.7E-06	1.9E-06	8.8E-08	2.1E-07
	total	6.2E-08	5.9E-08	8.4E-07	6.2E-08	1.7E-06	9.9E-07	1.8E-06	2.1E-06	9.7E-08	2.2E-07
35	in utero	1.9E-10	0.0E+00	3.1E-09	1.9E-10	3.3E-09	2.8E-09	7.1E-09	6.8E-09	7.4E-10	7.3E-10
	post natal	1.0E-07	1.0E-07	1.4E-06	1.0E-07	2.8E-06	1.6E-06	2.9E-06	3.2E-06	1.5E-07	3.6E-07
	total	1.0E-07	1.0E-07	1.4E-06	1.0E-07	2.8E-06	1.6E-06	2.9E-06	3.2E-06	1.5E-07	3.6E-07
Chronic											
-260 §	in utero	1.3E-08	2.7E-09	1.5E-07	1.3E-08	1.6E-07	1.6E-07	3.0E-07	2.1E-06	1.5E-08	3.8E-08
	post natal	2.3E-08	2.3E-08	3.1E-07	2.3E-08	6.4E-07	3.6E-07	6.5E-07	7.2E-07	3.4E-08	8.1E-08
	total	3.6E-08	2.6E-08	4.6E-07	3.6E-08	8.0E-07	5.2E-07	9.5E-07	2.8E-06	4.9E-08	1.2E-07
-52	in utero	2.0E-08	3.6E-09	1.7E-07	2.0E-08	1.8E-07	1.8E-07	3.3E-07	2.2E-06	2.2E-08	4.7E-08
	post natal	3.1E-08	3.1E-08	4.3E-07	3.1E-08	8.8E-07	5.0E-07	9.0E-07	9.9E-07	4.7E-08	1.1E-07
	total	5.1E-08	3.5E-08	6.0E-07	5.1E-08	1.1E-06	6.8E-07	1.2E-06	3.2E-06	6.9E-08	1.6E-07
during	in utero	5.5E-09	7.1E-10	7.3E-08	5.5E-09	7.8E-08	8.0E-08	1.5E-07	5.9E-07	6.4E-09	1.8E-08
	post natal	5.8E-08	5.8E-08	8.0E-07	5.8E-08	1.7E-06	9.4E-07	1.7E-06	1.9E-06	8.8E-08	2.1E-07
	total	6.4E-08	5.9E-08	8.7E-07	6.4E-08	1.8E-06	1.0E-06	1.8E-06	2.5E-06	9.4E-08	2.3E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pb-210
($T_{1/2} = 22.3$ y) by the mother

Ingestion: $f_1 = 0.2$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	7.2E-09	1.6E-09	9.6E-08	7.2E-09	1.0E-07	1.1E-07	2.0E-07	1.4E-06	8.5E-09	2.4E-08
	post natal	1.3E-08	1.3E-08	1.9E-07	1.3E-08	3.8E-07	2.2E-07	3.9E-07	4.3E-07	2.0E-08	4.8E-08
	total	2.0E-08	1.5E-08	2.9E-07	2.0E-08	4.8E-07	3.3E-07	5.9E-07	1.8E-06	2.9E-08	7.2E-08
-26	in utero	1.2E-08	2.2E-09	1.0E-07	1.2E-08	1.1E-07	1.1E-07	2.1E-07	1.4E-06	1.4E-08	2.9E-08
	post natal	1.9E-08	1.9E-08	2.6E-07	1.9E-08	5.4E-07	3.1E-07	5.6E-07	6.1E-07	2.9E-08	6.9E-08
	total	3.1E-08	2.1E-08	3.6E-07	3.1E-08	6.5E-07	4.2E-07	7.7E-07	2.0E-06	4.3E-08	9.8E-08
concep ‡	in utero	1.3E-08	2.6E-09	1.0E-07	1.3E-08	1.1E-07	1.1E-07	2.0E-07	1.3E-06	1.4E-08	2.9E-08
	post natal	2.3E-08	2.3E-08	3.2E-07	2.3E-08	6.6E-07	3.8E-07	6.8E-07	7.5E-07	3.5E-08	8.4E-08
	total	3.6E-08	2.6E-08	4.2E-07	3.6E-08	7.7E-07	4.9E-07	8.8E-07	2.1E-06	4.9E-08	1.1E-07
5	in utero	6.9E-09	1.8E-09	8.9E-08	6.9E-09	9.4E-08	9.7E-08	1.8E-07	1.0E-06	8.1E-09	2.2E-08
	post natal	2.5E-08	2.5E-08	3.4E-07	2.5E-08	7.0E-07	4.0E-07	7.2E-07	7.9E-07	3.7E-08	8.9E-08
	total	3.2E-08	2.7E-08	4.3E-07	3.2E-08	7.9E-07	5.0E-07	9.0E-07	1.8E-06	4.5E-08	1.1E-07
10	in utero	4.7E-09	3.5E-10	7.3E-08	4.7E-09	7.8E-08	8.0E-08	1.5E-07	5.6E-07	7.6E-09	1.8E-08
	post natal	2.7E-08	2.7E-08	3.7E-07	2.7E-08	7.6E-07	4.3E-07	7.8E-07	8.5E-07	4.0E-08	9.6E-08
	total	3.2E-08	2.7E-08	4.4E-07	3.2E-08	8.4E-07	5.1E-07	9.3E-07	1.4E-06	4.8E-08	1.1E-07
15	in utero	3.6E-09	0.0E+00	5.7E-08	3.6E-09	6.1E-08	6.3E-08	1.2E-07	3.0E-07	1.0E-08	1.4E-08
	post natal	2.9E-08	2.9E-08	4.0E-07	2.9E-08	8.2E-07	4.7E-07	8.4E-07	9.3E-07	4.4E-08	1.0E-07
	total	3.3E-08	2.9E-08	4.6E-07	3.3E-08	8.8E-07	5.3E-07	9.6E-07	1.2E-06	5.4E-08	1.1E-07
25	in utero	1.6E-09	0.0E+00	2.6E-08	1.6E-09	2.8E-08	2.9E-08	5.5E-08	9.2E-08	5.4E-09	6.4E-09
	post natal	3.7E-08	3.7E-08	5.1E-07	3.7E-08	1.0E-06	5.9E-07	1.1E-06	1.2E-06	5.6E-08	1.3E-07
	total	3.9E-08	3.7E-08	5.4E-07	3.9E-08	1.0E-06	6.2E-07	1.2E-06	1.3E-06	6.1E-08	1.4E-07
35	in utero	1.2E-10	0.0E+00	1.9E-09	1.2E-10	2.0E-09	1.8E-09	4.4E-09	4.2E-09	4.6E-10	4.5E-10
	post natal	6.3E-08	6.3E-08	8.6E-07	6.3E-08	1.8E-06	1.0E-06	1.8E-06	2.0E-06	9.5E-08	2.3E-07
	total	6.3E-08	6.3E-08	8.6E-07	6.3E-08	1.8E-06	1.0E-06	1.8E-06	2.0E-06	9.5E-08	2.3E-07
Chronic											
-260 §	in utero	8.0E-09	1.7E-09	9.3E-08	8.0E-09	9.9E-08	1.0E-07	1.9E-07	1.3E-06	9.2E-09	2.4E-08
	post natal	1.4E-08	1.4E-08	2.0E-07	1.4E-08	4.0E-07	2.3E-07	4.1E-07	4.5E-07	2.1E-08	5.1E-08
	total	2.2E-08	1.6E-08	2.9E-07	2.2E-08	5.0E-07	3.3E-07	6.0E-07	1.8E-06	3.0E-08	7.5E-08
-52	in utero	1.3E-08	2.2E-09	1.0E-07	1.3E-08	1.1E-07	1.1E-07	2.1E-07	1.4E-06	1.4E-08	3.0E-08
	post natal	1.9E-08	1.9E-08	2.7E-07	1.9E-08	5.5E-07	3.1E-07	5.7E-07	6.2E-07	2.9E-08	7.0E-08
	total	3.2E-08	2.1E-08	3.7E-07	3.2E-08	6.6E-07	4.2E-07	7.8E-07	2.0E-06	4.3E-08	1.0E-07
during	in utero	3.4E-09	4.4E-10	4.6E-08	3.4E-09	4.9E-08	5.0E-08	9.4E-08	3.7E-07	4.0E-09	1.1E-08
	post natal	3.7E-08	3.7E-08	5.0E-07	3.7E-08	1.0E-06	5.9E-07	1.1E-06	1.2E-06	5.5E-08	1.3E-07
	total	4.0E-08	3.7E-08	5.5E-07	4.0E-08	1.0E-06	6.4E-07	1.2E-06	1.6E-06	5.9E-08	1.4E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-210
($T_{1/2} = 5.01$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 0.05

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	9.3E-22	5.2E-25	9.3E-22	9.3E-22	9.3E-22	9.3E-22	9.4E-22	9.3E-22	9.3E-22	9.3E-22
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-37	0.0E+00	3.8E-39	0.0E+00
	total	9.3E-22	5.2E-25	9.3E-22	9.3E-22	9.3E-22	9.3E-22	9.4E-22	9.3E-22	9.3E-22	9.3E-22
concep ‡	in utero	1.4E-10	1.4E-13	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
	post natal	3.4E-28	3.4E-28	3.4E-28	3.4E-28	3.4E-28	3.4E-28	5.2E-26	3.4E-28	9.8E-28	3.9E-28
	total	1.4E-10	1.4E-13	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10	1.4E-10
5	in utero	1.3E-10	2.0E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	3.8E-10	1.3E-10	1.3E-10	1.3E-10
	post natal	5.2E-26	5.2E-26	5.2E-26	5.2E-26	5.2E-26	5.2E-26	7.9E-24	5.2E-26	1.5E-25	6.0E-26
	total	1.3E-10	2.0E-11	1.3E-10	1.3E-10	1.3E-10	1.3E-10	3.8E-10	1.3E-10	1.3E-10	1.3E-10
10	in utero	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	2.5E-09	1.6E-11	6.2E-11	1.8E-11
	post natal	7.9E-24	7.9E-24	7.9E-24	7.9E-24	7.9E-24	7.9E-24	1.2E-21	7.9E-24	2.3E-23	9.1E-24
	total	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	1.6E-11	2.5E-09	1.6E-11	6.2E-11	1.8E-11
15	in utero	1.5E-11	0.0E+00	1.5E-11	1.5E-11	1.5E-11	1.5E-11	2.1E-09	1.5E-11	1.2E-10	2.0E-11
	post natal	1.2E-21	1.2E-21	1.2E-21	1.2E-21	1.2E-21	1.2E-21	1.8E-19	1.2E-21	3.5E-21	1.4E-21
	total	1.5E-11	1.2E-21	1.5E-11	1.5E-11	1.5E-11	1.5E-11	2.1E-09	1.5E-11	1.2E-10	2.0E-11
25	in utero	1.4E-11	0.0E+00	1.4E-11	1.4E-11	1.4E-11	1.4E-11	2.1E-09	1.4E-11	1.3E-10	2.0E-11
	post natal	2.8E-17	2.8E-17	2.8E-17	2.8E-17	2.8E-17	2.8E-17	4.2E-15	2.8E-17	8.0E-17	3.2E-17
	total	1.4E-11	2.8E-17	1.4E-11	1.4E-11	1.4E-11	1.4E-11	2.1E-09	1.4E-11	1.3E-10	2.0E-11
35	in utero	1.3E-11	0.0E+00	1.3E-11	1.3E-11	1.3E-11	1.3E-11	1.9E-09	1.3E-11	1.3E-10	1.9E-11
	post natal	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	9.5E-11	6.3E-13	1.8E-12	7.3E-13
	total	1.4E-11	6.3E-13	1.4E-11	1.4E-11	1.4E-11	1.4E-11	2.0E-09	1.4E-11	1.3E-10	2.0E-11
Chronic											
-260 §	in utero	7.0E-13	5.5E-16	7.0E-13	7.0E-13	7.0E-13	7.0E-13	7.1E-13	7.0E-13	7.0E-13	7.0E-13
	post natal	1.3E-30	1.3E-30	1.3E-30	1.3E-30	1.3E-30	1.3E-30	2.0E-28	1.3E-30	3.7E-30	1.5E-30
	total	7.0E-13	5.5E-16	7.0E-13	7.0E-13	7.0E-13	7.0E-13	7.1E-13	7.0E-13	7.0E-13	7.0E-13
-52	in utero	3.5E-12	2.7E-15	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.6E-12	3.5E-12	3.5E-12	3.5E-12
	post natal	6.5E-30	6.5E-30	6.5E-30	6.5E-30	6.5E-30	6.5E-30	9.8E-28	6.5E-30	1.9E-29	7.5E-30
	total	3.5E-12	2.7E-15	3.5E-12	3.5E-12	3.5E-12	3.5E-12	3.6E-12	3.5E-12	3.5E-12	3.5E-12
during	in utero	3.6E-11	6.5E-12	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.8E-09	3.6E-11	4.6E-11	3.6E-11
	post natal	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	2.9E-13	4.3E-11	2.9E-13	8.2E-13	4.1E-13
	total	3.6E-11	6.8E-12	3.6E-11	3.6E-11	3.6E-11	3.6E-11	1.8E-09	3.6E-11	4.7E-11	3.6E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-210
($T_{1/2} = 5.01$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M f1 = 0.05

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.2E-16	5.7E-17	4.2E-16	4.2E-16	4.2E-16	4.2E-16	7.3E-15	4.2E-16	4.6E-16	4.2E-16
	post natal	2.0E-19	2.0E-19	2.0E-19	2.0E-19	2.0E-19	2.0E-19	3.0E-17	2.0E-19	5.6E-19	2.2E-19
	total	4.2E-16	5.7E-17	4.2E-16	4.2E-16	4.2E-16	4.2E-16	7.3E-15	4.2E-16	4.6E-16	4.2E-16
-26	in utero	1.1E-12	1.5E-13	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.9E-11	1.1E-12	1.2E-12	1.1E-12
	post natal	5.1E-16	5.1E-16	5.1E-16	5.1E-16	5.1E-16	5.1E-16	7.7E-14	5.1E-16	1.5E-15	5.8E-16
	total	1.1E-12	1.5E-13	1.1E-12	1.1E-12	1.1E-12	1.1E-12	1.9E-11	1.1E-12	1.2E-12	1.1E-12
concep ‡	in utero	3.3E-11	1.4E-12	3.3E-11	3.3E-11	3.3E-11	3.3E-11	1.8E-10	3.3E-11	3.3E-11	3.3E-11
	post natal	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	3.7E-15	5.6E-13	3.7E-15	1.1E-14	4.2E-15
	total	3.3E-11	1.4E-12	3.3E-11	3.3E-11	3.3E-11	3.3E-11	1.8E-10	3.3E-11	3.3E-11	3.3E-11
5	in utero	2.6E-11	5.5E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	3.1E-10	2.6E-11	2.7E-11	2.6E-11
	post natal	5.4E-15	5.4E-15	5.4E-15	5.4E-15	5.4E-15	5.4E-15	8.2E-13	5.4E-15	1.6E-14	6.2E-15
	total	2.6E-11	5.5E-12	2.6E-11	2.6E-11	2.6E-11	2.6E-11	3.1E-10	2.6E-11	2.7E-11	2.6E-11
10	in utero	4.4E-12	3.2E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	6.7E-10	4.4E-12	1.7E-11	5.0E-12
	post natal	7.9E-15	7.9E-15	7.9E-15	7.9E-15	7.9E-15	7.9E-15	1.2E-12	7.9E-15	2.3E-14	9.1E-15
	total	4.4E-12	3.2E-12	4.4E-12	4.4E-12	4.4E-12	4.4E-12	6.7E-10	4.4E-12	1.7E-11	5.0E-12
15	in utero	4.1E-12	0.0E+00	4.1E-12	4.1E-12	4.1E-12	4.1E-12	5.8E-10	4.1E-12	3.3E-11	5.6E-12
	post natal	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.2E-14	1.8E-12	1.2E-14	3.4E-14	1.4E-14
	total	4.1E-12	1.2E-14	4.1E-12	4.1E-12	4.1E-12	4.1E-12	5.8E-10	4.1E-12	3.3E-11	5.6E-12
25	in utero	3.6E-12	0.0E+00	3.6E-12	3.6E-12	3.6E-12	3.6E-12	5.2E-10	3.6E-12	3.2E-11	5.1E-12
	post natal	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	2.8E-14	4.2E-12	2.8E-14	8.0E-14	3.2E-14
	total	3.6E-12	2.8E-14	3.6E-12	3.6E-12	3.6E-12	3.6E-12	5.2E-10	3.6E-12	3.2E-11	5.1E-12
35	in utero	2.5E-12	0.0E+00	2.5E-12	2.5E-12	2.5E-12	2.5E-12	3.7E-10	2.5E-12	2.4E-11	3.5E-12
	post natal	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	1.8E-13	2.8E-11	1.8E-13	5.3E-13	2.1E-13
	total	2.7E-12	1.8E-13	2.7E-12	2.7E-12	2.7E-12	2.7E-12	4.0E-10	2.7E-12	2.5E-11	3.7E-12
Chronic											
-260 §	in utero	5.9E-13	6.0E-14	5.9E-13	5.9E-13	5.9E-13	5.9E-13	7.6E-12	5.9E-13	6.3E-13	5.9E-13
	post natal	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	1.9E-16	2.8E-14	1.9E-16	5.4E-16	2.1E-16
	total	5.9E-13	6.0E-14	5.9E-13	5.9E-13	5.9E-13	5.9E-13	7.6E-12	5.9E-13	6.3E-13	5.9E-13
-52	in utero	2.9E-12	3.0E-13	2.9E-12	2.9E-12	2.9E-12	2.9E-12	3.7E-11	2.9E-12	3.1E-12	2.9E-12
	post natal	9.1E-16	9.1E-16	9.1E-16	9.1E-16	9.1E-16	9.1E-16	1.4E-13	9.1E-16	2.6E-15	1.0E-15
	total	2.9E-12	3.0E-13	2.9E-12	2.9E-12	2.9E-12	2.9E-12	3.7E-11	2.9E-12	3.1E-12	2.9E-12
during	in utero	8.1E-12	1.5E-12	8.1E-12	8.1E-12	8.1E-12	8.1E-12	4.8E-10	8.1E-12	1.1E-11	8.2E-12
	post natal	7.3E-14	7.3E-14	7.3E-14	7.3E-14	7.3E-14	7.3E-14	1.1E-11	7.3E-14	2.1E-13	9.7E-14
	total	8.2E-12	1.6E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	4.9E-10	8.2E-12	1.1E-11	8.3E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-210
($T_{1/2} = 5.01$ d) by the mother

Ingestion: $f_1 = 0.05$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	1.7E-22	9.4E-26	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-38	0.0E+00	0.0E+00	0.0E+00
	total	1.7E-22	9.4E-26	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22	1.7E-22
concep ‡	in utero	2.4E-11	2.6E-14	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.5E-11	2.4E-11	2.4E-11	2.4E-11
	post natal	6.0E-29	6.0E-29	6.0E-29	6.0E-29	6.0E-29	6.0E-29	9.2E-27	6.0E-29	1.7E-28	7.0E-29
	total	2.4E-11	2.6E-14	2.4E-11	2.4E-11	2.4E-11	2.4E-11	2.5E-11	2.4E-11	2.4E-11	2.4E-11
5	in utero	2.3E-11	3.5E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	6.9E-11	2.3E-11	2.3E-11	2.3E-11
	post natal	9.2E-27	9.2E-27	9.2E-27	9.2E-27	9.2E-27	9.2E-27	1.4E-24	9.2E-27	2.7E-26	1.1E-26
	total	2.3E-11	3.5E-12	2.3E-11	2.3E-11	2.3E-11	2.3E-11	6.9E-11	2.3E-11	2.3E-11	2.3E-11
10	in utero	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	4.4E-10	2.8E-12	1.1E-11	3.2E-12
	post natal	1.4E-24	1.4E-24	1.4E-24	1.4E-24	1.4E-24	1.4E-24	2.1E-22	1.4E-24	4.1E-24	1.6E-24
	total	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	2.8E-12	4.4E-10	2.8E-12	1.1E-11	3.2E-12
15	in utero	2.7E-12	0.0E+00	2.7E-12	2.7E-12	2.7E-12	2.7E-12	3.8E-10	2.7E-12	2.1E-11	3.6E-12
	post natal	2.1E-22	2.1E-22	2.1E-22	2.1E-22	2.1E-22	2.1E-22	3.2E-20	2.1E-22	6.2E-22	2.5E-22
	total	2.7E-12	2.1E-22	2.7E-12	2.7E-12	2.7E-12	2.7E-12	3.8E-10	2.7E-12	2.1E-11	3.6E-12
25	in utero	2.5E-12	0.0E+00	2.5E-12	2.5E-12	2.5E-12	2.5E-12	3.7E-10	2.5E-12	2.3E-11	3.6E-12
	post natal	5.0E-18	5.0E-18	5.0E-18	5.0E-18	5.0E-18	5.0E-18	7.5E-16	5.0E-18	1.4E-17	5.7E-18
	total	2.5E-12	5.0E-18	2.5E-12	2.5E-12	2.5E-12	2.5E-12	3.7E-10	2.5E-12	2.3E-11	3.6E-12
35	in utero	2.3E-12	0.0E+00	2.3E-12	2.3E-12	2.3E-12	2.3E-12	3.5E-10	2.3E-12	2.2E-11	3.3E-12
	post natal	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.1E-13	1.7E-11	1.1E-13	3.2E-13	1.3E-13
	total	2.4E-12	1.1E-13	2.4E-12	2.4E-12	2.4E-12	2.4E-12	3.7E-10	2.4E-12	2.2E-11	3.4E-12
Chronic											
-260 §	in utero	1.3E-13	9.8E-17	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
	post natal	2.3E-31	2.3E-31	2.3E-31	2.3E-31	2.3E-31	2.3E-31	3.5E-29	2.3E-31	6.7E-31	2.7E-31
	total	1.3E-13	9.8E-17	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13	1.3E-13
-52	in utero	6.3E-13	4.9E-16	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13
	post natal	1.2E-30	1.2E-30	1.2E-30	1.2E-30	1.2E-30	1.2E-30	1.8E-28	1.2E-30	3.3E-30	1.3E-30
	total	6.3E-13	4.9E-16	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13	6.3E-13
during	in utero	6.4E-12	1.2E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	3.1E-10	6.4E-12	8.2E-12	6.5E-12
	post natal	5.0E-14	5.0E-14	5.0E-14	5.0E-14	5.0E-14	5.0E-14	7.6E-12	5.0E-14	1.4E-13	7.1E-14
	total	6.4E-12	1.2E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	3.2E-10	6.4E-12	8.3E-12	6.6E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-214
($T_{1/2} = 0.332$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F f1 = 0.05

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	6.5E-26	5.8E-29	6.5E-26	6.5E-26	6.5E-26	6.5E-26	6.6E-26	6.5E-26	6.5E-26	6.5E-26
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	6.5E-26	5.8E-29	6.5E-26	6.5E-26	6.5E-26	6.5E-26	6.6E-26	6.5E-26	6.5E-26	6.5E-26
concep ‡	in utero	9.8E-11	1.7E-18	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11
	post natal	4.4E-32	4.4E-32	4.4E-32	4.4E-32	4.4E-32	4.4E-32	6.6E-30	4.4E-32	1.3E-31	5.1E-32
	total	9.8E-11	1.7E-18	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11
5	in utero	9.8E-11	6.2E-17	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11
	post natal	5.2E-30	5.2E-30	5.2E-30	5.2E-30	5.2E-30	5.2E-30	7.9E-28	5.2E-30	1.5E-29	6.1E-30
	total	9.8E-11	6.2E-17	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11	9.8E-11
10	in utero	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	1.1E-09	8.2E-12	2.9E-11	9.2E-12
	post natal	6.1E-28	6.1E-28	6.1E-28	6.1E-28	6.1E-28	6.1E-28	9.2E-26	6.1E-28	1.8E-27	7.2E-28
	total	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	8.2E-12	1.1E-09	8.2E-12	2.9E-11	9.2E-12
15	in utero	7.7E-12	0.0E+00	7.7E-12	7.7E-12	7.7E-12	7.7E-12	9.1E-10	7.7E-12	5.3E-11	1.0E-11
	post natal	6.9E-26	6.9E-26	6.9E-26	6.9E-26	6.9E-26	6.9E-26	1.0E-23	6.9E-26	2.0E-25	8.2E-26
	total	7.7E-12	6.9E-26	7.7E-12	7.7E-12	7.7E-12	7.7E-12	9.1E-10	7.7E-12	5.3E-11	1.0E-11
25	in utero	7.2E-12	0.0E+00	7.2E-12	7.2E-12	7.2E-12	7.2E-12	8.7E-10	7.2E-12	5.5E-11	9.6E-12
	post natal	7.5E-22	7.5E-22	7.5E-22	7.5E-22	7.5E-22	7.5E-22	1.1E-19	7.5E-22	2.2E-21	9.0E-22
	total	7.2E-12	7.5E-22	7.2E-12	7.2E-12	7.2E-12	7.2E-12	8.7E-10	7.2E-12	5.5E-11	9.6E-12
35	in utero	7.0E-12	0.0E+00	7.0E-12	7.0E-12	7.0E-12	7.0E-12	8.9E-10	7.0E-12	5.9E-11	9.6E-12
	post natal	3.3E-18	3.3E-18	3.3E-18	3.3E-18	3.3E-18	3.3E-18	5.0E-16	3.3E-18	9.5E-18	4.5E-18
	total	7.0E-12	3.3E-18	7.0E-12	7.0E-12	7.0E-12	7.0E-12	8.9E-10	7.0E-12	5.9E-11	9.6E-12
Chronic											
-260 §	in utero	1.0E-15	7.8E-21	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15
	post natal	1.7E-34	1.7E-34	1.7E-34	1.7E-34	1.7E-34	1.7E-34	2.7E-32	1.7E-34	5.0E-34	2.1E-34
	total	1.0E-15	7.8E-21	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15	1.0E-15
-52	in utero	5.1E-15	3.9E-20	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15
	post natal	8.7E-34	8.7E-34	8.7E-34	8.7E-34	8.7E-34	8.7E-34	1.3E-31	8.7E-34	2.5E-33	1.0E-33
	total	5.1E-15	3.9E-20	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15	5.1E-15
during	in utero	2.7E-11	4.1E-12	2.7E-11	2.7E-11	2.7E-11	2.7E-11	7.6E-10	2.7E-11	3.1E-11	2.7E-11
	post natal	5.0E-16	5.0E-16	5.0E-16	5.0E-16	5.0E-16	5.0E-16	7.6E-14	5.0E-16	1.4E-15	5.5E-16
	total	2.7E-11	4.1E-12	2.7E-11	2.7E-11	2.7E-11	2.7E-11	7.6E-10	2.7E-11	3.1E-11	2.7E-11

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-214
($T_{1/2} = 0.332$ h) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M f1 = 0.05

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.1E-18	3.2E-19	2.1E-18	2.1E-18	2.1E-18	2.1E-18	5.5E-17	2.1E-18	2.4E-18	2.1E-18
	post natal	3.1E-21	3.1E-21	3.1E-21	3.1E-21	3.1E-21	3.1E-21	4.7E-19	3.1E-21	8.9E-21	3.6E-21
	total	2.1E-18	3.2E-19	2.1E-18	2.1E-18	2.1E-18	2.1E-18	5.5E-17	2.1E-18	2.4E-18	2.1E-18
-26	in utero	1.0E-16	1.6E-17	1.0E-16	1.0E-16	1.0E-16	1.0E-16	3.1E-15	1.0E-16	1.2E-16	1.0E-16
	post natal	1.9E-19	1.9E-19	1.9E-19	1.9E-19	1.9E-19	1.9E-19	3.0E-17	1.9E-19	5.6E-19	2.3E-19
	total	1.0E-16	1.6E-17	1.0E-16	1.0E-16	1.0E-16	1.0E-16	3.1E-15	1.0E-16	1.2E-16	1.0E-16
concep ‡	in utero	1.1E-11	2.1E-17	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	post natal	4.7E-19	4.7E-19	4.7E-19	4.7E-19	4.7E-19	4.7E-19	7.2E-17	4.7E-19	1.4E-18	5.6E-19
	total	1.1E-11	2.1E-17	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
5	in utero	1.1E-11	2.2E-17	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
	post natal	5.4E-19	5.4E-19	5.4E-19	5.4E-19	5.4E-19	5.4E-19	8.2E-17	5.4E-19	1.6E-18	6.4E-19
	total	1.1E-11	2.3E-17	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11	1.1E-11
10	in utero	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	1.1E-10	2.1E-12	4.1E-12	2.2E-12
	post natal	6.1E-19	6.1E-19	6.1E-19	6.1E-19	6.1E-19	6.1E-19	9.3E-17	6.1E-19	1.8E-18	7.3E-19
	total	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	2.1E-12	1.1E-10	2.1E-12	4.1E-12	2.2E-12
15	in utero	1.9E-12	0.0E+00	1.9E-12	1.9E-12	1.9E-12	1.9E-12	9.4E-11	1.9E-12	6.5E-12	2.2E-12
	post natal	6.8E-19	6.8E-19	6.8E-19	6.8E-19	6.8E-19	6.8E-19	1.0E-16	6.8E-19	2.0E-18	8.0E-19
	total	1.9E-12	6.8E-19	1.9E-12	1.9E-12	1.9E-12	1.9E-12	9.4E-11	1.9E-12	6.5E-12	2.2E-12
25	in utero	1.8E-12	0.0E+00	1.8E-12	1.8E-12	1.8E-12	1.8E-12	9.0E-11	1.8E-12	6.7E-12	2.0E-12
	post natal	7.4E-19	7.4E-19	7.4E-19	7.4E-19	7.4E-19	7.4E-19	1.1E-16	7.4E-19	2.1E-18	9.0E-19
	total	1.8E-12	7.4E-19	1.8E-12	1.8E-12	1.8E-12	1.8E-12	9.0E-11	1.8E-12	6.7E-12	2.0E-12
35	in utero	1.5E-12	0.0E+00	1.5E-12	1.5E-12	1.5E-12	1.5E-12	9.2E-11	1.5E-12	6.8E-12	1.8E-12
	post natal	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	9.6E-19	1.5E-16	9.6E-19	2.8E-18	1.3E-18
	total	1.5E-12	9.6E-19	1.5E-12	1.5E-12	1.5E-12	1.5E-12	9.2E-11	1.5E-12	6.8E-12	1.8E-12
Chronic											
-260 §	in utero	1.6E-16	3.8E-18	1.6E-16	1.6E-16	1.6E-16	1.6E-16	9.0E-16	1.6E-16	1.6E-16	1.6E-16
	post natal	5.1E-20	5.1E-20	5.1E-20	5.1E-20	5.1E-20	5.1E-20	7.8E-18	5.1E-20	1.5E-19	6.0E-20
	total	1.6E-16	3.9E-18	1.6E-16	1.6E-16	1.6E-16	1.6E-16	9.1E-16	1.6E-16	1.6E-16	1.6E-16
-52	in utero	7.7E-16	1.6E-17	7.7E-16	7.7E-16	7.7E-16	7.7E-16	3.9E-15	7.7E-16	7.9E-16	7.7E-16
	post natal	2.2E-19	2.2E-19	2.2E-19	2.2E-19	2.2E-19	2.2E-19	3.4E-17	2.2E-19	6.4E-19	2.6E-19
	total	7.7E-16	1.6E-17	7.7E-16	7.7E-16	7.7E-16	7.7E-16	3.9E-15	7.7E-16	7.9E-16	7.7E-16
during	in utero	3.8E-12	6.7E-13	3.8E-12	3.8E-12	3.8E-12	3.8E-12	7.8E-11	3.8E-12	4.3E-12	3.8E-12
	post natal	5.2E-17	5.2E-17	5.2E-17	5.2E-17	5.2E-17	5.2E-17	7.8E-15	5.2E-17	1.5E-16	5.7E-17
	total	3.8E-12	6.7E-13	3.8E-12	3.8E-12	3.8E-12	3.8E-12	7.8E-11	3.8E-12	4.3E-12	3.8E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Bi-214
($T_{1/2} = 0.332$ h) by the mother

Ingestion: $f_1 = 0.05$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
-26	in utero	1.2E-26	1.0E-29	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26
	post natal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	total	1.2E-26	1.0E-29	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26
concep ‡	in utero	6.4E-12	3.1E-19	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12
	post natal	7.8E-33	7.8E-33	7.8E-33	7.8E-33	7.8E-33	7.8E-33	1.2E-30	7.8E-33	2.2E-32	9.2E-33
	total	6.4E-12	3.1E-19	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12	6.4E-12
5	in utero	6.3E-12	1.1E-17	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12
	post natal	9.3E-31	9.3E-31	9.3E-31	9.3E-31	9.3E-31	9.3E-31	1.4E-28	9.3E-31	2.7E-30	1.1E-30
	total	6.3E-12	1.1E-17	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12	6.3E-12
10	in utero	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	1.4E-11	4.9E-12	5.1E-12	4.9E-12
	post natal	1.1E-28	1.1E-28	1.1E-28	1.1E-28	1.1E-28	1.1E-28	1.6E-26	1.1E-28	3.1E-28	1.3E-28
	total	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	4.9E-12	1.4E-11	4.9E-12	5.1E-12	4.9E-12
15	in utero	4.6E-12	0.0E+00	4.6E-12	4.6E-12	4.6E-12	4.6E-12	1.2E-11	4.6E-12	5.0E-12	4.6E-12
	post natal	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.2E-26	1.9E-24	1.2E-26	3.5E-26	1.5E-26
	total	4.6E-12	1.2E-26	4.6E-12	4.6E-12	4.6E-12	4.6E-12	1.2E-11	4.6E-12	5.0E-12	4.6E-12
25	in utero	4.2E-12	0.0E+00	4.2E-12	4.2E-12	4.2E-12	4.2E-12	1.2E-11	4.2E-12	4.6E-12	4.2E-12
	post natal	1.3E-22	1.3E-22	1.3E-22	1.3E-22	1.3E-22	1.3E-22	2.0E-20	1.3E-22	3.8E-22	1.6E-22
	total	4.2E-12	1.3E-22	4.2E-12	4.2E-12	4.2E-12	4.2E-12	1.2E-11	4.2E-12	4.6E-12	4.2E-12
35	in utero	3.2E-12	0.0E+00	3.2E-12	3.2E-12	3.2E-12	3.2E-12	1.1E-11	3.2E-12	3.7E-12	3.3E-12
	post natal	5.9E-19	5.9E-19	5.9E-19	5.9E-19	5.9E-19	5.9E-19	8.9E-17	5.9E-19	1.7E-18	8.0E-19
	total	3.2E-12	5.9E-19	3.2E-12	3.2E-12	3.2E-12	3.2E-12	1.1E-11	3.2E-12	3.7E-12	3.3E-12
Chronic											
-260 §	in utero	1.1E-16	1.4E-21	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
	post natal	3.1E-35	3.1E-35	3.1E-35	3.1E-35	3.1E-35	3.1E-35	4.7E-33	3.1E-35	9.0E-35	3.7E-35
	total	1.1E-16	1.4E-21	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16	1.1E-16
-52	in utero	5.5E-16	7.0E-21	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16
	post natal	1.6E-34	1.6E-34	1.6E-34	1.6E-34	1.6E-34	1.6E-34	2.4E-32	1.6E-34	4.5E-34	1.8E-34
	total	5.5E-16	7.0E-21	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16	5.5E-16
during	in utero	4.6E-12	1.1E-12	4.6E-12	4.6E-12	4.6E-12	4.6E-12	1.1E-11	4.6E-12	4.6E-12	4.6E-12
	post natal	4.4E-18	4.4E-18	4.4E-18	4.4E-18	4.4E-18	4.4E-18	6.6E-16	4.4E-18	1.3E-17	4.9E-18
	total	4.6E-12	1.1E-12	4.6E-12	4.6E-12	4.6E-12	4.6E-12	1.1E-11	4.6E-12	4.6E-12	4.6E-12

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Po-210
($T_{1/2} = 138$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.5E-15	4.6E-16	7.6E-15	4.5E-15	7.8E-15	7.9E-15	1.2E-14	1.0E-13	4.6E-15	5.1E-15
	post natal	3.5E-18	3.5E-18	5.4E-17	3.5E-18	5.6E-17	6.5E-17	1.1E-16	1.4E-16	5.6E-18	1.3E-17
	total	4.5E-15	4.6E-16	7.7E-15	4.5E-15	7.9E-15	8.0E-15	1.2E-14	1.0E-13	4.6E-15	5.1E-15
-26	in utero	4.3E-09	4.4E-10	7.3E-09	4.3E-09	7.5E-09	7.6E-09	1.1E-08	1.0E-07	4.4E-09	4.9E-09
	post natal	3.4E-12	3.4E-12	5.2E-11	3.4E-12	5.4E-11	6.2E-11	1.1E-10	1.4E-10	5.4E-12	1.3E-11
	total	4.3E-09	4.4E-10	7.4E-09	4.3E-09	7.6E-09	7.7E-09	1.1E-08	1.0E-07	4.4E-09	4.9E-09
concep ‡	in utero	1.4E-07	1.4E-08	2.3E-07	1.4E-07	2.4E-07	2.4E-07	3.5E-07	3.2E-06	1.4E-07	1.6E-07
	post natal	1.1E-10	1.1E-10	1.6E-09	1.1E-10	1.7E-09	2.0E-09	3.4E-09	4.3E-09	1.7E-10	4.0E-10
	total	1.4E-07	1.4E-08	2.3E-07	1.4E-07	2.4E-07	2.4E-07	3.5E-07	3.2E-06	1.4E-07	1.6E-07
5	in utero	8.0E-08	2.7E-08	2.6E-07	8.0E-08	2.7E-07	2.8E-07	5.0E-07	5.9E-06	8.3E-08	1.1E-07
	post natal	2.1E-10	2.1E-10	3.2E-09	2.1E-10	3.3E-09	3.8E-09	6.6E-09	8.3E-09	3.3E-10	7.8E-10
	total	8.0E-08	2.7E-08	2.6E-07	8.0E-08	2.7E-07	2.8E-07	5.1E-07	5.9E-06	8.3E-08	1.1E-07
10	in utero	1.8E-08	9.2E-09	2.9E-07	1.8E-08	3.1E-07	3.1E-07	5.8E-07	6.0E-06	3.2E-08	6.9E-08
	post natal	4.0E-10	4.0E-10	6.1E-09	4.0E-10	6.4E-09	7.4E-09	1.3E-08	1.6E-08	6.3E-10	1.5E-09
	total	1.8E-08	9.6E-09	3.0E-07	1.8E-08	3.2E-07	3.2E-07	5.9E-07	6.0E-06	3.3E-08	7.1E-08
15	in utero	1.8E-08	0.0E+00	2.8E-07	1.8E-08	2.9E-07	3.1E-07	5.3E-07	2.7E-06	5.1E-08	6.8E-08
	post natal	7.7E-10	7.7E-10	1.2E-08	7.7E-10	1.2E-08	1.4E-08	2.5E-08	3.1E-08	1.2E-09	2.9E-09
	total	1.9E-08	7.7E-10	2.9E-07	1.9E-08	3.0E-07	3.2E-07	5.6E-07	2.7E-06	5.2E-08	7.1E-08
25	in utero	1.5E-08	0.0E+00	2.3E-07	1.5E-08	2.5E-07	2.7E-07	4.5E-07	1.1E-06	4.8E-08	5.7E-08
	post natal	2.9E-09	2.9E-09	4.4E-08	2.9E-09	4.6E-08	5.4E-08	9.3E-08	1.2E-07	4.6E-09	1.1E-08
	total	1.8E-08	2.9E-09	2.7E-07	1.8E-08	3.0E-07	3.2E-07	5.4E-07	1.2E-06	5.3E-08	6.8E-08
35	in utero	5.8E-09	0.0E+00	9.1E-08	5.8E-09	9.6E-08	1.1E-07	1.8E-07	2.7E-07	2.2E-08	2.3E-08
	post natal	1.1E-08	1.1E-08	1.7E-07	1.1E-08	1.7E-07	2.0E-07	3.5E-07	4.4E-07	1.7E-08	4.1E-08
	total	1.7E-08	1.1E-08	2.6E-07	1.7E-08	2.7E-07	3.1E-07	5.3E-07	7.1E-07	3.9E-08	6.4E-08
Chronic											
-260 §	in utero	4.0E-09	4.0E-10	6.7E-09	4.0E-09	6.9E-09	6.9E-09	1.0E-08	9.2E-08	4.0E-09	4.5E-09
	post natal	3.1E-12	3.1E-12	4.7E-11	3.1E-12	4.9E-11	5.7E-11	9.9E-11	1.2E-10	4.9E-12	1.2E-11
	total	4.0E-09	4.1E-10	6.7E-09	4.0E-09	6.9E-09	7.0E-09	1.0E-08	9.2E-08	4.0E-09	4.5E-09
-52	in utero	2.0E-08	2.0E-09	3.4E-08	2.0E-08	3.5E-08	3.5E-08	5.1E-08	4.6E-07	2.0E-08	2.2E-08
	post natal	1.5E-11	1.5E-11	2.4E-10	1.5E-11	2.5E-10	2.9E-10	4.9E-10	6.2E-10	2.5E-11	5.8E-11
	total	2.0E-08	2.0E-09	3.4E-08	2.0E-08	3.5E-08	3.5E-08	5.1E-08	4.6E-07	2.0E-08	2.2E-08
during	in utero	3.0E-08	6.1E-09	2.2E-07	3.0E-08	2.4E-07	2.5E-07	4.3E-07	2.7E-06	3.2E-08	6.6E-08
	post natal	3.2E-09	3.2E-09	4.9E-08	3.2E-09	5.1E-08	5.9E-08	1.0E-07	1.3E-07	5.1E-09	1.2E-08
	total	3.3E-08	9.3E-09	2.7E-07	3.3E-08	2.9E-07	3.1E-07	5.3E-07	2.8E-06	3.7E-08	7.8E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Po-210
($T_{1/2} = 138$ d) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.1$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	6.1E-13	7.9E-14	1.4E-12	6.1E-13	1.5E-12	1.5E-12	2.4E-12	2.1E-11	6.3E-13	7.7E-13
	post natal	3.2E-15	3.2E-15	4.9E-14	3.2E-15	5.2E-14	6.0E-14	1.0E-13	1.3E-13	5.1E-15	1.2E-14
	total	6.1E-13	8.2E-14	1.4E-12	6.1E-13	1.6E-12	1.6E-12	2.5E-12	2.1E-11	6.4E-13	7.8E-13
-26	in utero	2.5E-09	3.0E-10	5.3E-09	2.5E-09	5.5E-09	5.5E-09	8.6E-09	7.6E-08	2.5E-09	3.0E-09
	post natal	9.1E-12	9.1E-12	1.4E-10	9.1E-12	1.5E-10	1.7E-10	2.9E-10	3.7E-10	1.4E-11	3.4E-11
	total	2.5E-09	3.1E-10	5.4E-09	2.5E-09	5.7E-09	5.7E-09	8.9E-09	7.6E-08	2.5E-09	3.0E-09
concep ‡	in utero	3.5E-08	4.1E-09	6.9E-08	3.5E-08	7.1E-08	7.2E-08	1.1E-07	9.9E-07	3.6E-08	4.2E-08
	post natal	8.2E-11	8.2E-11	1.3E-09	8.2E-11	1.3E-09	1.5E-09	2.6E-09	3.3E-09	1.3E-10	3.1E-10
	total	3.5E-08	4.1E-09	7.0E-08	3.5E-08	7.2E-08	7.3E-08	1.1E-07	9.9E-07	3.6E-08	4.2E-08
5	in utero	2.0E-08	6.8E-09	7.6E-08	2.0E-08	8.0E-08	8.1E-08	1.5E-07	1.6E-06	2.1E-08	3.0E-08
	post natal	1.3E-10	1.3E-10	2.0E-09	1.3E-10	2.1E-09	2.4E-09	4.2E-09	5.2E-09	2.1E-10	4.9E-10
	total	2.0E-08	7.0E-09	7.8E-08	2.0E-08	8.2E-08	8.3E-08	1.5E-07	1.6E-06	2.1E-08	3.0E-08
10	in utero	5.1E-09	2.2E-09	8.0E-08	5.1E-09	8.6E-08	8.8E-08	1.6E-07	1.5E-06	8.9E-09	1.9E-08
	post natal	2.1E-10	2.1E-10	3.2E-09	2.1E-10	3.3E-09	3.9E-09	6.7E-09	8.4E-09	3.3E-10	7.9E-10
	total	5.3E-09	2.4E-09	8.3E-08	5.3E-09	8.9E-08	9.2E-08	1.7E-07	1.5E-06	9.2E-09	2.0E-08
15	in utero	4.8E-09	0.0E+00	7.6E-08	4.8E-09	8.1E-08	8.5E-08	1.5E-07	7.1E-07	1.4E-08	1.9E-08
	post natal	3.4E-10	3.4E-10	5.2E-09	3.4E-10	5.5E-09	6.3E-09	1.1E-08	1.4E-08	5.4E-10	1.3E-09
	total	5.1E-09	3.4E-10	8.1E-08	5.1E-09	8.7E-08	9.1E-08	1.6E-07	7.2E-07	1.5E-08	2.0E-08
25	in utero	3.8E-09	0.0E+00	6.1E-08	3.8E-09	6.4E-08	6.9E-08	1.2E-07	2.7E-07	1.3E-08	1.5E-08
	post natal	9.5E-10	9.5E-10	1.5E-08	9.5E-10	1.5E-08	1.8E-08	3.0E-08	3.8E-08	1.5E-09	3.6E-09
	total	4.7E-09	9.5E-10	7.6E-08	4.7E-09	7.9E-08	8.7E-08	1.5E-07	3.1E-07	1.5E-08	1.9E-08
35	in utero	1.4E-09	0.0E+00	2.1E-08	1.4E-09	2.3E-08	2.5E-08	4.3E-08	6.4E-08	5.2E-09	5.3E-09
	post natal	2.7E-09	2.7E-09	4.1E-08	2.7E-09	4.3E-08	5.0E-08	8.7E-08	1.1E-07	4.3E-09	1.0E-08
	total	4.1E-09	2.7E-09	6.2E-08	4.1E-09	6.6E-08	7.5E-08	1.3E-07	1.7E-07	9.5E-09	1.5E-08
Chronic											
-260 §	in utero	1.3E-09	1.5E-10	2.7E-09	1.3E-09	2.7E-09	2.8E-09	4.3E-09	3.8E-08	1.4E-09	1.6E-09
	post natal	3.7E-12	3.7E-12	5.7E-11	3.7E-12	5.9E-11	6.9E-11	1.2E-10	1.5E-10	5.9E-12	1.4E-11
	total	1.3E-09	1.6E-10	2.8E-09	1.3E-09	2.8E-09	2.9E-09	4.4E-09	3.8E-08	1.4E-09	1.6E-09
-52	in utero	6.6E-09	7.6E-10	1.3E-08	6.6E-09	1.4E-08	1.4E-08	2.1E-08	1.9E-07	6.7E-09	7.8E-09
	post natal	1.8E-11	1.8E-11	2.8E-10	1.8E-11	2.9E-10	3.4E-10	5.8E-10	7.3E-10	2.9E-11	6.9E-11
	total	6.6E-09	7.8E-10	1.3E-08	6.6E-09	1.4E-08	1.4E-08	2.2E-08	1.9E-07	6.7E-09	7.9E-09
during	in utero	7.6E-09	1.5E-09	6.1E-08	7.6E-09	6.5E-08	6.8E-08	1.2E-07	7.2E-07	8.4E-09	1.8E-08
	post natal	9.2E-10	9.2E-10	1.4E-08	9.2E-10	1.5E-08	1.7E-08	2.9E-08	3.7E-08	1.5E-09	3.5E-09
	total	8.5E-09	2.5E-09	7.5E-08	8.5E-09	8.0E-08	8.5E-08	1.5E-07	7.6E-07	9.9E-09	2.2E-08

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Po-210
($T_{1/2} = 138$ d) by the mother

Ingestion: $f_1 = 0.1$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-15	1.5E-16	2.6E-15	1.5E-15	2.6E-15	2.6E-15	3.9E-15	3.5E-14	1.5E-15	1.7E-15
	post natal	1.2E-18	1.2E-18	1.8E-17	1.2E-18	1.9E-17	2.2E-17	3.8E-17	4.7E-17	1.9E-18	4.4E-18
	total	1.5E-15	1.6E-16	2.6E-15	1.5E-15	2.6E-15	2.6E-15	3.9E-15	3.5E-14	1.5E-15	1.7E-15
-26	in utero	1.5E-09	1.5E-10	2.5E-09	1.5E-09	2.5E-09	2.5E-09	3.8E-09	3.4E-08	1.5E-09	1.6E-09
	post natal	1.1E-12	1.1E-12	1.7E-11	1.1E-12	1.8E-11	2.1E-11	3.6E-11	4.6E-11	1.8E-12	4.3E-12
	total	1.5E-09	1.5E-10	2.5E-09	1.5E-09	2.5E-09	2.5E-09	3.8E-09	3.4E-08	1.5E-09	1.6E-09
concep ‡	in utero	4.6E-08	4.7E-09	7.8E-08	4.6E-08	8.0E-08	8.1E-08	1.2E-07	1.1E-06	4.7E-08	5.2E-08
	post natal	3.6E-11	3.6E-11	5.5E-10	3.6E-11	5.7E-10	6.6E-10	1.1E-09	1.4E-09	5.7E-11	1.4E-10
	total	4.6E-08	4.7E-09	7.9E-08	4.6E-08	8.1E-08	8.2E-08	1.2E-07	1.1E-06	4.7E-08	5.2E-08
5	in utero	2.7E-08	9.1E-09	8.8E-08	2.7E-08	9.2E-08	9.3E-08	1.7E-07	2.0E-06	2.8E-08	3.8E-08
	post natal	6.9E-11	6.9E-11	1.1E-09	6.9E-11	1.1E-09	1.3E-09	2.2E-09	2.8E-09	1.1E-10	2.6E-10
	total	2.7E-08	9.1E-09	8.9E-08	2.7E-08	9.3E-08	9.4E-08	1.7E-07	2.0E-06	2.8E-08	3.8E-08
10	in utero	6.1E-09	3.1E-09	9.6E-08	6.1E-09	1.0E-07	1.0E-07	2.0E-07	2.0E-06	1.1E-08	2.3E-08
	post natal	1.3E-10	1.3E-10	2.1E-09	1.3E-10	2.1E-09	2.5E-09	4.3E-09	5.4E-09	2.1E-10	5.1E-10
	total	6.2E-09	3.2E-09	9.8E-08	6.2E-09	1.0E-07	1.0E-07	2.0E-07	2.0E-06	1.1E-08	2.4E-08
15	in utero	5.9E-09	0.0E+00	9.3E-08	5.9E-09	9.8E-08	1.0E-07	1.8E-07	9.2E-07	1.7E-08	2.3E-08
	post natal	2.6E-10	2.6E-10	4.0E-09	2.6E-10	4.2E-09	4.8E-09	8.3E-09	1.0E-08	4.1E-10	9.8E-10
	total	6.2E-09	2.6E-10	9.7E-08	6.2E-09	1.0E-07	1.0E-07	1.9E-07	9.3E-07	1.7E-08	2.4E-08
25	in utero	4.9E-09	0.0E+00	7.7E-08	4.9E-09	8.2E-08	8.9E-08	1.5E-07	3.5E-07	1.6E-08	1.9E-08
	post natal	9.7E-10	9.7E-10	1.5E-08	9.7E-10	1.6E-08	1.8E-08	3.1E-08	3.9E-08	1.5E-09	3.7E-09
	total	5.9E-09	9.7E-10	9.2E-08	5.9E-09	9.8E-08	1.1E-07	1.8E-07	3.9E-07	1.7E-08	2.3E-08
35	in utero	1.9E-09	0.0E+00	3.0E-08	1.9E-09	3.2E-08	3.5E-08	6.1E-08	9.1E-08	7.3E-09	7.5E-09
	post natal	3.7E-09	3.7E-09	5.6E-08	3.7E-09	5.8E-08	6.7E-08	1.2E-07	1.5E-07	5.8E-09	1.4E-08
	total	5.6E-09	3.7E-09	8.6E-08	5.6E-09	9.0E-08	1.0E-07	1.8E-07	2.4E-07	1.3E-08	2.2E-08
Chronic											
-260 §	in utero	1.3E-09	1.4E-10	2.3E-09	1.3E-09	2.3E-09	2.3E-09	3.4E-09	3.1E-08	1.4E-09	1.5E-09
	post natal	1.0E-12	1.0E-12	1.6E-11	1.0E-12	1.7E-11	1.9E-11	3.3E-11	4.2E-11	1.7E-12	3.9E-12
	total	1.3E-09	1.4E-10	2.3E-09	1.3E-09	2.3E-09	2.3E-09	3.4E-09	3.1E-08	1.4E-09	1.5E-09
-52	in utero	6.7E-09	6.8E-10	1.1E-08	6.7E-09	1.2E-08	1.2E-08	1.7E-08	1.5E-07	6.8E-09	7.6E-09
	post natal	5.2E-12	5.2E-12	8.0E-11	5.2E-12	8.3E-11	9.6E-11	1.7E-10	2.1E-10	8.3E-12	2.0E-11
	total	6.7E-09	6.8E-10	1.1E-08	6.7E-09	1.2E-08	1.2E-08	1.7E-08	1.5E-07	6.8E-09	7.6E-09
during	in utero	9.9E-09	2.0E-09	7.5E-08	9.9E-09	8.0E-08	8.3E-08	1.5E-07	9.1E-07	1.1E-08	2.2E-08
	post natal	1.1E-09	1.1E-09	1.6E-08	1.1E-09	1.7E-08	2.0E-08	3.4E-08	4.3E-08	1.7E-09	4.0E-09
	total	1.1E-08	3.1E-09	9.1E-08	1.1E-08	9.7E-08	1.0E-07	1.8E-07	9.5E-07	1.3E-08	2.6E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ra-226
($T_{1/2} = 1.60E+03$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.2$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.8E-10	6.4E-11	3.6E-09	4.8E-10	3.6E-09	4.8E-10	4.8E-10	4.8E-10	4.8E-10	8.9E-10
	post natal	2.6E-12	2.5E-12	1.8E-10	2.5E-12	1.2E-09	1.9E-11	4.2E-12	3.9E-12	2.5E-12	3.6E-11
	total	4.8E-10	6.6E-11	3.8E-09	4.8E-10	4.8E-09	5.0E-10	4.8E-10	4.8E-10	4.8E-10	9.3E-10
-26	in utero	6.7E-10	9.8E-11	5.0E-08	6.7E-10	5.0E-08	6.7E-10	6.7E-10	6.7E-10	6.7E-10	7.0E-09
	post natal	2.5E-11	2.4E-11	1.8E-09	2.4E-11	1.2E-08	1.8E-10	4.2E-11	4.0E-11	2.5E-11	3.6E-10
	total	7.0E-10	1.2E-10	5.2E-08	6.9E-10	6.2E-08	8.5E-10	7.1E-10	7.1E-10	7.0E-10	7.4E-09
concep ‡	in utero	2.5E-09	1.7E-10	1.8E-07	2.5E-09	1.8E-07	2.5E-09	2.5E-09	2.5E-09	2.5E-09	2.6E-08
	post natal	7.2E-11	7.1E-11	5.2E-09	7.0E-11	3.4E-08	5.2E-10	1.2E-10	1.2E-10	7.1E-11	1.0E-09
	total	2.6E-09	2.4E-10	1.9E-07	2.6E-09	2.1E-07	3.0E-09	2.6E-09	2.6E-09	2.6E-09	2.7E-08
5	in utero	2.3E-09	2.5E-10	2.6E-07	2.3E-09	2.6E-07	2.3E-09	2.3E-09	2.3E-09	2.3E-09	3.6E-08
	post natal	9.3E-11	9.1E-11	6.7E-09	9.0E-11	4.4E-08	6.8E-10	1.6E-10	1.5E-10	9.2E-11	1.4E-09
	total	2.4E-09	3.4E-10	2.7E-07	2.4E-09	3.0E-07	3.0E-09	2.5E-09	2.4E-09	2.4E-09	3.7E-08
10	in utero	6.5E-10	5.0E-10	1.1E-06	6.5E-10	1.1E-06	6.5E-10	6.5E-10	6.5E-10	6.5E-10	1.4E-07
	post natal	1.3E-10	1.3E-10	9.8E-09	1.3E-10	6.4E-08	9.7E-10	2.5E-10	2.3E-10	1.3E-10	2.0E-09
	total	7.8E-10	6.3E-10	1.1E-06	7.8E-10	1.2E-06	1.6E-09	9.0E-10	8.8E-10	7.8E-10	1.4E-07
15	in utero	7.4E-10	0.0E+00	1.6E-06	7.4E-10	1.6E-06	7.4E-10	7.4E-10	7.4E-10	7.4E-10	2.1E-07
	post natal	2.4E-10	2.3E-10	1.8E-08	2.3E-10	1.2E-07	1.7E-09	4.7E-10	4.5E-10	2.3E-10	3.6E-09
	total	9.8E-10	2.3E-10	1.6E-06	9.7E-10	1.7E-06	2.4E-09	1.2E-09	1.2E-09	9.7E-10	2.1E-07
25	in utero	8.2E-10	0.0E+00	1.9E-06	8.2E-10	1.9E-06	8.2E-10	8.2E-10	8.2E-10	8.2E-10	2.5E-07
	post natal	8.5E-10	8.4E-10	6.5E-08	8.3E-10	4.2E-07	6.2E-09	1.6E-09	1.5E-09	8.5E-10	1.3E-08
	total	1.7E-09	8.4E-10	2.0E-06	1.7E-09	2.3E-06	7.0E-09	2.4E-09	2.3E-09	1.7E-09	2.6E-07
35	in utero	5.6E-10	0.0E+00	9.6E-07	5.6E-10	9.6E-07	5.6E-10	5.6E-10	5.6E-10	5.6E-10	1.2E-07
	post natal	3.5E-09	3.4E-09	2.4E-07	3.4E-09	1.6E-06	2.5E-08	5.5E-09	5.1E-09	3.4E-09	5.0E-08
	total	4.1E-09	3.4E-09	1.2E-06	4.0E-09	2.6E-06	2.6E-08	6.1E-09	5.7E-09	4.0E-09	1.7E-07
Chronic											
-260 §	in utero	5.1E-10	7.0E-11	1.6E-08	5.1E-10	1.6E-08	5.1E-10	5.1E-10	5.1E-10	5.1E-10	2.6E-09
	post natal	8.4E-12	8.2E-12	5.9E-10	8.1E-12	3.9E-09	6.1E-11	1.4E-11	1.3E-11	8.3E-12	1.2E-10
	total	5.2E-10	7.8E-11	1.7E-08	5.2E-10	2.0E-08	5.7E-10	5.2E-10	5.2E-10	5.2E-10	2.7E-09
-52	in utero	7.1E-10	1.1E-10	6.4E-08	7.1E-10	6.4E-08	7.1E-10	7.1E-10	7.1E-10	7.1E-10	8.9E-09
	post natal	3.0E-11	2.9E-11	2.1E-09	2.9E-11	1.4E-08	2.2E-10	5.1E-11	4.8E-11	3.0E-11	4.3E-10
	total	7.4E-10	1.3E-10	6.6E-08	7.4E-10	7.8E-08	9.3E-10	7.6E-10	7.6E-10	7.4E-10	9.3E-09
during	in utero	1.1E-09	2.5E-10	1.2E-06	1.1E-09	1.2E-06	1.1E-09	1.1E-09	1.1E-09	1.1E-09	1.6E-07
	post natal	1.1E-09	1.1E-09	7.6E-08	1.1E-09	5.0E-07	8.0E-09	1.8E-09	1.7E-09	1.1E-09	1.6E-08
	total	2.2E-09	1.3E-09	1.3E-06	2.2E-09	1.7E-06	9.1E-09	2.9E-09	2.8E-09	2.2E-09	1.8E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Ra-226
($T_{1/2} = 1.60E+03$ y) by the mother

Ingestion: f_1 - see Appendix A											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	6.7E-10	8.7E-11	4.1E-09	6.7E-10	4.1E-09	6.7E-10	6.7E-10	6.7E-10	6.7E-10	1.1E-09
	post natal	3.1E-12	3.0E-12	2.1E-10	3.0E-12	1.4E-09	2.2E-11	5.0E-12	4.7E-12	3.0E-12	4.4E-11
	total	6.7E-10	9.0E-11	4.3E-09	6.7E-10	5.5E-09	6.9E-10	6.8E-10	6.7E-10	6.7E-10	1.1E-09
-26	in utero	8.8E-10	1.2E-10	8.7E-09	8.8E-10	8.7E-09	8.8E-10	8.8E-10	8.8E-10	8.8E-10	1.9E-09
	post natal	4.7E-12	4.6E-12	3.3E-10	4.5E-12	2.2E-09	3.4E-11	7.8E-12	7.4E-12	4.6E-12	6.7E-11
	total	8.8E-10	1.2E-10	9.0E-09	8.8E-10	1.1E-08	9.1E-10	8.9E-10	8.9E-10	8.8E-10	2.0E-09
concep ‡	in utero	4.1E-09	1.8E-10	7.4E-08	4.1E-09	7.4E-08	4.1E-09	4.1E-09	4.1E-09	4.1E-09	1.3E-08
	post natal	1.3E-11	1.3E-11	1.0E-09	1.3E-11	6.5E-09	9.8E-11	2.5E-11	2.4E-11	1.3E-11	2.0E-10
	total	4.1E-09	1.9E-10	7.5E-08	4.1E-09	8.1E-08	4.2E-09	4.1E-09	4.1E-09	4.1E-09	1.3E-08
5	in utero	4.0E-09	2.7E-10	1.4E-07	4.0E-09	1.4E-07	4.0E-09	4.0E-09	4.0E-09	4.0E-09	2.2E-08
	post natal	2.3E-11	2.2E-11	1.7E-09	2.2E-11	1.1E-08	1.7E-10	4.4E-11	4.2E-11	2.3E-11	3.5E-10
	total	4.0E-09	2.9E-10	1.4E-07	4.0E-09	1.5E-07	4.2E-09	4.0E-09	4.0E-09	4.0E-09	2.2E-08
10	in utero	1.1E-09	9.3E-10	1.6E-06	1.1E-09	1.6E-06	1.1E-09	1.1E-09	1.1E-09	1.1E-09	2.1E-07
	post natal	5.7E-11	5.6E-11	4.6E-09	5.5E-11	2.9E-08	4.2E-10	1.3E-10	1.3E-10	5.7E-11	9.2E-10
	total	1.2E-09	9.9E-10	1.6E-06	1.2E-09	1.6E-06	1.5E-09	1.2E-09	1.2E-09	1.2E-09	2.1E-07
15	in utero	1.3E-09	0.0E+00	2.8E-06	1.3E-09	2.8E-06	1.3E-09	1.3E-09	1.3E-09	1.3E-09	3.7E-07
	post natal	2.1E-10	2.0E-10	1.7E-08	2.0E-10	1.1E-07	1.5E-09	4.9E-10	4.8E-10	2.1E-10	3.4E-09
	total	1.5E-09	2.0E-10	2.8E-06	1.5E-09	2.9E-06	2.8E-09	1.8E-09	1.8E-09	1.5E-09	3.7E-07
25	in utero	1.5E-09	0.0E+00	3.7E-06	1.5E-09	3.7E-06	1.5E-09	1.5E-09	1.5E-09	1.5E-09	4.8E-07
	post natal	1.4E-09	1.3E-09	1.1E-07	1.3E-09	6.8E-07	9.8E-09	2.6E-09	2.5E-09	1.3E-09	2.1E-08
	total	2.9E-09	1.3E-09	3.8E-06	2.8E-09	4.4E-06	1.1E-08	4.1E-09	4.0E-09	2.8E-09	5.0E-07
35	in utero	1.1E-09	0.0E+00	2.0E-06	1.1E-09	2.0E-06	1.1E-09	1.1E-09	1.1E-09	1.1E-09	2.6E-07
	post natal	7.0E-09	6.8E-09	4.9E-07	6.8E-09	3.2E-06	5.0E-08	1.1E-08	1.0E-08	6.9E-09	1.0E-07
	total	8.1E-09	6.8E-09	2.5E-06	7.9E-09	5.2E-06	5.1E-08	1.2E-08	1.1E-08	8.0E-09	3.6E-07
Chronic											
-260 §	in utero	6.9E-10	9.1E-11	6.3E-09	6.9E-10	6.3E-09	6.9E-10	6.9E-10	6.9E-10	6.9E-10	1.4E-09
	post natal	3.5E-12	3.4E-12	2.4E-10	3.4E-12	1.6E-09	2.5E-11	5.8E-12	5.4E-12	3.4E-12	5.0E-11
	total	6.9E-10	9.4E-11	6.5E-09	6.9E-10	7.9E-09	7.2E-10	7.0E-10	7.0E-10	6.9E-10	1.5E-09
-52	in utero	9.3E-10	1.2E-10	1.6E-08	9.3E-10	1.6E-08	9.3E-10	9.3E-10	9.3E-10	9.3E-10	2.9E-09
	post natal	5.7E-12	5.6E-12	4.1E-10	5.5E-12	2.7E-09	4.2E-11	9.9E-12	9.4E-12	5.7E-12	8.3E-11
	total	9.4E-10	1.3E-10	1.6E-08	9.4E-10	1.9E-08	9.7E-10	9.4E-10	9.4E-10	9.4E-10	3.0E-09
during	in utero	2.0E-09	4.4E-10	2.2E-06	2.0E-09	2.2E-06	2.0E-09	2.0E-09	2.0E-09	2.0E-09	2.9E-07
	post natal	2.0E-09	2.0E-09	1.4E-07	1.9E-09	9.1E-07	1.5E-08	3.2E-09	3.1E-09	2.0E-09	2.8E-08
	total	4.0E-09	2.4E-09	2.3E-06	3.9E-09	3.1E-06	1.7E-08	5.2E-09	5.1E-09	4.0E-09	3.2E-07

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-228
($T_{1/2} = 1.91$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.0005$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	8.8E-08	2.0E-08	2.6E-07	8.8E-08	2.7E-07	1.4E-07	7.5E-07	8.3E-07	9.2E-08	1.1E-07
	post natal	5.7E-09	3.3E-09	1.4E-07	3.3E-09	6.0E-07	5.2E-08	1.7E-08	3.3E-09	3.5E-09	2.9E-08
	total	9.4E-08	2.4E-08	4.0E-07	9.1E-08	8.7E-07	1.9E-07	7.7E-07	8.3E-07	9.5E-08	1.4E-07
-26	in utero	1.7E-07	3.8E-08	5.0E-07	1.7E-07	5.1E-07	2.7E-07	1.4E-06	1.5E-06	1.8E-07	2.2E-07
	post natal	1.2E-08	6.8E-09	2.8E-07	6.7E-09	1.2E-06	1.1E-07	3.5E-08	6.8E-09	7.1E-09	5.8E-08
	total	1.8E-07	4.5E-08	7.8E-07	1.8E-07	1.7E-06	3.8E-07	1.4E-06	1.5E-06	1.9E-07	2.8E-07
concep ‡	in utero	1.7E-07	3.6E-08	1.0E-06	1.7E-07	1.1E-06	2.9E-07	1.4E-06	1.5E-06	1.8E-07	2.9E-07
	post natal	4.3E-08	2.5E-08	1.0E-06	2.5E-08	4.6E-06	4.0E-07	1.3E-07	2.5E-08	2.6E-08	2.2E-07
	total	2.1E-07	6.1E-08	2.0E-06	2.0E-07	5.7E-06	6.9E-07	1.5E-06	1.5E-06	2.1E-07	5.1E-07
5	in utero	1.4E-07	3.3E-08	1.0E-06	1.4E-07	1.0E-06	2.6E-07	1.4E-06	1.4E-06	1.5E-07	2.6E-07
	post natal	4.4E-08	2.5E-08	1.0E-06	2.5E-08	4.6E-06	4.0E-07	1.3E-07	2.6E-08	2.7E-08	2.2E-07
	total	1.8E-07	5.8E-08	2.0E-06	1.7E-07	5.6E-06	6.6E-07	1.5E-06	1.4E-06	1.8E-07	4.8E-07
10	in utero	1.2E-07	1.6E-08	8.9E-07	1.2E-07	9.0E-07	2.2E-07	1.2E-06	9.1E-07	1.4E-07	2.2E-07
	post natal	4.4E-08	2.5E-08	1.1E-06	2.5E-08	4.6E-06	4.1E-07	1.3E-07	2.6E-08	2.7E-08	2.2E-07
	total	1.6E-07	4.1E-08	2.0E-06	1.5E-07	5.5E-06	6.3E-07	1.3E-06	9.4E-07	1.7E-07	4.4E-07
15	in utero	9.4E-08	0.0E+00	9.3E-07	9.4E-08	9.4E-07	1.8E-07	9.2E-07	5.0E-07	1.4E-07	2.1E-07
	post natal	5.9E-08	3.4E-08	1.4E-06	3.4E-08	6.2E-06	5.4E-07	1.7E-07	3.4E-08	3.6E-08	2.9E-07
	total	1.5E-07	3.4E-08	2.3E-06	1.3E-07	7.1E-06	7.2E-07	1.1E-06	5.3E-07	1.8E-07	5.0E-07
25	in utero	5.1E-08	0.0E+00	1.0E-06	5.1E-08	1.0E-06	1.1E-07	4.8E-07	1.8E-07	7.6E-08	1.8E-07
	post natal	1.2E-07	7.0E-08	2.9E-06	7.0E-08	1.3E-05	1.1E-06	3.6E-07	7.0E-08	7.3E-08	6.0E-07
	total	1.7E-07	7.0E-08	3.9E-06	1.2E-07	1.4E-05	1.2E-06	8.4E-07	2.5E-07	1.5E-07	7.8E-07
35	in utero	1.0E-08	0.0E+00	3.9E-07	1.0E-08	3.9E-07	3.1E-08	8.4E-08	2.6E-08	1.5E-08	6.1E-08
	post natal	2.9E-07	1.7E-07	6.8E-06	1.7E-07	3.0E-05	2.7E-06	8.5E-07	1.7E-07	1.7E-07	1.4E-06
	total	3.0E-07	1.7E-07	7.2E-06	1.8E-07	3.0E-05	2.7E-06	9.3E-07	2.0E-07	1.9E-07	1.5E-06
Chronic											
-260 §	in utero	9.7E-08	2.2E-08	2.9E-07	9.7E-08	2.9E-07	1.6E-07	8.2E-07	9.0E-07	1.0E-07	1.3E-07
	post natal	6.5E-09	3.7E-09	1.6E-07	3.7E-09	6.8E-07	5.9E-08	1.9E-08	3.8E-09	3.9E-09	3.2E-08
	total	1.0E-07	2.6E-08	4.5E-07	1.0E-07	9.7E-07	2.2E-07	8.4E-07	9.0E-07	1.0E-07	1.6E-07
-52	in utero	1.7E-07	3.7E-08	5.0E-07	1.7E-07	5.0E-07	2.7E-07	1.4E-06	1.5E-06	1.7E-07	2.1E-07
	post natal	1.2E-08	6.7E-09	2.8E-07	6.7E-09	1.2E-06	1.1E-07	3.4E-08	6.8E-09	7.1E-09	5.8E-08
	total	1.8E-07	4.3E-08	7.8E-07	1.8E-07	1.7E-06	3.8E-07	1.4E-06	1.5E-06	1.8E-07	2.7E-07
during	in utero	8.3E-08	9.7E-09	1.6E-06	8.3E-08	1.6E-06	1.8E-07	7.5E-07	5.5E-07	8.7E-08	2.8E-07
	post natal	1.2E-07	7.2E-08	3.0E-06	7.2E-08	1.3E-05	1.1E-06	3.7E-07	7.3E-08	7.6E-08	6.2E-07
	total	2.0E-07	8.2E-08	4.6E-06	1.6E-07	1.5E-05	1.3E-06	1.1E-06	6.2E-07	1.6E-07	9.0E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-228
($T_{1/2} = 1.91$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S f₁ = 0.0002

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.3E-09	9.6E-10	1.3E-08	4.3E-09	1.3E-08	6.9E-09	3.6E-08	3.9E-08	4.5E-09	5.5E-09
	post natal	3.0E-10	1.7E-10	7.1E-09	1.7E-10	3.1E-08	2.7E-09	8.7E-10	1.7E-10	1.8E-10	1.5E-09
	total	4.6E-09	1.1E-09	2.0E-08	4.5E-09	4.4E-08	9.6E-09	3.7E-08	3.9E-08	4.7E-09	7.0E-09
-26	in utero	4.5E-09	9.4E-10	1.4E-08	4.5E-09	1.4E-08	7.4E-09	3.8E-08	3.9E-08	4.7E-09	5.9E-09
	post natal	3.6E-10	2.1E-10	8.7E-09	2.1E-10	3.8E-08	3.3E-09	1.1E-09	2.1E-10	2.2E-10	1.8E-09
	total	4.9E-09	1.2E-09	2.3E-08	4.7E-09	5.2E-08	1.1E-08	3.9E-08	3.9E-08	4.9E-09	7.7E-09
concep ‡	in utero	4.1E-09	7.4E-10	2.3E-08	4.1E-09	2.3E-08	6.7E-09	3.1E-08	3.0E-08	4.2E-09	6.6E-09
	post natal	1.1E-09	6.2E-10	2.5E-08	6.2E-10	1.1E-07	9.8E-09	3.1E-09	6.2E-10	6.5E-10	5.3E-09
	total	5.2E-09	1.4E-09	4.8E-08	4.7E-09	1.3E-07	1.6E-08	3.4E-08	3.1E-08	4.8E-09	1.2E-08
5	in utero	3.4E-09	7.3E-10	2.1E-08	3.4E-09	2.1E-08	5.9E-09	3.0E-08	2.9E-08	3.6E-09	5.8E-09
	post natal	1.0E-09	5.9E-10	2.4E-08	5.9E-10	1.1E-07	9.4E-09	3.0E-09	6.0E-10	6.2E-10	5.1E-09
	total	4.4E-09	1.3E-09	4.5E-08	4.0E-09	1.3E-07	1.5E-08	3.3E-08	3.0E-08	4.2E-09	1.1E-08
10	in utero	2.7E-09	6.0E-10	1.9E-08	2.7E-09	1.9E-08	5.0E-09	2.7E-08	2.4E-08	3.2E-09	4.9E-09
	post natal	9.7E-10	5.6E-10	2.3E-08	5.6E-10	1.0E-07	8.9E-09	2.9E-09	5.7E-10	5.9E-10	4.9E-09
	total	3.7E-09	1.2E-09	4.2E-08	3.3E-09	1.2E-07	1.4E-08	3.0E-08	2.5E-08	3.8E-09	9.8E-09
15	in utero	2.2E-09	0.0E+00	1.9E-08	2.2E-09	2.0E-08	4.1E-09	2.1E-08	1.2E-08	3.2E-09	4.6E-09
	post natal	1.2E-09	7.0E-10	2.9E-08	7.0E-10	1.3E-07	1.1E-08	3.6E-09	7.1E-10	7.4E-10	6.1E-09
	total	3.4E-09	7.0E-10	4.8E-08	2.9E-09	1.5E-07	1.5E-08	2.5E-08	1.3E-08	3.9E-09	1.1E-08
25	in utero	1.3E-09	0.0E+00	2.2E-08	1.3E-09	2.2E-08	2.5E-09	1.2E-08	4.6E-09	1.9E-09	4.0E-09
	post natal	2.2E-09	1.3E-09	5.2E-08	1.3E-09	2.3E-07	2.0E-08	6.4E-09	1.3E-09	1.3E-09	1.1E-08
	total	3.5E-09	1.3E-09	7.4E-08	2.6E-09	2.5E-07	2.3E-08	1.8E-08	5.9E-09	3.2E-09	1.5E-08
35	in utero	4.2E-10	0.0E+00	1.1E-08	4.2E-10	1.1E-08	8.8E-10	3.8E-09	1.1E-09	6.3E-10	1.9E-09
	post natal	4.2E-09	2.4E-09	1.0E-07	2.4E-09	4.4E-07	3.9E-08	1.2E-08	2.5E-09	2.6E-09	2.1E-08
	total	4.6E-09	2.4E-09	1.1E-07	2.8E-09	4.5E-07	4.0E-08	1.6E-08	3.6E-09	3.2E-09	2.3E-08
Chronic											
-260 §	in utero	3.9E-09	8.7E-10	1.2E-08	3.9E-09	1.2E-08	6.4E-09	3.3E-08	3.6E-08	4.1E-09	5.1E-09
	post natal	2.8E-10	1.6E-10	6.8E-09	1.6E-10	3.0E-08	2.6E-09	8.3E-10	1.6E-10	1.7E-10	1.4E-09
	total	4.2E-09	1.0E-09	1.9E-08	4.1E-09	4.2E-08	9.0E-09	3.4E-08	3.6E-08	4.3E-09	6.5E-09
-52	in utero	4.5E-09	9.2E-10	1.3E-08	4.5E-09	1.4E-08	7.2E-09	3.8E-08	3.8E-08	4.7E-09	5.8E-09
	post natal	3.6E-10	2.1E-10	8.6E-09	2.1E-10	3.7E-08	3.3E-09	1.1E-09	2.1E-10	2.2E-10	1.8E-09
	total	4.9E-09	1.1E-09	2.2E-08	4.7E-09	5.1E-08	1.0E-08	3.9E-08	3.8E-08	4.9E-09	7.6E-09
during	in utero	2.0E-09	2.6E-10	3.3E-08	2.0E-09	3.3E-08	3.9E-09	1.8E-08	1.3E-08	2.1E-09	6.1E-09
	post natal	2.5E-09	1.4E-09	5.9E-08	1.4E-09	2.6E-07	2.3E-08	7.2E-09	1.4E-09	1.5E-09	1.2E-08
	total	4.5E-09	1.7E-09	9.2E-08	3.4E-09	2.9E-07	2.7E-08	2.5E-08	1.4E-08	3.6E-09	1.8E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-228
($T_{1/2} = 1.91$ y) by the mother

Ingestion: $f_1 = 0.0005$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	7.4E-10	1.7E-10	2.2E-09	7.4E-10	2.2E-09	1.2E-09	6.3E-09	7.0E-09	7.7E-10	9.6E-10
	post natal	4.8E-11	2.8E-11	1.1E-09	2.8E-11	5.0E-09	4.4E-10	1.4E-10	2.8E-11	2.9E-11	2.4E-10
	total	7.9E-10	2.0E-10	3.3E-09	7.7E-10	7.2E-09	1.6E-09	6.4E-09	7.0E-09	8.0E-10	1.2E-09
-26	in utero	1.6E-09	3.5E-10	4.6E-09	1.6E-09	4.6E-09	2.5E-09	1.3E-08	1.4E-08	1.6E-09	2.0E-09
	post natal	1.0E-10	5.8E-11	2.4E-09	5.8E-11	1.1E-08	9.3E-10	3.0E-10	5.9E-11	6.1E-11	5.1E-10
	total	1.7E-09	4.1E-10	7.0E-09	1.7E-09	1.6E-08	3.4E-09	1.3E-08	1.4E-08	1.7E-09	2.5E-09
concep ‡	in utero	2.5E-09	4.3E-10	1.2E-08	2.5E-09	1.2E-08	3.8E-09	1.6E-08	1.8E-08	2.6E-09	3.8E-09
	post natal	4.0E-10	2.3E-10	9.6E-09	2.3E-10	4.2E-08	3.7E-09	1.2E-09	2.4E-10	2.4E-10	2.0E-09
	total	2.9E-09	6.6E-10	2.2E-08	2.7E-09	5.4E-08	7.5E-09	1.7E-08	1.8E-08	2.8E-09	5.8E-09
5	in utero	2.3E-09	4.5E-10	1.2E-08	2.3E-09	1.2E-08	3.6E-09	1.6E-08	1.8E-08	2.4E-09	3.6E-09
	post natal	4.2E-10	2.4E-10	1.0E-08	2.4E-10	4.4E-08	3.9E-09	1.2E-09	2.4E-10	2.5E-10	2.1E-09
	total	2.7E-09	6.9E-10	2.2E-08	2.5E-09	5.6E-08	7.5E-09	1.7E-08	1.8E-08	2.6E-09	5.7E-09
10	in utero	1.9E-09	7.5E-10	1.2E-08	1.9E-09	1.3E-08	3.4E-09	1.9E-08	2.3E-08	2.2E-09	3.3E-09
	post natal	4.3E-10	2.5E-10	1.0E-08	2.5E-10	4.5E-08	4.0E-09	1.3E-09	2.5E-10	2.6E-10	2.2E-09
	total	2.3E-09	1.0E-09	2.2E-08	2.1E-09	5.8E-08	7.4E-09	2.0E-08	2.3E-08	2.5E-09	5.5E-09
15	in utero	1.6E-09	0.0E+00	1.4E-08	1.6E-09	1.4E-08	3.0E-09	1.5E-08	1.1E-08	2.3E-09	3.3E-09
	post natal	6.0E-10	3.5E-10	1.4E-08	3.5E-10	6.3E-08	5.5E-09	1.8E-09	3.5E-10	3.6E-10	3.0E-09
	total	2.2E-09	3.5E-10	2.8E-08	1.9E-09	7.7E-08	8.5E-09	1.7E-08	1.1E-08	2.7E-09	6.3E-09
25	in utero	1.1E-09	0.0E+00	1.9E-08	1.1E-09	1.9E-08	2.2E-09	1.0E-08	4.4E-09	1.7E-09	3.5E-09
	post natal	1.4E-09	8.1E-10	3.3E-08	8.1E-10	1.5E-07	1.3E-08	4.1E-09	8.1E-10	8.5E-10	7.0E-09
	total	2.5E-09	8.1E-10	5.2E-08	1.9E-09	1.7E-07	1.5E-08	1.4E-08	5.2E-09	2.5E-09	1.0E-08
35	in utero	5.9E-10	0.0E+00	1.6E-08	5.9E-10	1.6E-08	1.2E-09	5.3E-09	1.6E-09	8.8E-10	2.6E-09
	post natal	4.3E-09	2.5E-09	1.0E-07	2.5E-09	4.6E-07	4.0E-08	1.3E-08	2.5E-09	2.6E-09	2.2E-08
	total	4.9E-09	2.5E-09	1.2E-07	3.1E-09	4.8E-07	4.1E-08	1.8E-08	4.1E-09	3.5E-09	2.5E-08
Chronic											
-260 §	in utero	8.5E-10	2.0E-10	2.5E-09	8.5E-10	2.6E-09	1.4E-09	7.1E-09	7.9E-09	8.9E-10	1.1E-09
	post natal	5.5E-11	3.2E-11	1.3E-09	3.2E-11	5.8E-09	5.1E-10	1.6E-10	3.2E-11	3.3E-11	2.8E-10
	total	9.1E-10	2.3E-10	3.8E-09	8.8E-10	8.4E-09	1.9E-09	7.3E-09	7.9E-09	9.2E-10	1.4E-09
-52	in utero	1.6E-09	3.6E-10	4.6E-09	1.6E-09	4.6E-09	2.5E-09	1.3E-08	1.4E-08	1.6E-09	2.0E-09
	post natal	1.0E-10	5.9E-11	2.4E-09	5.9E-11	1.1E-08	9.3E-10	3.0E-10	5.9E-11	6.2E-11	5.1E-10
	total	1.7E-09	4.1E-10	7.0E-09	1.7E-09	1.6E-08	3.4E-09	1.3E-08	1.4E-08	1.7E-09	2.5E-09
during	in utero	1.5E-09	2.4E-10	2.3E-08	1.5E-09	2.3E-08	2.8E-09	1.2E-08	1.1E-08	1.6E-09	4.4E-09
	post natal	1.4E-09	8.1E-10	3.3E-08	8.1E-10	1.5E-07	1.3E-08	4.1E-09	8.2E-10	8.5E-10	7.0E-09
	total	2.9E-09	1.1E-09	5.6E-08	2.3E-09	1.7E-07	1.6E-08	1.6E-08	1.2E-08	2.4E-09	1.1E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-228
($T_{1/2} = 1.91$ y) by the mother

Ingestion: $f_1 = 0.0002$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.0E-10	6.9E-11	8.8E-10	3.0E-10	8.9E-10	4.8E-10	2.5E-09	2.8E-09	3.1E-10	3.8E-10
	post natal	1.9E-11	1.1E-11	4.6E-10	1.1E-11	2.0E-09	1.7E-10	5.6E-11	1.1E-11	1.2E-11	9.6E-11
	total	3.2E-10	8.0E-11	1.3E-09	3.1E-10	2.9E-09	6.5E-10	2.6E-09	2.8E-09	3.2E-10	4.8E-10
-26	in utero	6.2E-10	1.4E-10	1.8E-09	6.2E-10	1.8E-09	9.9E-10	5.1E-09	5.7E-09	6.5E-10	8.0E-10
	post natal	4.0E-11	2.3E-11	9.7E-10	2.3E-11	4.2E-09	3.7E-10	1.2E-10	2.4E-11	2.5E-11	2.0E-10
	total	6.6E-10	1.6E-10	2.8E-09	6.4E-10	6.0E-09	1.4E-09	5.2E-09	5.7E-09	6.8E-10	1.0E-09
concep ‡	in utero	1.4E-09	1.7E-10	5.0E-09	1.4E-09	5.1E-09	1.9E-09	6.7E-09	7.4E-09	1.4E-09	1.9E-09
	post natal	1.6E-10	9.3E-11	3.8E-09	9.3E-11	1.7E-08	1.5E-09	4.8E-10	9.4E-11	9.8E-11	8.1E-10
	total	1.6E-09	2.7E-10	8.8E-09	1.5E-09	2.2E-08	3.4E-09	7.2E-09	7.5E-09	1.5E-09	2.7E-09
5	in utero	1.3E-09	1.8E-10	5.1E-09	1.3E-09	5.1E-09	1.8E-09	6.8E-09	7.6E-09	1.3E-09	1.8E-09
	post natal	1.7E-10	9.7E-11	4.0E-09	9.6E-11	1.8E-08	1.5E-09	4.9E-10	9.8E-11	1.0E-10	8.4E-10
	total	1.5E-09	2.8E-10	9.1E-09	1.4E-09	2.3E-08	3.3E-09	7.3E-09	7.7E-09	1.4E-09	2.6E-09
10	in utero	1.0E-09	6.0E-10	6.2E-09	1.0E-09	6.2E-09	1.8E-09	1.0E-08	1.6E-08	1.2E-09	1.8E-09
	post natal	1.7E-10	1.0E-10	4.1E-09	1.0E-10	1.8E-08	1.6E-09	5.1E-10	1.0E-10	1.1E-10	8.7E-10
	total	1.2E-09	7.0E-10	1.0E-08	1.1E-09	2.4E-08	3.4E-09	1.1E-08	1.6E-08	1.3E-09	2.7E-09
15	in utero	9.3E-10	0.0E+00	7.2E-09	9.3E-10	7.3E-09	1.7E-09	8.6E-09	7.3E-09	1.3E-09	1.8E-09
	post natal	2.4E-10	1.4E-10	5.7E-09	1.4E-10	2.5E-08	2.2E-09	7.1E-10	1.4E-10	1.5E-10	1.2E-09
	total	1.2E-09	1.4E-10	1.3E-08	1.1E-09	3.2E-08	3.9E-09	9.3E-09	7.4E-09	1.5E-09	3.0E-09
25	in utero	7.2E-10	0.0E+00	1.1E-08	7.2E-10	1.1E-08	1.3E-09	6.5E-09	2.9E-09	1.1E-09	2.1E-09
	post natal	5.6E-10	3.2E-10	1.3E-08	3.2E-10	5.9E-08	5.1E-09	1.6E-09	3.3E-10	3.4E-10	2.8E-09
	total	1.3E-09	3.2E-10	2.4E-08	1.0E-09	7.0E-08	6.4E-09	8.1E-09	3.2E-09	1.4E-09	4.9E-09
35	in utero	4.9E-10	0.0E+00	1.2E-08	4.9E-10	1.2E-08	9.1E-10	4.5E-09	1.4E-09	7.4E-10	2.0E-09
	post natal	1.7E-09	1.0E-09	4.1E-08	1.0E-09	1.8E-07	1.6E-08	5.1E-09	1.0E-09	1.1E-09	8.7E-09
	total	2.2E-09	1.0E-09	5.3E-08	1.5E-09	1.9E-07	1.7E-08	9.6E-09	2.4E-09	1.8E-09	1.1E-08
Chronic											
-260 §	in utero	3.4E-10	7.8E-11	1.0E-09	3.4E-10	1.0E-09	5.5E-10	2.9E-09	3.2E-09	3.6E-10	4.4E-10
	post natal	2.2E-11	1.3E-11	5.3E-10	1.3E-11	2.3E-09	2.0E-10	6.5E-11	1.3E-11	1.3E-11	1.1E-10
	total	3.6E-10	9.1E-11	1.5E-09	3.5E-10	3.3E-09	7.5E-10	3.0E-09	3.2E-09	3.7E-10	5.5E-10
-52	in utero	6.3E-10	1.4E-10	1.8E-09	6.3E-10	1.9E-09	1.0E-09	5.1E-09	5.7E-09	6.6E-10	8.1E-10
	post natal	4.1E-11	2.4E-11	9.8E-10	2.4E-11	4.3E-09	3.7E-10	1.2E-10	2.4E-11	2.5E-11	2.0E-10
	total	6.7E-10	1.7E-10	2.8E-09	6.5E-10	6.2E-09	1.4E-09	5.2E-09	5.7E-09	6.9E-10	1.0E-09
during	in utero	8.9E-10	1.6E-10	1.2E-08	8.9E-10	1.2E-08	1.6E-09	7.0E-09	6.3E-09	9.3E-10	2.4E-09
	post natal	5.6E-10	3.3E-10	1.3E-08	3.3E-10	5.9E-08	5.2E-09	1.7E-09	3.3E-10	3.4E-10	2.8E-09
	total	1.5E-09	4.9E-10	2.5E-08	1.2E-09	7.1E-08	6.8E-09	8.7E-09	6.6E-09	1.3E-09	5.2E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-232
($T_{1/2} = 1.40E10$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.0005$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-08	2.5E-09	1.1E-07	1.5E-08	1.1E-07	2.7E-08	6.7E-08	6.7E-08	1.6E-08	2.8E-08
	post natal	4.8E-08	2.3E-08	3.6E-07	2.3E-08	2.7E-06	1.3E-07	9.6E-08	2.3E-08	2.4E-08	1.0E-07
	total	6.3E-08	2.6E-08	4.7E-07	3.8E-08	2.8E-06	1.6E-07	1.6E-07	9.0E-08	4.0E-08	1.3E-07
-26	in utero	1.1E-08	1.5E-09	9.1E-08	1.1E-08	9.1E-08	1.9E-08	2.0E-08	1.8E-08	1.1E-08	2.2E-08
	post natal	4.7E-08	2.2E-08	3.4E-07	2.2E-08	2.7E-06	1.2E-07	9.4E-08	2.3E-08	2.3E-08	9.9E-08
	total	5.8E-08	2.3E-08	4.3E-07	3.3E-08	2.8E-06	1.4E-07	1.1E-07	4.1E-08	3.4E-08	1.2E-07
concep ‡	in utero	1.0E-08	1.5E-09	2.4E-07	1.0E-08	2.4E-07	3.1E-08	1.3E-08	1.2E-08	1.0E-08	4.1E-08
	post natal	1.5E-07	7.0E-08	1.1E-06	7.0E-08	8.3E-06	3.8E-07	2.9E-07	7.1E-08	7.3E-08	3.1E-07
	total	1.6E-07	7.2E-08	1.3E-06	8.0E-08	8.5E-06	4.1E-07	3.0E-07	8.3E-08	8.3E-08	3.5E-07
5	in utero	5.7E-09	1.3E-09	2.2E-07	5.7E-09	2.2E-07	2.5E-08	7.5E-09	6.5E-09	5.8E-09	3.5E-08
	post natal	1.4E-07	6.9E-08	1.0E-06	6.9E-08	8.1E-06	3.7E-07	2.9E-07	6.9E-08	7.1E-08	3.0E-07
	total	1.5E-07	7.0E-08	1.2E-06	7.5E-08	8.3E-06	4.0E-07	3.0E-07	7.6E-08	7.7E-08	3.4E-07
10	in utero	2.4E-09	3.3E-10	1.9E-07	2.4E-09	1.9E-07	1.9E-08	3.4E-09	2.8E-09	2.4E-09	2.8E-08
	post natal	1.4E-07	6.7E-08	1.0E-06	6.7E-08	7.9E-06	3.6E-07	2.8E-07	6.7E-08	6.9E-08	2.9E-07
	total	1.4E-07	6.7E-08	1.2E-06	6.9E-08	8.1E-06	3.8E-07	2.8E-07	7.0E-08	7.1E-08	3.2E-07
15	in utero	2.4E-09	0.0E+00	2.1E-07	2.4E-09	2.1E-07	2.1E-08	3.0E-09	2.6E-09	2.5E-09	3.0E-08
	post natal	1.8E-07	8.5E-08	1.3E-06	8.5E-08	1.0E-05	4.6E-07	3.6E-07	8.6E-08	8.9E-08	3.8E-07
	total	1.8E-07	8.5E-08	1.5E-06	8.7E-08	1.0E-05	4.8E-07	3.6E-07	8.9E-08	9.1E-08	4.1E-07
25	in utero	2.6E-09	0.0E+00	2.3E-07	2.6E-09	2.3E-07	2.3E-08	2.7E-09	2.6E-09	2.6E-09	3.3E-08
	post natal	3.4E-07	1.6E-07	2.5E-06	1.6E-07	1.9E-05	8.9E-07	6.9E-07	1.7E-07	1.7E-07	7.2E-07
	total	3.4E-07	1.6E-07	2.7E-06	1.6E-07	1.9E-05	9.1E-07	6.9E-07	1.7E-07	1.7E-07	7.5E-07
35	in utero	1.4E-09	0.0E+00	1.3E-07	1.4E-09	1.3E-07	1.3E-08	1.4E-09	1.4E-09	1.4E-09	1.9E-08
	post natal	7.6E-07	3.7E-07	5.6E-06	3.7E-07	4.3E-05	2.0E-06	1.5E-06	3.7E-07	3.8E-07	1.6E-06
	total	7.6E-07	3.7E-07	5.7E-06	3.7E-07	4.3E-05	2.0E-06	1.5E-06	3.7E-07	3.8E-07	1.6E-06
Chronic											
-260 §	in utero	1.6E-08	2.6E-09	1.1E-07	1.6E-08	1.1E-07	2.7E-08	7.1E-08	7.1E-08	1.6E-08	2.8E-08
	post natal	4.7E-08	2.3E-08	3.5E-07	2.3E-08	2.7E-06	1.3E-07	9.5E-08	2.3E-08	2.4E-08	1.0E-07
	total	6.3E-08	2.6E-08	4.6E-07	3.9E-08	2.8E-06	1.6E-07	1.7E-07	9.4E-08	4.0E-08	1.3E-07
-52	in utero	1.0E-08	1.5E-09	9.0E-08	1.0E-08	9.0E-08	1.8E-08	2.0E-08	1.9E-08	1.1E-08	2.1E-08
	post natal	4.6E-08	2.2E-08	3.4E-07	2.2E-08	2.7E-06	1.2E-07	9.3E-08	2.3E-08	2.3E-08	9.9E-08
	total	5.6E-08	2.3E-08	4.3E-07	3.2E-08	2.8E-06	1.4E-07	1.1E-07	4.2E-08	3.4E-08	1.2E-07
during	in utero	5.2E-09	6.5E-10	3.7E-07	5.2E-09	3.7E-07	3.8E-08	5.8E-09	5.4E-09	5.2E-09	5.4E-08
	post natal	3.7E-07	1.8E-07	2.7E-06	1.8E-07	2.1E-05	9.7E-07	7.5E-07	1.8E-07	1.9E-07	7.8E-07
	total	3.8E-07	1.8E-07	3.1E-06	1.9E-07	2.1E-05	1.0E-06	7.6E-07	1.9E-07	2.0E-07	8.3E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-232
($T_{1/2} = 1.40E10$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S f₁ = 0.0002

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	9.8E-10	1.7E-10	6.0E-09	9.8E-10	6.1E-09	1.7E-09	5.2E-09	5.1E-09	1.0E-09	1.7E-09
	post natal	2.5E-09	1.2E-09	1.9E-08	1.2E-09	1.4E-07	6.8E-09	5.0E-09	1.2E-09	1.2E-09	5.4E-09
	total	3.5E-09	1.4E-09	2.5E-08	2.2E-09	1.5E-07	8.5E-09	1.0E-08	6.3E-09	2.2E-09	7.1E-09
-26	in utero	2.9E-10	4.0E-11	2.5E-09	2.9E-10	2.5E-09	5.2E-10	7.2E-10	6.2E-10	2.9E-10	5.9E-10
	post natal	1.5E-09	7.0E-10	1.1E-08	7.0E-10	8.4E-08	3.9E-09	2.9E-09	7.1E-10	7.3E-10	3.1E-09
	total	1.8E-09	7.4E-10	1.4E-08	9.9E-10	8.7E-08	4.4E-09	3.6E-09	1.3E-09	1.0E-09	3.7E-09
concep ‡	in utero	1.8E-10	2.7E-11	5.0E-09	1.8E-10	5.0E-09	6.2E-10	2.9E-10	2.4E-10	1.8E-10	8.3E-10
	post natal	3.6E-09	1.7E-09	2.7E-08	1.7E-09	2.1E-07	9.4E-09	7.2E-09	1.7E-09	1.8E-09	7.6E-09
	total	3.8E-09	1.7E-09	3.2E-08	1.9E-09	2.2E-07	1.0E-08	7.5E-09	1.9E-09	2.0E-09	8.4E-09
5	in utero	1.0E-10	2.1E-11	4.4E-09	1.0E-10	4.4E-09	4.9E-10	1.7E-10	1.3E-10	1.0E-10	6.7E-10
	post natal	3.3E-09	1.6E-09	2.5E-08	1.6E-09	1.9E-07	8.7E-09	6.7E-09	1.6E-09	1.7E-09	7.1E-09
	total	3.4E-09	1.6E-09	2.9E-08	1.7E-09	1.9E-07	9.2E-09	6.9E-09	1.7E-09	1.8E-09	7.8E-09
10	in utero	4.9E-11	5.1E-12	3.6E-09	4.9E-11	3.6E-09	3.7E-10	9.2E-11	6.5E-11	5.0E-11	5.3E-10
	post natal	3.1E-09	1.5E-09	2.2E-08	1.5E-09	1.7E-07	8.0E-09	6.1E-09	1.5E-09	1.5E-09	6.5E-09
	total	3.1E-09	1.5E-09	2.6E-08	1.5E-09	1.7E-07	8.4E-09	6.2E-09	1.6E-09	1.6E-09	7.0E-09
15	in utero	4.6E-11	0.0E+00	3.7E-09	4.6E-11	3.7E-09	3.7E-10	7.1E-11	5.4E-11	4.8E-11	5.3E-10
	post natal	3.7E-09	1.8E-09	2.7E-08	1.8E-09	2.1E-07	9.6E-09	7.4E-09	1.8E-09	1.8E-09	7.8E-09
	total	3.7E-09	1.8E-09	3.1E-08	1.8E-09	2.1E-07	1.0E-08	7.5E-09	1.9E-09	1.8E-09	8.3E-09
25	in utero	4.2E-11	0.0E+00	3.7E-09	4.2E-11	3.7E-09	3.6E-10	4.7E-11	4.4E-11	4.3E-11	5.4E-10
	post natal	6.2E-09	3.0E-09	4.5E-08	3.0E-09	3.5E-07	1.6E-08	1.2E-08	3.0E-09	3.1E-09	1.3E-08
	total	6.2E-09	3.0E-09	4.9E-08	3.0E-09	3.5E-07	1.6E-08	1.2E-08	3.0E-09	3.1E-09	1.4E-08
35	in utero	2.0E-11	0.0E+00	1.8E-09	2.0E-11	1.8E-09	1.7E-10	2.0E-11	2.0E-11	2.0E-11	2.6E-10
	post natal	1.1E-08	5.3E-09	8.1E-08	5.3E-09	6.3E-07	2.9E-08	2.2E-08	5.4E-09	5.5E-09	2.4E-08
	total	1.1E-08	5.3E-09	8.3E-08	5.3E-09	6.3E-07	2.9E-08	2.2E-08	5.4E-09	5.5E-09	2.4E-08
Chronic											
-260 §	in utero	1.0E-09	1.8E-10	5.9E-09	1.0E-09	6.0E-09	1.7E-09	5.6E-09	5.6E-09	1.0E-09	1.7E-09
	post natal	2.4E-09	1.1E-09	1.8E-08	1.1E-09	1.4E-07	6.5E-09	4.8E-09	1.2E-09	1.2E-09	5.1E-09
	total	3.4E-09	1.3E-09	2.4E-08	2.1E-09	1.5E-07	8.2E-09	1.0E-08	6.8E-09	2.2E-09	6.8E-09
-52	in utero	2.9E-10	4.1E-11	2.5E-09	2.9E-10	2.5E-09	5.2E-10	7.7E-10	6.6E-10	2.9E-10	5.9E-10
	post natal	1.5E-09	7.0E-10	1.1E-08	7.0E-10	8.3E-08	3.8E-09	2.9E-09	7.0E-10	7.3E-10	3.1E-09
	total	1.8E-09	7.4E-10	1.4E-08	9.9E-10	8.6E-08	4.3E-09	3.7E-09	1.4E-09	1.0E-09	3.7E-09
during	in utero	9.4E-11	1.0E-11	6.8E-09	9.4E-11	6.8E-09	6.9E-10	1.2E-10	1.1E-10	9.5E-11	1.0E-09
	post natal	7.4E-09	3.5E-09	5.4E-08	3.5E-09	4.2E-07	1.9E-08	1.5E-08	3.6E-09	3.7E-09	1.6E-08
	total	7.5E-09	3.5E-09	6.1E-08	3.6E-09	4.3E-07	2.0E-08	1.5E-08	3.7E-09	3.8E-09	1.7E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-232
($T_{1/2} = 1.40E10$ y) by the mother

Ingestion: $f_1 = 0.0005$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.3E-10	2.1E-11	9.1E-10	1.3E-10	9.1E-10	2.3E-10	5.8E-10	5.8E-10	1.3E-10	2.3E-10
	post natal	4.0E-10	1.9E-10	3.0E-09	1.9E-10	2.3E-08	1.1E-09	8.0E-10	1.9E-10	2.0E-10	8.5E-10
	total	5.3E-10	2.1E-10	3.9E-09	3.2E-10	2.4E-08	1.3E-09	1.4E-09	7.7E-10	3.3E-10	1.1E-09
-26	in utero	1.0E-10	1.4E-11	8.2E-10	1.0E-10	8.2E-10	1.7E-10	1.9E-10	1.7E-10	1.0E-10	2.0E-10
	post natal	4.1E-10	1.9E-10	3.0E-09	1.9E-10	2.3E-08	1.1E-09	8.1E-10	2.0E-10	2.0E-10	8.6E-10
	total	5.1E-10	2.0E-10	3.8E-09	2.9E-10	2.4E-08	1.3E-09	1.0E-09	3.7E-10	3.0E-10	1.1E-09
concep ‡	in utero	1.4E-10	1.9E-11	2.5E-09	1.4E-10	2.5E-09	3.5E-10	1.7E-10	1.6E-10	1.4E-10	4.5E-10
	post natal	1.4E-09	6.5E-10	1.0E-08	6.5E-10	7.7E-08	3.6E-09	2.7E-09	6.6E-10	6.8E-10	2.9E-09
	total	1.5E-09	6.7E-10	1.3E-08	7.9E-10	8.0E-08	3.9E-09	2.9E-09	8.2E-10	8.2E-10	3.4E-09
5	in utero	7.9E-11	1.9E-11	2.4E-09	7.9E-11	2.4E-09	2.9E-10	1.0E-10	9.2E-11	7.9E-11	4.0E-10
	post natal	1.4E-09	6.5E-10	1.0E-08	6.5E-10	7.8E-08	3.6E-09	2.7E-09	6.6E-10	6.8E-10	2.9E-09
	total	1.5E-09	6.7E-10	1.2E-08	7.3E-10	8.0E-08	3.9E-09	2.8E-09	7.5E-10	7.6E-10	3.3E-09
10	in utero	2.9E-11	5.5E-12	2.3E-09	2.9E-11	2.3E-09	2.3E-10	4.4E-11	3.5E-11	2.9E-11	3.3E-10
	post natal	1.4E-09	6.5E-10	1.0E-08	6.5E-10	7.8E-08	3.6E-09	2.7E-09	6.6E-10	6.8E-10	2.9E-09
	total	1.4E-09	6.6E-10	1.2E-08	6.8E-10	8.0E-08	3.8E-09	2.7E-09	7.0E-10	7.1E-10	3.2E-09
15	in utero	3.0E-11	0.0E+00	2.5E-09	3.0E-11	2.5E-09	2.5E-10	4.0E-11	3.4E-11	3.1E-11	3.7E-10
	post natal	1.8E-09	8.7E-10	1.3E-08	8.7E-10	1.0E-07	4.7E-09	3.7E-09	8.8E-10	9.1E-10	3.8E-09
	total	1.8E-09	8.7E-10	1.5E-08	9.0E-10	1.0E-07	4.9E-09	3.7E-09	9.1E-10	9.4E-10	4.2E-09
25	in utero	3.5E-11	0.0E+00	3.1E-09	3.5E-11	3.1E-09	3.1E-10	3.8E-11	3.6E-11	3.6E-11	4.5E-10
	post natal	4.0E-09	1.9E-09	2.9E-08	1.9E-09	2.3E-07	1.0E-08	7.9E-09	1.9E-09	2.0E-09	8.4E-09
	total	4.0E-09	1.9E-09	3.2E-08	1.9E-09	2.3E-07	1.0E-08	7.9E-09	1.9E-09	2.0E-09	8.8E-09
35	in utero	2.3E-11	0.0E+00	2.1E-09	2.3E-11	2.1E-09	2.1E-10	2.3E-11	2.3E-11	2.3E-11	3.1E-10
	post natal	1.2E-08	5.5E-09	8.4E-08	5.5E-09	6.6E-07	3.0E-08	2.3E-08	5.6E-09	5.8E-09	2.4E-08
	total	1.2E-08	5.5E-09	8.6E-08	5.5E-09	6.6E-07	3.0E-08	2.3E-08	5.6E-09	5.8E-09	2.4E-08
Chronic											
-260 §	in utero	1.3E-10	2.3E-11	9.3E-10	1.3E-10	9.3E-10	2.4E-10	6.2E-10	6.2E-10	1.4E-10	2.4E-10
	post natal	4.0E-10	1.9E-10	3.0E-09	1.9E-10	2.3E-08	1.1E-09	8.0E-10	1.9E-10	2.0E-10	8.5E-10
	total	5.3E-10	2.1E-10	3.9E-09	3.2E-10	2.4E-08	1.3E-09	1.4E-09	8.1E-10	3.4E-10	1.1E-09
-52	in utero	1.0E-10	1.4E-11	8.2E-10	1.0E-10	8.2E-10	1.7E-10	1.9E-10	1.8E-10	1.0E-10	2.0E-10
	post natal	4.1E-10	1.9E-10	3.0E-09	1.9E-10	2.3E-08	1.1E-09	8.1E-10	2.0E-10	2.0E-10	8.6E-10
	total	5.1E-10	2.0E-10	3.8E-09	2.9E-10	2.4E-08	1.3E-09	1.0E-09	3.8E-10	3.0E-10	1.1E-09
during	in utero	6.5E-11	9.2E-12	4.5E-09	6.5E-11	4.5E-09	4.6E-10	7.5E-11	7.0E-11	6.5E-11	6.6E-10
	post natal	4.1E-09	2.0E-09	3.0E-08	2.0E-09	2.3E-07	1.1E-08	8.3E-09	2.0E-09	2.1E-09	8.7E-09
	total	4.2E-09	2.0E-09	3.4E-08	2.1E-09	2.3E-07	1.1E-08	8.4E-09	2.1E-09	2.2E-09	9.4E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Th-232
($T_{1/2} = 1.40E10$ y) by the mother

Ingestion: $f_1 = 0.0002$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.2E-11	8.8E-12	3.7E-10	5.2E-11	3.7E-10	9.2E-11	2.4E-10	2.4E-10	5.3E-11	9.5E-11
	post natal	1.6E-10	7.7E-11	1.2E-09	7.7E-11	9.1E-09	4.3E-10	3.2E-10	7.8E-11	8.0E-11	3.4E-10
	total	2.1E-10	8.6E-11	1.6E-09	1.3E-10	9.5E-09	5.2E-10	5.6E-10	3.2E-10	1.3E-10	4.4E-10
-26	in utero	4.1E-11	5.7E-12	3.3E-10	4.1E-11	3.3E-10	7.0E-11	8.2E-11	7.7E-11	4.1E-11	8.0E-11
	post natal	1.6E-10	7.8E-11	1.2E-09	7.8E-11	9.3E-09	4.3E-10	3.3E-10	7.9E-11	8.1E-11	3.4E-10
	total	2.0E-10	8.4E-11	1.5E-09	1.2E-10	9.6E-09	5.0E-10	4.1E-10	1.6E-10	1.2E-10	4.2E-10
concep ‡	in utero	5.5E-11	7.6E-12	1.0E-09	5.5E-11	1.0E-09	1.4E-10	7.3E-11	6.8E-11	5.5E-11	1.8E-10
	post natal	5.4E-10	2.6E-10	4.0E-09	2.6E-10	3.1E-08	1.4E-09	1.1E-09	2.6E-10	2.7E-10	1.2E-09
	total	5.9E-10	2.7E-10	5.0E-09	3.1E-10	3.2E-08	1.5E-09	1.2E-09	3.3E-10	3.2E-10	1.4E-09
5	in utero	3.2E-11	7.6E-12	9.8E-10	3.2E-11	9.8E-10	1.2E-10	4.6E-11	4.1E-11	3.2E-11	1.6E-10
	post natal	5.4E-10	2.6E-10	4.0E-09	2.6E-10	3.1E-08	1.4E-09	1.1E-09	2.6E-10	2.7E-10	1.2E-09
	total	5.7E-10	2.7E-10	5.0E-09	2.9E-10	3.2E-08	1.5E-09	1.1E-09	3.0E-10	3.0E-10	1.4E-09
10	in utero	1.2E-11	2.5E-12	9.1E-10	1.2E-11	9.1E-10	9.3E-11	2.2E-11	1.6E-11	1.2E-11	1.3E-10
	post natal	5.5E-10	2.6E-10	4.0E-09	2.6E-10	3.1E-08	1.4E-09	1.1E-09	2.6E-10	2.7E-10	1.2E-09
	total	5.6E-10	2.6E-10	4.9E-09	2.7E-10	3.2E-08	1.5E-09	1.1E-09	2.8E-10	2.8E-10	1.3E-09
15	in utero	1.3E-11	0.0E+00	1.0E-09	1.3E-11	1.0E-09	1.0E-10	1.9E-11	1.5E-11	1.3E-11	1.5E-10
	post natal	7.3E-10	3.5E-10	5.3E-09	3.5E-10	4.1E-08	1.9E-09	1.5E-09	3.5E-10	3.6E-10	1.5E-09
	total	7.4E-10	3.5E-10	6.3E-09	3.6E-10	4.2E-08	2.0E-09	1.5E-09	3.7E-10	3.7E-10	1.7E-09
25	in utero	1.4E-11	0.0E+00	1.3E-09	1.4E-11	1.3E-09	1.2E-10	1.6E-11	1.5E-11	1.5E-11	1.8E-10
	post natal	1.6E-09	7.6E-10	1.2E-08	7.6E-10	9.0E-08	4.1E-09	3.2E-09	7.7E-10	7.9E-10	3.3E-09
	total	1.6E-09	7.6E-10	1.3E-08	7.7E-10	9.1E-08	4.2E-09	3.2E-09	7.9E-10	8.1E-10	3.5E-09
35	in utero	9.4E-12	0.0E+00	8.5E-10	9.4E-12	8.5E-10	8.2E-11	9.5E-12	9.5E-12	9.4E-12	1.2E-10
	post natal	4.6E-09	2.2E-09	3.4E-08	2.2E-09	2.6E-07	1.2E-08	9.3E-09	2.2E-09	2.3E-09	9.8E-09
	total	4.6E-09	2.2E-09	3.5E-08	2.2E-09	2.6E-07	1.2E-08	9.3E-09	2.2E-09	2.3E-09	9.9E-09
Chronic											
-260 §	in utero	5.5E-11	9.3E-12	3.7E-10	5.5E-11	3.7E-10	9.6E-11	2.6E-10	2.6E-10	5.6E-11	9.8E-11
	post natal	1.6E-10	7.7E-11	1.2E-09	7.7E-11	9.2E-09	4.3E-10	3.2E-10	7.8E-11	8.0E-11	3.4E-10
	total	2.2E-10	8.6E-11	1.6E-09	1.3E-10	9.6E-09	5.3E-10	5.8E-10	3.4E-10	1.4E-10	4.4E-10
-52	in utero	4.1E-11	5.8E-12	3.3E-10	4.1E-11	3.3E-10	7.0E-11	8.4E-11	7.9E-11	4.2E-11	8.0E-11
	post natal	1.6E-10	7.8E-11	1.2E-09	7.8E-11	9.3E-09	4.3E-10	3.3E-10	7.9E-11	8.1E-11	3.4E-10
	total	2.0E-10	8.4E-11	1.5E-09	1.2E-10	9.6E-09	5.0E-10	4.1E-10	1.6E-10	1.2E-10	4.2E-10
during	in utero	2.6E-11	3.8E-12	1.8E-09	2.6E-11	1.8E-09	1.8E-10	3.2E-11	2.9E-11	2.7E-11	2.6E-10
	post natal	1.6E-09	7.9E-10	1.2E-08	7.9E-10	9.4E-08	4.3E-09	3.3E-09	8.0E-10	8.2E-10	3.5E-09
	total	1.6E-09	7.9E-10	1.4E-08	8.2E-10	9.6E-08	4.5E-09	3.3E-09	8.3E-10	8.5E-10	3.8E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-234
($T_{1/2} = 2.44E+05$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.4E-09	4.1E-10	6.2E-08	2.4E-09	6.2E-08	2.4E-09	1.5E-08	2.4E-09	2.5E-09	1.0E-08
	post natal	2.0E-09	2.0E-09	4.8E-09	2.0E-09	2.4E-08	1.1E-09	7.8E-09	2.0E-09	2.0E-09	2.5E-09
	total	4.4E-09	2.4E-09	6.7E-08	4.4E-09	8.6E-08	3.5E-09	2.3E-08	4.4E-09	4.5E-09	1.3E-08
-26	in utero	2.8E-09	4.8E-10	7.6E-08	2.8E-09	7.6E-08	2.8E-09	1.8E-08	2.8E-09	2.9E-09	1.2E-08
	post natal	2.4E-09	2.4E-09	5.8E-09	2.4E-09	2.9E-08	1.4E-09	9.4E-09	2.4E-09	2.5E-09	3.0E-09
	total	5.2E-09	2.9E-09	8.2E-08	5.2E-09	1.0E-07	4.2E-09	2.7E-08	5.2E-09	5.4E-09	1.5E-08
concep ‡	in utero	3.1E-08	5.6E-09	1.0E-06	3.1E-08	1.0E-06	3.1E-08	2.4E-07	3.1E-08	3.2E-08	1.6E-07
	post natal	2.6E-08	2.6E-08	6.4E-08	2.6E-08	3.2E-07	1.5E-08	1.0E-07	2.6E-08	2.7E-08	3.3E-08
	total	5.7E-08	3.2E-08	1.1E-06	5.7E-08	1.3E-06	4.6E-08	3.4E-07	5.7E-08	5.9E-08	1.9E-07
5	in utero	2.7E-08	8.9E-09	1.2E-06	2.7E-08	1.2E-06	2.7E-08	2.9E-07	2.7E-08	2.8E-08	1.8E-07
	post natal	2.7E-08	2.7E-08	6.7E-08	2.7E-08	3.3E-07	1.6E-08	1.1E-07	2.7E-08	2.8E-08	3.4E-08
	total	5.4E-08	3.6E-08	1.3E-06	5.4E-08	1.5E-06	4.3E-08	4.0E-07	5.4E-08	5.6E-08	2.1E-07
10	in utero	2.1E-08	8.4E-09	1.5E-06	2.1E-08	1.5E-06	2.1E-08	3.3E-07	2.1E-08	2.7E-08	2.1E-07
	post natal	2.9E-08	2.9E-08	7.0E-08	2.9E-08	3.5E-07	1.6E-08	1.1E-07	2.9E-08	3.0E-08	3.6E-08
	total	5.0E-08	3.7E-08	1.6E-06	5.0E-08	1.9E-06	3.7E-08	4.4E-07	5.0E-08	5.7E-08	2.5E-07
15	in utero	1.9E-08	0.0E+00	1.4E-06	1.9E-08	1.4E-06	1.9E-08	2.8E-07	1.9E-08	3.2E-08	1.9E-07
	post natal	3.1E-08	3.1E-08	7.6E-08	3.1E-08	3.8E-07	1.8E-08	1.2E-07	3.1E-08	3.2E-08	3.9E-08
	total	5.0E-08	3.1E-08	1.5E-06	5.0E-08	1.8E-06	3.7E-08	4.0E-07	5.0E-08	6.4E-08	2.3E-07
25	in utero	1.3E-08	0.0E+00	1.0E-06	1.3E-08	1.0E-06	1.3E-08	2.0E-07	1.3E-08	2.4E-08	1.5E-07
	post natal	4.1E-08	4.1E-08	1.0E-07	4.1E-08	5.0E-07	2.4E-08	1.6E-07	4.1E-08	4.3E-08	5.2E-08
	total	5.4E-08	4.1E-08	1.1E-06	5.4E-08	1.5E-06	3.7E-08	3.6E-07	5.4E-08	6.7E-08	2.0E-07
35	in utero	5.5E-09	0.0E+00	4.4E-07	5.5E-09	4.4E-07	5.5E-09	8.8E-08	5.5E-09	1.0E-08	6.2E-08
	post natal	9.1E-08	9.1E-08	2.2E-07	9.1E-08	1.1E-06	5.2E-08	3.6E-07	9.1E-08	9.5E-08	1.2E-07
	total	9.6E-08	9.1E-08	6.6E-07	9.6E-08	1.5E-06	5.7E-08	4.5E-07	9.6E-08	1.0E-07	1.8E-07
Chronic											
-260 §	in utero	2.7E-09	4.4E-10	6.4E-08	2.7E-09	6.4E-08	2.7E-09	1.6E-08	2.7E-09	2.8E-09	1.1E-08
	post natal	2.0E-09	2.0E-09	4.9E-09	2.0E-09	2.4E-08	1.2E-09	8.0E-09	2.0E-09	2.1E-09	2.5E-09
	total	4.7E-09	2.4E-09	6.9E-08	4.7E-09	8.8E-08	3.9E-09	2.4E-08	4.7E-09	4.9E-09	1.4E-08
-52	in utero	4.1E-09	5.7E-10	8.0E-08	4.1E-09	8.0E-08	4.1E-09	2.0E-08	4.1E-09	4.2E-09	1.4E-08
	post natal	2.4E-09	2.4E-09	5.8E-09	2.4E-09	2.9E-08	1.4E-09	9.5E-09	2.4E-09	2.5E-09	3.0E-09
	total	6.5E-09	3.0E-09	8.6E-08	6.5E-09	1.1E-07	5.5E-09	3.0E-08	6.5E-09	6.7E-09	1.7E-08
during	in utero	1.7E-08	2.9E-09	1.1E-06	1.7E-08	1.1E-06	1.7E-08	2.3E-07	1.7E-08	1.8E-08	1.5E-07
	post natal	4.6E-08	4.6E-08	1.1E-07	4.6E-08	5.6E-07	2.7E-08	1.8E-07	4.6E-08	4.8E-08	5.9E-08
	total	6.3E-08	4.9E-08	1.2E-06	6.3E-08	1.7E-06	4.4E-08	4.1E-07	6.3E-08	6.6E-08	2.1E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-234
($T_{1/2} = 2.44E+05$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.9E-10	1.0E-10	1.5E-08	5.9E-10	1.5E-08	5.9E-10	3.7E-09	5.9E-10	6.1E-10	2.5E-09
	post natal	4.8E-10	4.8E-10	1.2E-09	4.8E-10	5.9E-09	2.8E-10	1.9E-09	4.8E-10	5.0E-10	6.1E-10
	total	1.1E-09	5.8E-10	1.6E-08	1.1E-09	2.1E-08	8.7E-10	5.6E-09	1.1E-09	1.1E-09	3.1E-09
-26	in utero	8.4E-10	1.4E-10	1.9E-08	8.4E-10	1.9E-08	8.4E-10	4.8E-09	8.4E-10	8.7E-10	3.3E-09
	post natal	5.9E-10	5.9E-10	1.5E-09	5.9E-10	7.2E-09	3.4E-10	2.4E-09	5.9E-10	6.2E-10	7.5E-10
	total	1.4E-09	7.3E-10	2.0E-08	1.4E-09	2.6E-08	1.2E-09	7.2E-09	1.4E-09	1.5E-09	4.0E-09
concep ‡	in utero	5.9E-09	1.2E-09	2.4E-07	5.9E-09	2.4E-07	5.9E-09	5.5E-08	5.9E-09	6.2E-09	3.6E-08
	post natal	6.6E-09	6.6E-09	1.6E-08	6.6E-09	8.0E-08	3.8E-09	2.6E-08	6.6E-09	6.9E-09	8.4E-09
	total	1.3E-08	7.8E-09	2.6E-07	1.3E-08	3.2E-07	9.7E-09	8.1E-08	1.3E-08	1.3E-08	4.4E-08
5	in utero	5.0E-09	1.5E-09	2.6E-07	5.0E-09	2.6E-07	5.0E-09	6.0E-08	5.0E-09	5.3E-09	3.8E-08
	post natal	6.9E-09	6.9E-09	1.7E-08	6.9E-09	8.3E-08	3.9E-09	2.7E-08	6.9E-09	7.1E-09	8.7E-09
	total	1.2E-08	8.4E-09	2.8E-07	1.2E-08	3.4E-07	8.9E-09	8.7E-08	1.2E-08	1.2E-08	4.7E-08
10	in utero	4.0E-09	1.2E-09	2.8E-07	4.0E-09	2.8E-07	4.0E-09	6.1E-08	4.0E-09	5.0E-09	4.0E-08
	post natal	7.2E-09	7.2E-09	1.8E-08	7.2E-09	8.7E-08	4.1E-09	2.8E-08	7.2E-09	7.4E-09	9.1E-09
	total	1.1E-08	8.4E-09	3.0E-07	1.1E-08	3.7E-07	8.1E-09	8.9E-08	1.1E-08	1.2E-08	4.9E-08
15	in utero	3.4E-09	0.0E+00	2.5E-07	3.4E-09	2.5E-07	3.4E-09	5.1E-08	3.4E-09	5.8E-09	3.6E-08
	post natal	7.5E-09	7.5E-09	1.8E-08	7.5E-09	9.1E-08	4.3E-09	3.0E-08	7.5E-09	7.8E-09	9.5E-09
	total	1.1E-08	7.5E-09	2.7E-07	1.1E-08	3.4E-07	7.7E-09	8.1E-08	1.1E-08	1.4E-08	4.5E-08
25	in utero	2.2E-09	0.0E+00	1.7E-07	2.2E-09	1.7E-07	2.2E-09	3.4E-08	2.2E-09	3.9E-09	2.4E-08
	post natal	8.9E-09	8.9E-09	2.2E-08	8.9E-09	1.1E-07	5.1E-09	3.5E-08	8.9E-09	9.2E-09	1.1E-08
	total	1.1E-08	8.9E-09	1.9E-07	1.1E-08	2.8E-07	7.3E-09	6.9E-08	1.1E-08	1.3E-08	3.5E-08
35	in utero	7.6E-10	0.0E+00	6.0E-08	7.6E-10	6.0E-08	7.6E-10	1.2E-08	7.6E-10	1.4E-09	8.5E-09
	post natal	1.4E-08	1.4E-08	3.4E-08	1.4E-08	1.7E-07	8.1E-09	5.6E-08	1.4E-08	1.5E-08	1.8E-08
	total	1.5E-08	1.4E-08	9.4E-08	1.5E-08	2.3E-07	8.9E-09	6.8E-08	1.5E-08	1.6E-08	2.7E-08
Chronic											
-260 §	in utero	6.8E-10	1.1E-10	1.6E-08	6.8E-10	1.6E-08	6.8E-10	3.9E-09	6.8E-10	7.0E-10	2.6E-09
	post natal	4.9E-10	4.9E-10	1.2E-09	4.9E-10	6.0E-09	2.8E-10	2.0E-09	4.9E-10	5.1E-10	6.3E-10
	total	1.2E-09	6.0E-10	1.7E-08	1.2E-09	2.2E-08	9.6E-10	5.9E-09	1.2E-09	1.2E-09	3.2E-09
-52	in utero	1.0E-09	1.5E-10	2.0E-08	1.0E-09	2.0E-08	1.0E-09	5.1E-09	1.0E-09	1.1E-09	3.5E-09
	post natal	6.0E-10	6.0E-10	1.5E-09	6.0E-10	7.3E-09	3.4E-10	2.4E-09	6.0E-10	6.2E-10	7.6E-10
	total	1.6E-09	7.5E-10	2.2E-08	1.6E-09	2.7E-08	1.3E-09	7.5E-09	1.6E-09	1.7E-09	4.3E-09
during	in utero	3.0E-09	4.7E-10	1.9E-07	3.0E-09	1.9E-07	3.0E-09	4.1E-08	3.0E-09	3.2E-09	2.8E-08
	post natal	9.2E-09	9.2E-09	2.2E-08	9.2E-09	1.1E-07	5.3E-09	3.6E-08	9.2E-09	9.5E-09	1.2E-08
	total	1.2E-08	9.7E-09	2.1E-07	1.2E-08	3.0E-07	8.3E-09	7.7E-08	1.2E-08	1.3E-08	4.0E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-234
($T_{1/2} = 2.44E+05$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.002$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.9E-11	6.5E-12	9.8E-10	3.9E-11	9.8E-10	3.9E-11	2.4E-10	3.9E-11	4.0E-11	1.6E-10
	post natal	3.2E-11	3.2E-11	7.9E-11	3.2E-11	3.9E-10	1.8E-11	1.3E-10	3.2E-11	3.3E-11	4.1E-11
	total	7.1E-11	3.9E-11	1.1E-09	7.1E-11	1.4E-09	5.7E-11	3.7E-10	7.1E-11	7.3E-11	2.0E-10
-26	in utero	3.4E-11	5.5E-12	8.1E-10	3.4E-11	8.1E-10	3.4E-11	2.0E-10	3.4E-11	3.5E-11	1.4E-10
	post natal	2.7E-11	2.7E-11	6.7E-11	2.7E-11	3.3E-10	1.6E-11	1.1E-10	2.7E-11	2.8E-11	3.5E-11
	total	6.1E-11	3.3E-11	8.8E-10	6.1E-11	1.1E-09	5.0E-11	3.1E-10	6.1E-11	6.3E-11	1.8E-10
concep ‡	in utero	1.9E-10	3.6E-11	7.9E-09	1.9E-10	7.9E-09	1.9E-10	1.8E-09	1.9E-10	2.0E-10	1.2E-09
	post natal	2.5E-10	2.5E-10	6.2E-10	2.5E-10	3.1E-09	1.5E-10	1.0E-09	2.5E-10	2.6E-10	3.2E-10
	total	4.4E-10	2.9E-10	8.5E-09	4.4E-10	1.1E-08	3.4E-10	2.8E-09	4.4E-10	4.6E-10	1.5E-09
5	in utero	1.6E-10	4.6E-11	8.3E-09	1.6E-10	8.3E-09	1.6E-10	1.9E-09	1.6E-10	1.7E-10	1.2E-09
	post natal	2.5E-10	2.5E-10	6.2E-10	2.5E-10	3.0E-09	1.4E-10	1.0E-09	2.5E-10	2.6E-10	3.2E-10
	total	4.1E-10	3.0E-10	8.9E-09	4.1E-10	1.1E-08	3.0E-10	2.9E-09	4.1E-10	4.3E-10	1.5E-09
10	in utero	1.2E-10	3.7E-11	8.8E-09	1.2E-10	8.8E-09	1.2E-10	1.9E-09	1.2E-10	1.6E-10	1.3E-09
	post natal	2.5E-10	2.5E-10	6.1E-10	2.5E-10	3.0E-09	1.4E-10	9.9E-10	2.5E-10	2.6E-10	3.2E-10
	total	3.7E-10	2.9E-10	9.4E-09	3.7E-10	1.2E-08	2.6E-10	2.9E-09	3.7E-10	4.2E-10	1.6E-09
15	in utero	1.1E-10	0.0E+00	7.8E-09	1.1E-10	7.8E-09	1.1E-10	1.6E-09	1.1E-10	1.8E-10	1.1E-09
	post natal	2.5E-10	2.5E-10	6.2E-10	2.5E-10	3.1E-09	1.5E-10	1.0E-09	2.5E-10	2.6E-10	3.2E-10
	total	3.6E-10	2.5E-10	8.4E-09	3.6E-10	1.1E-08	2.6E-10	2.6E-09	3.6E-10	4.4E-10	1.4E-09
25	in utero	6.7E-11	0.0E+00	5.2E-09	6.7E-11	5.2E-09	6.7E-11	1.0E-09	6.7E-11	1.2E-10	7.3E-10
	post natal	2.8E-10	2.8E-10	6.7E-10	2.8E-10	3.3E-09	1.6E-10	1.1E-09	2.8E-10	2.9E-10	3.5E-10
	total	3.5E-10	2.8E-10	5.9E-09	3.5E-10	8.5E-09	2.3E-10	2.1E-09	3.5E-10	4.1E-10	1.1E-09
35	in utero	2.3E-11	0.0E+00	1.8E-09	2.3E-11	1.8E-09	2.3E-11	3.7E-10	2.3E-11	4.4E-11	2.6E-10
	post natal	4.3E-10	4.3E-10	1.0E-09	4.3E-10	5.2E-09	2.5E-10	1.7E-09	4.3E-10	4.4E-10	5.4E-10
	total	4.5E-10	4.3E-10	2.8E-09	4.5E-10	7.0E-09	2.7E-10	2.1E-09	4.5E-10	4.8E-10	8.0E-10
Chronic											
-260 §	in utero	4.0E-11	6.4E-12	9.5E-10	4.0E-11	9.5E-10	4.0E-11	2.3E-10	4.0E-11	4.1E-11	1.6E-10
	post natal	3.1E-11	3.1E-11	7.6E-11	3.1E-11	3.8E-10	1.8E-11	1.2E-10	3.1E-11	3.2E-11	3.9E-11
	total	7.1E-11	3.7E-11	1.0E-09	7.1E-11	1.3E-09	5.8E-11	3.5E-10	7.1E-11	7.3E-11	2.0E-10
-52	in utero	4.0E-11	5.9E-12	8.2E-10	4.0E-11	8.2E-10	4.0E-11	2.0E-10	4.0E-11	4.1E-11	1.4E-10
	post natal	2.7E-11	2.7E-11	6.7E-11	2.7E-11	3.3E-10	1.6E-11	1.1E-10	2.7E-11	2.8E-11	3.5E-11
	total	6.7E-11	3.3E-11	8.9E-10	6.7E-11	1.1E-09	5.6E-11	3.1E-10	6.7E-11	6.9E-11	1.8E-10
during	in utero	9.2E-11	1.4E-11	6.1E-09	9.2E-11	6.1E-09	9.2E-11	1.3E-09	9.2E-11	9.9E-11	8.7E-10
	post natal	3.0E-10	3.0E-10	7.3E-10	3.0E-10	3.6E-09	1.7E-10	1.2E-09	3.0E-10	3.1E-10	3.8E-10
	total	3.9E-10	3.1E-10	6.8E-09	3.9E-10	9.7E-09	2.6E-10	2.5E-09	3.9E-10	4.1E-10	1.2E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-234
($T_{1/2} = 2.44E+05$ y) by the mother

Ingestion: $f_1 = 0.02$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.7E-10	2.9E-11	4.4E-09	1.7E-10	4.4E-09	1.7E-10	1.1E-09	1.7E-10	1.8E-10	7.2E-10
	post natal	1.4E-10	1.4E-10	3.4E-10	1.4E-10	1.7E-09	8.0E-11	5.5E-10	1.4E-10	1.5E-10	1.8E-10
	total	3.1E-10	1.7E-10	4.7E-09	3.1E-10	6.1E-09	2.5E-10	1.7E-09	3.1E-10	3.3E-10	9.0E-10
-26	in utero	2.0E-10	3.4E-11	5.4E-09	2.0E-10	5.4E-09	2.0E-10	1.3E-09	2.0E-10	2.0E-10	8.8E-10
	post natal	1.7E-10	1.7E-10	4.1E-10	1.7E-10	2.0E-09	9.6E-11	6.7E-10	1.7E-10	1.7E-10	2.1E-10
	total	3.7E-10	2.0E-10	5.8E-09	3.7E-10	7.4E-09	3.0E-10	2.0E-09	3.7E-10	3.7E-10	1.1E-09
concep ‡	in utero	2.2E-09	4.0E-10	7.2E-08	2.2E-09	7.2E-08	2.2E-09	1.7E-08	2.2E-09	2.3E-09	1.1E-08
	post natal	1.9E-09	1.9E-09	4.5E-09	1.9E-09	2.2E-08	1.1E-09	7.3E-09	1.9E-09	1.9E-09	2.3E-09
	total	4.1E-09	2.3E-09	7.7E-08	4.1E-09	9.4E-08	3.3E-09	2.4E-08	4.1E-09	4.2E-09	1.3E-08
5	in utero	1.9E-09	6.4E-10	8.5E-08	1.9E-09	8.5E-08	1.9E-09	2.0E-08	1.9E-09	2.0E-09	1.3E-08
	post natal	3.8E-09	1.9E-09	4.7E-09	1.9E-09	2.3E-08	1.1E-09	7.6E-09	1.9E-09	2.0E-09	2.4E-09
	total	3.8E-09	2.5E-09	9.0E-08	3.8E-09	1.1E-07	3.0E-09	2.8E-08	3.8E-09	4.0E-09	1.5E-08
10	in utero	1.5E-09	5.9E-10	1.0E-07	1.5E-09	1.0E-07	1.5E-09	2.3E-08	1.5E-09	1.9E-09	1.5E-08
	post natal	2.0E-09	2.0E-09	5.0E-09	2.0E-09	2.5E-08	1.2E-09	8.1E-09	2.0E-09	2.1E-09	2.6E-09
	total	3.5E-09	2.6E-09	1.0E-07	3.5E-09	1.2E-07	2.7E-09	3.1E-08	3.5E-09	4.0E-09	1.8E-08
15	in utero	1.3E-09	0.0E+00	9.6E-08	1.3E-09	9.6E-08	1.3E-09	2.0E-08	1.3E-09	2.2E-09	1.4E-08
	post natal	2.2E-09	2.2E-09	5.4E-09	2.2E-09	2.7E-08	1.3E-09	8.7E-09	2.2E-09	2.3E-09	2.8E-09
	total	3.5E-09	2.2E-09	1.0E-07	3.5E-09	1.2E-07	2.6E-09	2.9E-08	3.5E-09	4.5E-09	1.7E-08
25	in utero	9.4E-10	0.0E+00	7.3E-08	9.4E-10	7.3E-08	9.4E-10	1.4E-08	9.4E-10	1.7E-09	1.0E-08
	post natal	2.9E-09	2.9E-09	7.1E-09	2.9E-09	3.5E-08	1.7E-09	1.2E-08	2.9E-09	3.0E-09	3.7E-09
	total	3.8E-09	2.9E-09	8.0E-08	3.8E-09	1.1E-07	2.6E-09	2.6E-08	3.8E-09	4.7E-09	1.4E-08
35	in utero	3.9E-10	0.0E+00	3.1E-08	3.9E-10	3.1E-08	3.9E-10	6.2E-09	3.9E-10	7.3E-10	4.4E-09
	post natal	6.5E-09	6.5E-09	1.6E-08	6.5E-09	7.9E-08	3.7E-09	2.6E-08	6.5E-09	6.7E-09	8.2E-09
	total	6.9E-09	6.5E-09	4.7E-08	6.9E-09	1.1E-07	4.1E-09	3.2E-08	6.9E-09	7.4E-09	1.3E-08
Chronic											
-260 §	in utero	1.9E-10	3.1E-11	4.6E-09	1.9E-10	4.6E-09	1.9E-10	1.1E-09	1.9E-10	2.0E-10	7.6E-10
	post natal	1.4E-10	1.4E-10	3.5E-10	1.4E-10	1.7E-09	8.2E-11	5.6E-10	1.4E-10	1.5E-10	1.8E-10
	total	3.3E-10	1.7E-10	4.9E-09	3.3E-10	6.3E-09	2.7E-10	1.7E-09	3.3E-10	3.5E-10	9.4E-10
-52	in utero	2.9E-10	4.0E-11	5.7E-09	2.9E-10	5.7E-09	2.9E-10	1.4E-09	2.9E-10	2.9E-10	9.9E-10
	post natal	1.7E-10	1.7E-10	4.1E-10	1.7E-10	2.1E-09	9.7E-11	6.7E-10	1.7E-10	1.8E-10	2.1E-10
	total	4.6E-10	2.1E-10	6.1E-09	4.6E-10	7.8E-09	3.9E-10	2.1E-09	4.6E-10	4.7E-10	1.2E-09
during	in utero	1.2E-09	2.1E-10	7.5E-08	1.2E-09	7.5E-08	1.2E-09	1.6E-08	1.2E-09	1.3E-09	1.1E-08
	post natal	3.3E-09	3.3E-09	8.0E-09	3.3E-09	4.0E-08	1.9E-09	1.3E-08	3.3E-09	3.4E-09	4.1E-09
	total	4.5E-09	3.5E-09	8.3E-08	4.5E-09	1.2E-07	3.1E-09	2.9E-08	4.5E-09	4.7E-09	1.5E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-234
($T_{1/2} = 2.44E+05$ y) by the mother

Ingestion: $f_1 = 0.002$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.7E-11	2.9E-12	4.4E-10	1.7E-11	4.4E-10	1.7E-11	1.1E-10	1.7E-11	1.8E-11	7.2E-11
	post natal	1.4E-11	1.4E-11	3.4E-11	1.4E-11	1.7E-10	8.0E-12	5.5E-11	1.4E-11	1.5E-11	1.8E-11
	total	3.1E-11	1.7E-11	4.7E-10	3.1E-11	6.1E-10	2.5E-11	1.6E-10	3.1E-11	3.3E-11	9.0E-11
-26	in utero	2.0E-11	3.4E-12	5.4E-10	2.0E-11	5.4E-10	2.0E-11	1.3E-10	2.0E-11	2.0E-11	8.8E-11
	post natal	1.7E-11	1.7E-11	4.1E-11	1.7E-11	2.0E-10	9.6E-12	6.7E-11	1.7E-11	1.7E-11	2.1E-11
	total	3.7E-11	2.0E-11	5.8E-10	3.7E-11	7.4E-10	3.0E-11	2.0E-10	3.7E-11	3.7E-11	1.1E-10
concep ‡	in utero	2.2E-10	4.0E-11	7.2E-09	2.2E-10	7.2E-09	2.2E-10	1.7E-09	2.2E-10	2.3E-10	1.1E-09
	post natal	1.9E-10	1.9E-10	4.5E-10	1.9E-10	2.2E-09	1.1E-10	7.3E-10	1.9E-10	1.9E-10	2.3E-10
	total	4.1E-10	2.3E-10	7.6E-09	4.1E-10	9.4E-09	3.3E-10	2.4E-09	4.1E-10	4.2E-10	1.3E-09
5	in utero	1.9E-10	6.4E-11	8.5E-09	1.9E-10	8.5E-09	1.9E-10	2.0E-09	1.9E-10	2.0E-10	1.3E-09
	post natal	1.9E-10	1.9E-10	4.7E-10	1.9E-10	2.3E-09	1.1E-10	7.6E-10	1.9E-10	2.0E-10	2.4E-10
	total	3.8E-10	2.5E-10	9.0E-09	3.8E-10	1.1E-08	3.0E-10	2.8E-09	3.8E-10	4.0E-10	1.5E-09
10	in utero	1.5E-10	6.0E-11	1.0E-08	1.5E-10	1.0E-08	1.5E-10	2.3E-09	1.5E-10	1.9E-10	1.5E-09
	post natal	2.0E-10	2.0E-10	5.0E-10	2.0E-10	2.5E-09	1.2E-10	8.1E-10	2.0E-10	2.1E-10	2.6E-10
	total	3.5E-10	2.6E-10	1.0E-08	3.5E-10	1.3E-08	2.7E-10	3.1E-09	3.5E-10	4.0E-10	1.8E-09
15	in utero	1.3E-10	0.0E+00	9.6E-09	1.3E-10	9.6E-09	1.3E-10	2.0E-09	1.3E-10	2.2E-10	1.4E-09
	post natal	2.2E-10	2.2E-10	5.4E-10	2.2E-10	2.7E-09	1.3E-10	8.7E-10	2.2E-10	2.3E-10	2.8E-10
	total	3.5E-10	2.2E-10	1.0E-08	3.5E-10	1.2E-08	2.6E-10	2.9E-09	3.5E-10	4.5E-10	1.7E-09
25	in utero	9.4E-11	0.0E+00	7.3E-09	9.4E-11	7.3E-09	9.4E-11	1.4E-09	9.4E-11	1.7E-10	1.0E-09
	post natal	2.9E-10	2.9E-10	7.1E-10	2.9E-10	3.5E-09	1.7E-10	1.2E-09	2.9E-10	3.0E-10	3.7E-10
	total	3.8E-10	2.9E-10	8.0E-09	3.8E-10	1.1E-08	2.6E-10	2.6E-09	3.8E-10	4.7E-10	1.4E-09
35	in utero	3.9E-11	0.0E+00	3.1E-09	3.9E-11	3.1E-09	3.9E-11	6.2E-10	3.9E-11	7.3E-11	4.4E-10
	post natal	6.5E-10	6.5E-10	1.6E-09	6.5E-10	7.9E-09	3.7E-10	2.6E-09	6.5E-10	6.7E-10	8.2E-10
	total	6.9E-10	6.5E-10	4.7E-09	6.9E-10	1.1E-08	4.1E-10	3.2E-09	6.9E-10	7.4E-10	1.3E-09
Chronic											
-260 §	in utero	1.9E-11	3.1E-12	4.6E-10	1.9E-11	4.6E-10	1.9E-11	1.1E-10	1.9E-11	2.0E-11	7.6E-11
	post natal	1.4E-11	1.4E-11	3.5E-11	1.4E-11	1.7E-10	8.2E-12	5.6E-11	1.4E-11	1.5E-11	1.8E-11
	total	3.3E-11	1.7E-11	4.9E-10	3.3E-11	6.3E-10	2.7E-11	1.7E-10	3.3E-11	3.5E-11	9.4E-11
-52	in utero	2.9E-11	4.0E-12	5.7E-10	2.9E-11	5.7E-10	2.9E-11	1.4E-10	2.9E-11	2.9E-11	9.9E-11
	post natal	1.7E-11	1.7E-11	4.1E-11	1.7E-11	2.1E-10	9.7E-12	6.7E-11	1.7E-11	1.8E-11	2.1E-11
	total	4.6E-11	2.1E-11	6.1E-10	4.6E-11	7.8E-10	3.9E-11	2.1E-10	4.6E-11	4.7E-11	1.2E-10
during	in utero	1.2E-10	2.1E-11	7.5E-09	1.2E-10	7.5E-09	1.2E-10	1.6E-09	1.2E-10	1.3E-10	1.1E-09
	post natal	3.3E-10	3.3E-10	8.0E-10	3.3E-10	4.0E-09	1.9E-10	1.3E-09	3.3E-10	3.4E-10	4.1E-10
	total	4.5E-10	3.5E-10	8.3E-09	4.5E-10	1.2E-08	3.1E-10	2.9E-09	4.5E-10	4.7E-10	1.5E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-235
($T_{1/2} = 7.04E+08$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.3E-09	3.9E-10	5.8E-08	2.3E-09	5.8E-08	2.3E-09	1.4E-08	2.3E-09	2.3E-09	9.5E-09
	post natal	1.9E-09	1.8E-09	4.5E-09	1.8E-09	2.3E-08	1.1E-09	7.3E-09	1.8E-09	1.9E-09	2.4E-09
	total	4.2E-09	2.2E-09	6.2E-08	4.1E-09	8.1E-08	3.4E-09	2.1E-08	4.1E-09	4.2E-09	1.2E-08
-26	in utero	2.6E-09	4.5E-10	7.1E-08	2.6E-09	7.1E-08	2.6E-09	1.7E-08	2.6E-09	2.7E-09	1.1E-08
	post natal	2.3E-09	2.2E-09	5.4E-09	2.2E-09	2.8E-08	1.3E-09	8.7E-09	2.2E-09	2.3E-09	2.8E-09
	total	4.9E-09	2.7E-09	7.6E-08	4.8E-09	9.9E-08	3.9E-09	2.6E-08	4.8E-09	5.0E-09	1.4E-08
concep ‡	in utero	2.9E-08	5.2E-09	9.4E-07	2.9E-08	9.4E-07	2.9E-08	2.3E-07	2.9E-08	3.0E-08	1.5E-07
	post natal	2.5E-08	2.4E-08	6.0E-08	2.4E-08	3.1E-07	1.4E-08	9.6E-08	2.4E-08	2.5E-08	3.1E-08
	total	5.4E-08	2.9E-08	1.0E-06	5.3E-08	1.2E-06	4.3E-08	3.3E-07	5.3E-08	5.5E-08	1.8E-07
5	in utero	2.5E-08	8.3E-09	1.1E-06	2.5E-08	1.1E-06	2.5E-08	2.7E-07	2.5E-08	2.6E-08	1.7E-07
	post natal	2.6E-08	2.5E-08	6.2E-08	2.5E-08	3.2E-07	1.4E-08	1.0E-07	2.5E-08	2.6E-08	3.3E-08
	total	5.1E-08	3.3E-08	1.2E-06	5.0E-08	1.4E-06	3.9E-08	3.7E-07	5.0E-08	5.2E-08	2.0E-07
10	in utero	2.0E-08	7.9E-09	1.4E-06	2.0E-08	1.4E-06	2.0E-08	3.1E-07	2.0E-08	2.5E-08	1.9E-07
	post natal	2.7E-08	2.7E-08	6.6E-08	2.7E-08	3.4E-07	1.5E-08	1.1E-07	2.7E-08	2.8E-08	3.4E-08
	total	4.7E-08	3.5E-08	1.5E-06	4.7E-08	1.7E-06	3.5E-08	4.2E-07	4.7E-08	5.3E-08	2.2E-07
15	in utero	1.7E-08	0.0E+00	1.3E-06	1.7E-08	1.3E-06	1.7E-08	2.6E-07	1.7E-08	2.9E-08	1.8E-07
	post natal	3.0E-08	2.9E-08	7.1E-08	2.9E-08	3.7E-07	1.7E-08	1.1E-07	2.9E-08	3.0E-08	3.7E-08
	total	4.7E-08	2.9E-08	1.4E-06	4.6E-08	1.7E-06	3.4E-08	3.7E-07	4.6E-08	5.9E-08	2.2E-07
25	in utero	1.2E-08	0.0E+00	9.5E-07	1.2E-08	9.5E-07	1.2E-08	1.9E-07	1.2E-08	2.2E-08	1.4E-07
	post natal	3.9E-08	3.8E-08	9.4E-08	3.8E-08	4.9E-07	2.2E-08	1.5E-07	3.8E-08	4.0E-08	4.9E-08
	total	5.1E-08	3.8E-08	1.0E-06	5.0E-08	1.4E-06	3.4E-08	3.4E-07	5.0E-08	6.2E-08	1.9E-07
35	in utero	5.2E-09	0.0E+00	4.1E-07	5.2E-09	4.1E-07	5.2E-09	8.2E-08	5.2E-09	9.7E-09	5.8E-08
	post natal	8.7E-08	8.5E-08	2.1E-07	8.5E-08	1.1E-06	4.9E-08	3.3E-07	8.5E-08	8.8E-08	1.1E-07
	total	9.2E-08	8.5E-08	6.2E-07	9.0E-08	1.5E-06	5.4E-08	4.1E-07	9.0E-08	9.8E-08	1.7E-07
Chronic											
-260 §	in utero	2.6E-09	4.1E-10	6.0E-08	2.6E-09	6.0E-08	2.6E-09	1.5E-08	2.6E-09	2.6E-09	1.0E-08
	post natal	1.9E-09	1.9E-09	4.6E-09	1.9E-09	2.4E-08	1.1E-09	7.4E-09	1.9E-09	1.9E-09	2.4E-09
	total	4.5E-09	2.3E-09	6.5E-08	4.5E-09	8.4E-08	3.7E-09	2.2E-08	4.5E-09	4.5E-09	1.2E-08
-52	in utero	3.8E-09	5.4E-10	7.5E-08	3.8E-09	7.5E-08	3.8E-09	1.9E-08	3.8E-09	3.9E-09	1.3E-08
	post natal	2.3E-09	2.2E-09	5.5E-09	2.2E-09	2.8E-08	1.3E-09	8.8E-09	2.2E-09	2.3E-09	2.9E-09
	total	6.1E-09	2.7E-09	8.1E-08	6.0E-09	1.0E-07	5.1E-09	2.8E-08	6.0E-09	6.2E-09	1.6E-08
during	in utero	1.5E-08	2.7E-09	9.7E-07	1.5E-08	9.7E-07	1.6E-08	2.1E-07	1.5E-08	1.7E-08	1.4E-07
	post natal	4.4E-08	4.3E-08	1.1E-07	4.3E-08	5.5E-07	2.5E-08	1.7E-07	4.3E-08	4.4E-08	5.5E-08
	total	5.9E-08	4.6E-08	1.1E-06	5.8E-08	1.5E-06	4.1E-08	3.8E-07	5.8E-08	6.1E-08	1.9E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-235
($T_{1/2} = 7.04E+08$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.5E-10	9.4E-11	1.4E-08	5.5E-10	1.4E-08	5.5E-10	3.4E-09	5.5E-10	5.7E-10	2.3E-09
	post natal	4.6E-10	4.5E-10	1.1E-09	4.5E-10	5.7E-09	2.6E-10	1.8E-09	4.5E-10	4.6E-10	5.8E-10
	total	1.0E-09	5.4E-10	1.5E-08	1.0E-09	2.0E-08	8.1E-10	5.2E-09	1.0E-09	1.0E-09	2.9E-09
-26	in utero	7.9E-10	1.3E-10	1.8E-08	7.9E-10	1.8E-08	7.9E-10	4.4E-09	7.9E-10	8.1E-10	3.0E-09
	post natal	5.7E-10	5.5E-10	1.4E-09	5.5E-10	7.0E-09	3.2E-10	2.2E-09	5.5E-10	5.7E-10	7.1E-10
	total	1.4E-09	6.8E-10	1.9E-08	1.3E-09	2.5E-08	1.1E-09	6.6E-09	1.3E-09	1.4E-09	3.7E-09
concep ‡	in utero	5.5E-09	1.1E-09	2.2E-07	5.5E-09	2.2E-07	5.5E-09	5.1E-08	5.5E-09	5.8E-09	3.3E-08
	post natal	6.3E-09	6.2E-09	1.5E-08	6.2E-09	7.9E-08	3.5E-09	2.4E-08	6.2E-09	6.4E-09	7.9E-09
	total	1.2E-08	7.3E-09	2.4E-07	1.2E-08	3.0E-07	9.0E-09	7.5E-08	1.2E-08	1.2E-08	4.1E-08
5	in utero	4.7E-09	1.4E-09	2.4E-07	4.7E-09	2.4E-07	4.7E-09	5.5E-08	4.7E-09	5.0E-09	3.5E-08
	post natal	6.5E-09	6.4E-09	1.6E-08	6.4E-09	8.1E-08	3.7E-09	2.5E-08	6.4E-09	6.6E-09	8.2E-09
	total	1.1E-08	7.8E-09	2.6E-07	1.1E-08	3.2E-07	8.4E-09	8.0E-08	1.1E-08	1.2E-08	4.3E-08
10	in utero	3.7E-09	1.2E-09	2.6E-07	3.7E-09	2.6E-07	3.7E-09	5.7E-08	3.7E-09	4.7E-09	3.7E-08
	post natal	6.8E-09	6.6E-09	1.6E-08	6.6E-09	8.5E-08	3.8E-09	2.6E-08	6.6E-09	6.9E-09	8.6E-09
	total	1.0E-08	7.8E-09	2.8E-07	1.0E-08	3.5E-07	7.5E-09	8.3E-08	1.0E-08	1.2E-08	4.6E-08
15	in utero	3.2E-09	0.0E+00	2.3E-07	3.2E-09	2.3E-07	3.2E-09	4.7E-08	3.2E-09	5.4E-09	3.3E-08
	post natal	7.2E-09	7.0E-09	1.7E-08	7.0E-09	8.9E-08	4.0E-09	2.8E-08	7.0E-09	7.2E-09	9.0E-09
	total	1.0E-08	7.0E-09	2.5E-07	1.0E-08	3.2E-07	7.2E-09	7.5E-08	1.0E-08	1.3E-08	4.2E-08
25	in utero	2.1E-09	0.0E+00	1.6E-07	2.1E-09	1.6E-07	2.1E-09	3.1E-08	2.1E-09	3.7E-09	2.2E-08
	post natal	8.4E-09	8.2E-09	2.0E-08	8.2E-09	1.1E-07	4.7E-09	3.3E-08	8.2E-09	8.5E-09	1.1E-08
	total	1.0E-08	8.2E-09	1.8E-07	1.0E-08	2.7E-07	6.8E-09	6.4E-08	1.0E-08	1.2E-08	3.3E-08
35	in utero	7.3E-10	0.0E+00	5.6E-08	7.3E-10	5.6E-08	7.4E-10	1.1E-08	7.3E-10	1.3E-09	7.9E-09
	post natal	1.3E-08	1.3E-08	3.2E-08	1.3E-08	1.7E-07	7.5E-09	5.2E-08	1.3E-08	1.3E-08	1.7E-08
	total	1.4E-08	1.3E-08	8.8E-08	1.4E-08	2.3E-07	8.2E-09	6.3E-08	1.4E-08	1.4E-08	2.5E-08
Chronic											
-260 §	in utero	6.3E-10	1.0E-10	1.5E-08	6.3E-10	1.5E-08	6.4E-10	3.6E-09	6.3E-10	6.5E-10	2.5E-09
	post natal	4.7E-10	4.6E-10	1.1E-09	4.6E-10	5.9E-09	2.6E-10	1.8E-09	4.6E-10	4.8E-10	5.9E-10
	total	1.1E-09	5.6E-10	1.6E-08	1.1E-09	2.1E-08	9.0E-10	5.4E-09	1.1E-09	1.1E-09	3.1E-09
-52	in utero	9.7E-10	1.4E-10	1.9E-08	9.7E-10	1.9E-08	9.7E-10	4.7E-09	9.7E-10	9.9E-10	3.3E-09
	post natal	5.7E-10	5.6E-10	1.4E-09	5.6E-10	7.1E-09	3.2E-10	2.2E-09	5.6E-10	5.8E-10	7.2E-10
	total	1.5E-09	7.0E-10	2.0E-08	1.5E-09	2.6E-08	1.3E-09	6.9E-09	1.5E-09	1.6E-09	4.0E-09
during	in utero	2.8E-09	4.5E-10	1.8E-07	2.8E-09	1.8E-07	2.8E-09	3.8E-08	2.8E-09	3.0E-09	2.6E-08
	post natal	8.7E-09	8.5E-09	2.1E-08	8.5E-09	1.1E-07	4.9E-09	3.4E-08	8.5E-09	8.8E-09	1.1E-08
	total	1.2E-08	8.9E-09	2.0E-07	1.1E-08	2.9E-07	7.7E-09	7.2E-08	1.1E-08	1.2E-08	3.7E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-235
($T_{1/2} = 7.04E+08$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.002$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.2E-11	7.0E-12	9.2E-10	4.2E-11	9.2E-10	4.2E-11	2.2E-10	4.2E-11	4.3E-11	1.6E-10
	post natal	3.1E-11	3.0E-11	7.4E-11	3.0E-11	3.8E-10	1.7E-11	1.2E-10	3.0E-11	3.1E-11	3.9E-11
	total	7.3E-11	3.7E-11	9.9E-10	7.2E-11	1.3E-09	5.9E-11	3.4E-10	7.2E-11	7.4E-11	2.0E-10
-26	in utero	4.2E-11	6.9E-12	7.6E-10	4.2E-11	7.6E-10	4.2E-11	1.9E-10	4.2E-11	4.3E-11	1.4E-10
	post natal	2.6E-11	2.5E-11	6.3E-11	2.5E-11	3.2E-10	1.5E-11	1.0E-10	2.5E-11	2.6E-11	3.3E-11
	total	6.8E-11	3.2E-11	8.2E-10	6.7E-11	1.1E-09	5.7E-11	2.9E-10	6.7E-11	6.9E-11	1.7E-10
concep ‡	in utero	2.4E-10	3.6E-11	7.4E-09	2.4E-10	7.4E-09	2.4E-10	1.8E-09	2.4E-10	2.5E-10	1.2E-09
	post natal	2.4E-10	2.4E-10	5.8E-10	2.4E-10	3.0E-09	1.4E-10	9.3E-10	2.4E-10	2.4E-10	3.0E-10
	total	4.8E-10	2.8E-10	8.0E-09	4.8E-10	1.0E-08	3.8E-10	2.7E-09	4.8E-10	4.9E-10	1.5E-09
5	in utero	2.1E-10	4.7E-11	7.8E-09	2.1E-10	7.8E-09	2.1E-10	1.8E-09	2.1E-10	2.2E-10	1.2E-09
	post natal	2.4E-10	2.3E-10	5.8E-10	2.3E-10	3.0E-09	1.3E-10	9.2E-10	2.3E-10	2.4E-10	3.0E-10
	total	4.5E-10	2.8E-10	8.4E-09	4.4E-10	1.1E-08	3.4E-10	2.7E-09	4.4E-10	4.6E-10	1.5E-09
10	in utero	1.8E-10	8.7E-11	8.2E-09	1.8E-10	8.2E-09	1.8E-10	1.9E-09	1.8E-10	2.1E-10	1.2E-09
	post natal	2.4E-10	2.3E-10	5.7E-10	2.3E-10	3.0E-09	1.3E-10	9.2E-10	2.3E-10	2.4E-10	3.0E-10
	total	4.2E-10	3.2E-10	8.8E-09	4.1E-10	1.1E-08	3.1E-10	2.8E-09	4.1E-10	4.5E-10	1.5E-09
15	in utero	1.6E-10	0.0E+00	7.2E-09	1.6E-10	7.2E-09	1.6E-10	1.5E-09	1.6E-10	2.2E-10	1.1E-09
	post natal	2.4E-10	2.3E-10	5.8E-10	2.3E-10	3.0E-09	1.3E-10	9.3E-10	2.3E-10	2.4E-10	3.0E-10
	total	4.0E-10	2.3E-10	7.8E-09	3.9E-10	1.0E-08	2.9E-10	2.4E-09	3.9E-10	4.6E-10	1.4E-09
25	in utero	1.1E-10	0.0E+00	4.9E-09	1.1E-10	4.9E-09	1.1E-10	1.0E-09	1.1E-10	1.6E-10	7.3E-10
	post natal	2.6E-10	2.6E-10	6.3E-10	2.6E-10	3.3E-09	1.5E-10	1.0E-09	2.6E-10	2.6E-10	3.3E-10
	total	3.7E-10	2.6E-10	5.5E-09	3.7E-10	8.2E-09	2.6E-10	2.0E-09	3.7E-10	4.2E-10	1.1E-09
35	in utero	4.8E-11	0.0E+00	1.7E-09	4.8E-11	1.7E-09	4.8E-11	3.7E-10	4.8E-11	6.7E-11	2.7E-10
	post natal	4.1E-10	4.0E-10	9.8E-10	4.0E-10	5.1E-09	2.3E-10	1.6E-09	4.0E-10	4.1E-10	5.1E-10
	total	4.6E-10	4.0E-10	2.7E-09	4.5E-10	6.8E-09	2.8E-10	2.0E-09	4.5E-10	4.8E-10	7.8E-10
Chronic											
-260 §	in utero	4.3E-11	7.1E-12	8.9E-10	4.3E-11	8.9E-10	4.3E-11	2.2E-10	4.3E-11	4.4E-11	1.5E-10
	post natal	3.0E-11	2.9E-11	7.1E-11	2.9E-11	3.7E-10	1.7E-11	1.1E-10	2.9E-11	3.0E-11	3.7E-11
	total	7.3E-11	3.6E-11	9.6E-10	7.2E-11	1.3E-09	6.0E-11	3.3E-10	7.2E-11	7.4E-11	1.9E-10
-52	in utero	4.8E-11	7.4E-12	7.7E-10	4.8E-11	7.7E-10	4.8E-11	2.0E-10	4.8E-11	4.8E-11	1.4E-10
	post natal	2.6E-11	2.5E-11	6.3E-11	2.5E-11	3.2E-10	1.5E-11	1.0E-10	2.5E-11	2.6E-11	3.3E-11
	total	7.4E-11	3.2E-11	8.3E-10	7.3E-11	1.1E-09	6.3E-11	3.0E-10	7.3E-11	7.4E-11	1.7E-10
during	in utero	1.4E-10	2.5E-11	5.7E-09	1.4E-10	5.7E-09	1.4E-10	1.2E-09	1.4E-10	1.4E-10	8.5E-10
	post natal	2.8E-10	2.8E-10	6.8E-10	2.8E-10	3.5E-09	1.6E-10	1.1E-09	2.8E-10	2.9E-10	3.6E-10
	total	4.2E-10	3.0E-10	6.4E-09	4.2E-10	9.2E-09	3.0E-10	2.3E-09	4.2E-10	4.3E-10	1.2E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-235
($T_{1/2} = 7.04E+08$ y) by the mother

Ingestion: $f_1 = 0.02$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.6E-10	2.7E-11	4.1E-09	1.6E-10	4.1E-09	1.6E-10	9.9E-10	1.6E-10	1.7E-10	6.7E-10
	post natal	1.3E-10	1.3E-10	3.2E-10	1.3E-10	1.7E-09	7.5E-11	5.1E-10	1.3E-10	1.3E-10	1.7E-10
	total	2.9E-10	1.6E-10	4.4E-09	2.9E-10	5.8E-09	2.3E-10	1.5E-09	2.9E-10	3.0E-10	8.4E-10
-26	in utero	1.8E-10	3.2E-11	5.0E-09	1.8E-10	5.0E-09	1.8E-10	1.2E-09	1.8E-10	1.9E-10	8.1E-10
	post natal	1.6E-10	1.6E-10	3.8E-10	1.6E-10	2.0E-09	8.9E-11	6.2E-10	1.6E-10	1.6E-10	2.0E-10
	total	3.4E-10	1.9E-10	5.4E-09	3.4E-10	7.0E-09	2.7E-10	1.8E-09	3.4E-10	3.5E-10	1.0E-09
concep ‡	in utero	2.2E-09	3.7E-10	6.7E-08	2.2E-09	6.7E-08	2.2E-09	1.6E-08	2.2E-09	2.2E-09	1.1E-08
	post natal	1.8E-09	1.7E-09	4.2E-09	1.7E-09	2.2E-08	9.9E-10	6.8E-09	1.7E-09	1.8E-09	2.2E-09
	total	4.0E-09	2.1E-09	7.1E-08	3.9E-09	8.9E-08	3.2E-09	2.3E-08	3.9E-09	4.0E-09	1.3E-08
5	in utero	1.9E-09	5.9E-10	7.9E-08	1.9E-09	7.9E-08	1.9E-09	1.9E-08	1.9E-09	2.0E-09	1.2E-08
	post natal	1.8E-09	1.8E-09	4.4E-09	1.8E-09	2.3E-08	1.0E-09	7.1E-09	1.8E-09	1.9E-09	2.3E-09
	total	3.7E-09	2.4E-09	8.3E-08	3.7E-09	1.0E-07	2.9E-09	2.6E-08	3.7E-09	3.9E-09	1.4E-08
10	in utero	1.5E-09	6.7E-10	9.6E-08	1.5E-09	9.6E-08	1.5E-09	2.2E-08	1.5E-09	1.9E-09	1.4E-08
	post natal	1.9E-09	1.9E-09	4.7E-09	1.9E-09	2.4E-08	1.1E-09	7.5E-09	1.9E-09	2.0E-09	2.4E-09
	total	3.4E-09	2.6E-09	1.0E-07	3.4E-09	1.2E-07	2.6E-09	3.0E-08	3.4E-09	3.9E-09	1.6E-08
15	in utero	1.3E-09	0.0E+00	9.0E-08	1.3E-09	9.0E-08	1.3E-09	1.9E-08	1.3E-09	2.2E-09	1.3E-08
	post natal	2.1E-09	2.0E-09	5.0E-09	2.0E-09	2.6E-08	1.2E-09	8.1E-09	2.0E-09	2.1E-09	2.6E-09
	total	3.4E-09	2.0E-09	9.5E-08	3.3E-09	1.2E-07	2.5E-09	2.7E-08	3.3E-09	4.3E-09	1.6E-08
25	in utero	9.6E-10	0.0E+00	6.8E-08	9.6E-10	6.8E-08	9.7E-10	1.4E-08	9.6E-10	1.7E-09	9.7E-09
	post natal	2.8E-09	2.7E-09	6.7E-09	2.7E-09	3.5E-08	1.6E-09	1.1E-08	2.7E-09	2.8E-09	3.5E-09
	total	3.8E-09	2.7E-09	7.5E-08	3.7E-09	1.0E-07	2.6E-09	2.5E-08	3.7E-09	4.5E-09	1.3E-08
35	in utero	4.2E-10	0.0E+00	2.9E-08	4.2E-10	2.9E-08	4.2E-10	5.8E-09	4.2E-10	7.3E-10	4.1E-09
	post natal	6.2E-09	6.0E-09	1.5E-08	6.0E-09	7.7E-08	3.5E-09	2.4E-08	6.0E-09	6.3E-09	7.8E-09
	total	6.6E-09	6.0E-09	4.4E-08	6.4E-09	1.1E-07	3.9E-09	3.0E-08	6.4E-09	7.0E-09	1.2E-08
Chronic											
-260 §	in utero	1.8E-10	2.9E-11	4.2E-09	1.8E-10	4.2E-09	1.8E-10	1.0E-09	1.8E-10	1.9E-10	7.1E-10
	post natal	1.4E-10	1.3E-10	3.3E-10	1.3E-10	1.7E-09	7.6E-11	5.2E-10	1.3E-10	1.4E-10	1.7E-10
	total	3.2E-10	1.6E-10	4.5E-09	3.1E-10	5.9E-09	2.6E-10	1.5E-09	3.1E-10	3.3E-10	8.8E-10
-52	in utero	2.7E-10	3.8E-11	5.3E-09	2.7E-10	5.3E-09	2.7E-10	1.3E-09	2.7E-10	2.8E-10	9.2E-10
	post natal	1.6E-10	1.6E-10	3.9E-10	1.6E-10	2.0E-09	9.0E-11	6.2E-10	1.6E-10	1.6E-10	2.0E-10
	total	4.3E-10	2.0E-10	5.7E-09	4.3E-10	7.3E-09	3.6E-10	1.9E-09	4.3E-10	4.4E-10	1.1E-09
during	in utero	1.2E-09	2.2E-10	6.9E-08	1.2E-09	6.9E-08	1.2E-09	1.5E-08	1.2E-09	1.3E-09	1.0E-08
	post natal	3.1E-09	3.0E-09	7.5E-09	3.0E-09	3.9E-08	1.7E-09	1.2E-08	3.0E-09	3.2E-09	3.9E-09
	total	4.3E-09	3.2E-09	7.7E-08	4.2E-09	1.1E-07	2.9E-09	2.7E-08	4.2E-09	4.5E-09	1.4E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-235
($T_{1/2} = 7.04E+08$ y) by the mother

Ingestion: $f_1 = 0.002$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.6E-11	2.7E-12	4.1E-10	1.6E-11	4.1E-10	1.6E-11	9.9E-11	1.6E-11	1.7E-11	6.7E-11
	post natal	1.3E-11	1.3E-11	3.2E-11	1.3E-11	1.7E-10	7.5E-12	5.1E-11	1.3E-11	1.3E-11	1.7E-11
	total	2.9E-11	1.6E-11	4.4E-10	2.9E-11	5.8E-10	2.4E-11	1.5E-10	2.9E-11	3.0E-11	8.4E-11
-26	in utero	1.8E-11	3.2E-12	5.0E-10	1.8E-11	5.0E-10	1.8E-11	1.2E-10	1.8E-11	1.9E-11	8.1E-11
	post natal	1.6E-11	1.6E-11	3.8E-11	1.6E-11	2.0E-10	8.9E-12	6.2E-11	1.6E-11	1.6E-11	2.0E-11
	total	3.4E-11	1.9E-11	5.4E-10	3.4E-11	7.0E-10	2.7E-11	1.8E-10	3.4E-11	3.5E-11	1.0E-10
concep ‡	in utero	3.2E-10	3.7E-11	6.8E-09	3.2E-10	6.8E-09	3.2E-10	1.7E-09	3.2E-10	3.3E-10	1.2E-09
	post natal	1.8E-10	1.7E-10	4.2E-10	1.7E-10	2.2E-09	9.9E-11	6.8E-10	1.7E-10	1.8E-10	2.2E-10
	total	5.0E-10	2.1E-10	7.2E-09	4.9E-10	9.0E-09	4.2E-10	2.4E-09	4.9E-10	5.1E-10	1.4E-09
5	in utero	3.0E-10	5.9E-11	8.0E-09	3.0E-10	8.0E-09	3.0E-10	2.0E-09	3.0E-10	3.1E-10	1.3E-09
	post natal	1.8E-10	1.8E-10	4.4E-10	1.8E-10	2.3E-09	1.0E-10	7.1E-10	1.8E-10	1.9E-10	2.3E-10
	total	4.8E-10	2.4E-10	8.4E-09	4.8E-10	1.0E-08	4.0E-10	2.7E-09	4.8E-10	5.0E-10	1.5E-09
10	in utero	2.6E-10	1.7E-10	9.7E-09	2.6E-10	9.7E-09	2.6E-10	2.3E-09	2.6E-10	2.9E-10	1.5E-09
	post natal	1.9E-10	1.9E-10	4.7E-10	1.9E-10	2.4E-09	1.1E-10	7.5E-10	1.9E-10	2.0E-10	2.4E-10
	total	4.5E-10	3.6E-10	1.0E-08	4.5E-10	1.2E-08	3.7E-10	3.1E-09	4.5E-10	4.9E-10	1.7E-09
15	in utero	2.3E-10	0.0E+00	9.1E-09	2.3E-10	9.1E-09	2.3E-10	2.0E-09	2.3E-10	3.2E-10	1.4E-09
	post natal	2.1E-10	2.0E-10	5.0E-10	2.0E-10	2.6E-09	1.2E-10	8.1E-10	2.0E-10	2.1E-10	2.6E-10
	total	4.4E-10	2.0E-10	9.6E-09	4.3E-10	1.2E-08	3.5E-10	2.8E-09	4.3E-10	5.3E-10	1.7E-09
25	in utero	1.8E-10	0.0E+00	6.8E-09	1.8E-10	6.8E-09	1.8E-10	1.4E-09	1.8E-10	2.5E-10	1.0E-09
	post natal	2.8E-10	2.7E-10	6.7E-10	2.7E-10	3.5E-09	1.6E-10	1.1E-09	2.7E-10	2.8E-10	3.5E-10
	total	4.6E-10	2.7E-10	7.5E-09	4.5E-10	1.0E-08	3.4E-10	2.5E-09	4.5E-10	5.3E-10	1.4E-09
35	in utero	9.3E-11	0.0E+00	2.9E-09	9.3E-11	2.9E-09	9.3E-11	6.3E-10	9.3E-11	1.2E-10	4.6E-10
	post natal	6.2E-10	6.0E-10	1.5E-09	6.0E-10	7.7E-09	3.5E-10	2.4E-09	6.0E-10	6.3E-10	7.8E-10
	total	7.1E-10	6.0E-10	4.4E-09	6.9E-10	1.1E-08	4.4E-10	3.0E-09	6.9E-10	7.5E-10	1.2E-09
Chronic											
-260 §	in utero	1.8E-11	2.9E-12	4.2E-10	1.8E-11	4.2E-10	1.8E-11	1.0E-10	1.8E-11	1.9E-11	7.1E-11
	post natal	1.4E-11	1.3E-11	3.3E-11	1.3E-11	1.7E-10	7.6E-12	5.2E-11	1.3E-11	1.4E-11	1.7E-11
	total	3.2E-11	1.6E-11	4.5E-10	3.1E-11	5.9E-10	2.6E-11	1.5E-10	3.1E-11	3.3E-11	8.8E-11
-52	in utero	2.7E-11	3.8E-12	5.3E-10	2.7E-11	5.3E-10	2.7E-11	1.3E-10	2.7E-11	2.8E-11	9.3E-11
	post natal	1.6E-11	1.6E-11	3.9E-11	1.6E-11	2.0E-10	9.0E-12	6.2E-11	1.6E-11	1.6E-11	2.0E-11
	total	4.3E-11	2.0E-11	5.7E-10	4.3E-11	7.3E-10	3.6E-11	1.9E-10	4.3E-11	4.4E-11	1.1E-10
during	in utero	2.1E-10	4.4E-11	7.0E-09	2.1E-10	7.0E-09	2.1E-10	1.6E-09	2.1E-10	2.1E-10	1.1E-09
	post natal	3.1E-10	3.0E-10	7.5E-10	3.0E-10	3.9E-09	1.7E-10	1.2E-09	3.0E-10	3.2E-10	3.9E-10
	total	5.2E-10	3.4E-10	7.7E-09	5.1E-10	1.1E-08	3.8E-10	2.8E-09	5.1E-10	5.3E-10	1.5E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-238
($T_{1/2} = 4.47E+09$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type F $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	2.2E-09	3.7E-10	5.5E-08	2.2E-09	5.5E-08	2.2E-09	1.3E-08	2.2E-09	2.2E-09	9.1E-09
	post natal	1.8E-09	1.8E-09	4.4E-09	1.8E-09	2.2E-08	1.0E-09	7.0E-09	1.8E-09	1.8E-09	2.3E-09
	total	4.0E-09	2.2E-09	5.9E-08	4.0E-09	7.7E-08	3.2E-09	2.0E-08	4.0E-09	4.0E-09	1.1E-08
-26	in utero	2.5E-09	4.3E-10	6.8E-08	2.5E-09	6.8E-08	2.5E-09	1.6E-08	2.5E-09	2.6E-09	1.1E-08
	post natal	2.2E-09	2.1E-09	5.3E-09	2.1E-09	2.7E-08	1.2E-09	8.3E-09	2.1E-09	2.2E-09	2.7E-09
	total	4.7E-09	2.5E-09	7.3E-08	4.6E-09	9.5E-08	3.7E-09	2.4E-08	4.6E-09	4.8E-09	1.4E-08
concep ‡	in utero	2.7E-08	5.0E-09	9.0E-07	2.7E-08	9.0E-07	2.8E-08	2.2E-07	2.7E-08	2.9E-08	1.4E-07
	post natal	2.4E-08	2.3E-08	5.9E-08	2.3E-08	3.0E-07	1.3E-08	9.2E-08	2.3E-08	2.4E-08	3.0E-08
	total	5.1E-08	2.8E-08	9.6E-07	5.0E-08	1.2E-06	4.1E-08	3.1E-07	5.0E-08	5.3E-08	1.7E-07
5	in utero	2.4E-08	7.9E-09	1.1E-06	2.4E-08	1.1E-06	2.4E-08	2.5E-07	2.4E-08	2.5E-08	1.6E-07
	post natal	2.5E-08	2.4E-08	6.1E-08	2.4E-08	3.1E-07	1.4E-08	9.6E-08	2.4E-08	2.5E-08	3.1E-08
	total	4.9E-08	3.2E-08	1.2E-06	4.8E-08	1.4E-06	3.8E-08	3.5E-07	4.8E-08	5.0E-08	1.9E-07
10	in utero	1.9E-08	7.5E-09	1.3E-06	1.9E-08	1.3E-06	1.9E-08	2.9E-07	1.9E-08	2.4E-08	1.8E-07
	post natal	2.6E-08	2.6E-08	6.4E-08	2.6E-08	3.3E-07	1.5E-08	1.0E-07	2.6E-08	2.7E-08	3.3E-08
	total	4.5E-08	3.3E-08	1.4E-06	4.5E-08	1.6E-06	3.4E-08	3.9E-07	4.5E-08	5.1E-08	2.1E-07
15	in utero	1.7E-08	0.0E+00	1.2E-06	1.7E-08	1.2E-06	1.7E-08	2.5E-07	1.7E-08	2.8E-08	1.7E-07
	post natal	2.8E-08	2.8E-08	7.0E-08	2.8E-08	3.5E-07	1.6E-08	1.1E-07	2.8E-08	2.9E-08	3.6E-08
	total	4.5E-08	2.8E-08	1.3E-06	4.5E-08	1.6E-06	3.3E-08	3.6E-07	4.5E-08	5.7E-08	2.1E-07
25	in utero	1.2E-08	0.0E+00	9.1E-07	1.2E-08	9.1E-07	1.2E-08	1.8E-07	1.2E-08	2.1E-08	1.3E-07
	post natal	3.8E-08	3.7E-08	9.2E-08	3.7E-08	4.7E-07	2.1E-08	1.4E-07	3.7E-08	3.8E-08	4.7E-08
	total	5.0E-08	3.7E-08	1.0E-06	4.9E-08	1.4E-06	3.3E-08	3.2E-07	4.9E-08	5.9E-08	1.8E-07
35	in utero	4.9E-09	0.0E+00	3.9E-07	4.9E-09	3.9E-07	5.0E-09	7.8E-08	4.9E-09	9.2E-09	5.5E-08
	post natal	8.3E-08	8.1E-08	2.0E-07	8.1E-08	1.0E-06	4.7E-08	3.2E-07	8.1E-08	8.4E-08	1.1E-07
	total	8.8E-08	8.1E-08	5.9E-07	8.6E-08	1.4E-06	5.2E-08	4.0E-07	8.6E-08	9.3E-08	1.7E-07
Chronic											
-260 §	in utero	2.4E-09	3.9E-10	5.7E-08	2.4E-09	5.7E-08	2.4E-09	1.4E-08	2.4E-09	2.5E-09	9.5E-09
	post natal	1.8E-09	1.8E-09	4.5E-09	1.8E-09	2.3E-08	1.0E-09	7.1E-09	1.8E-09	1.9E-09	2.3E-09
	total	4.2E-09	2.2E-09	6.2E-08	4.2E-09	8.0E-08	3.4E-09	2.1E-08	4.2E-09	4.4E-09	1.2E-08
-52	in utero	3.6E-09	5.1E-10	7.1E-08	3.6E-09	7.1E-08	3.6E-09	1.8E-08	3.6E-09	3.7E-09	1.2E-08
	post natal	2.2E-09	2.1E-09	5.4E-09	2.1E-09	2.7E-08	1.2E-09	8.4E-09	2.1E-09	2.2E-09	2.8E-09
	total	5.8E-09	2.6E-09	7.6E-08	5.7E-09	9.8E-08	4.8E-09	2.6E-08	5.7E-09	5.9E-09	1.5E-08
during	in utero	1.5E-08	2.6E-09	9.3E-07	1.5E-08	9.3E-07	1.5E-08	2.0E-07	1.5E-08	1.6E-08	1.3E-07
	post natal	4.2E-08	4.1E-08	1.0E-07	4.1E-08	5.3E-07	2.4E-08	1.6E-07	4.1E-08	4.3E-08	5.3E-08
	total	5.7E-08	4.4E-08	1.0E-06	5.6E-08	1.5E-06	3.9E-08	3.6E-07	5.6E-08	5.9E-08	1.8E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-238
($T_{1/2} = 4.47E+09$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.02$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	5.3E-10	8.9E-11	1.4E-08	5.3E-10	1.4E-08	5.3E-10	3.3E-09	5.3E-10	5.4E-10	2.2E-09
	post natal	4.4E-10	4.3E-10	1.1E-09	4.3E-10	5.5E-09	2.5E-10	1.7E-09	4.3E-10	4.5E-10	5.6E-10
	total	9.7E-10	5.2E-10	1.5E-08	9.6E-10	1.9E-08	7.8E-10	5.0E-09	9.6E-10	9.9E-10	2.8E-09
-26	in utero	7.6E-10	1.2E-10	1.7E-08	7.6E-10	1.7E-08	7.6E-10	4.2E-09	7.6E-10	7.8E-10	2.9E-09
	post natal	5.4E-10	5.3E-10	1.3E-09	5.3E-10	6.8E-09	3.0E-10	2.1E-09	5.3E-10	5.5E-10	6.9E-10
	total	1.3E-09	6.5E-10	1.8E-08	1.3E-09	2.4E-08	1.1E-09	6.3E-09	1.3E-09	1.3E-09	3.6E-09
concep ‡	in utero	5.2E-09	1.0E-09	2.1E-07	5.2E-09	2.1E-07	5.2E-09	4.9E-08	5.2E-09	5.5E-09	3.2E-08
	post natal	6.1E-09	5.9E-09	1.5E-08	5.9E-09	7.5E-08	3.4E-09	2.3E-08	5.9E-09	6.1E-09	7.7E-09
	total	1.1E-08	6.9E-09	2.2E-07	1.1E-08	2.8E-07	8.6E-09	7.2E-08	1.1E-08	1.2E-08	4.0E-08
5	in utero	4.4E-09	1.3E-09	2.3E-07	4.4E-09	2.3E-07	4.4E-09	5.3E-08	4.4E-09	4.7E-09	3.3E-08
	post natal	6.3E-09	6.1E-09	1.5E-08	6.1E-09	7.8E-08	3.5E-09	2.4E-08	6.1E-09	6.3E-09	7.9E-09
	total	1.1E-08	7.4E-09	2.4E-07	1.0E-08	3.1E-07	7.9E-09	7.7E-08	1.0E-08	1.1E-08	4.1E-08
10	in utero	3.5E-09	1.1E-09	2.5E-07	3.5E-09	2.5E-07	3.5E-09	5.4E-08	3.5E-09	4.5E-09	3.5E-08
	post natal	6.5E-09	6.4E-09	1.6E-08	6.4E-09	8.1E-08	3.7E-09	2.5E-08	6.4E-09	6.6E-09	8.3E-09
	total	1.0E-08	7.5E-09	2.7E-07	9.9E-09	3.3E-07	7.2E-09	7.9E-08	9.9E-09	1.1E-08	4.3E-08
15	in utero	3.0E-09	0.0E+00	2.2E-07	3.0E-09	2.2E-07	3.0E-09	4.5E-08	3.0E-09	5.1E-09	3.1E-08
	post natal	6.9E-09	6.7E-09	1.7E-08	6.7E-09	8.6E-08	3.9E-09	2.7E-08	6.7E-09	7.0E-09	8.7E-09
	total	9.9E-09	6.7E-09	2.4E-07	9.7E-09	3.1E-07	6.9E-09	7.2E-08	9.7E-09	1.2E-08	4.0E-08
25	in utero	2.0E-09	0.0E+00	1.5E-07	2.0E-09	1.5E-07	2.0E-09	3.0E-08	2.0E-09	3.5E-09	2.1E-08
	post natal	8.1E-09	7.9E-09	2.0E-08	7.9E-09	1.0E-07	4.5E-09	3.1E-08	7.9E-09	8.2E-09	1.0E-08
	total	1.0E-08	7.9E-09	1.7E-07	9.9E-09	2.5E-07	6.5E-09	6.1E-08	9.9E-09	1.2E-08	3.1E-08
35	in utero	6.7E-10	0.0E+00	5.3E-08	6.7E-10	5.3E-08	6.8E-10	1.1E-08	6.7E-10	1.3E-09	7.6E-09
	post natal	1.3E-08	1.3E-08	3.2E-08	1.3E-08	1.6E-07	7.2E-09	4.9E-08	1.3E-08	1.3E-08	1.6E-08
	total	1.4E-08	1.3E-08	8.5E-08	1.4E-08	2.1E-07	7.9E-09	6.0E-08	1.4E-08	1.4E-08	2.4E-08
Chronic											
-260 §	in utero	6.0E-10	9.8E-11	1.4E-08	6.0E-10	1.4E-08	6.1E-10	3.4E-09	6.0E-10	6.2E-10	2.4E-09
	post natal	4.5E-10	4.4E-10	1.1E-09	4.4E-10	5.6E-09	2.5E-10	1.7E-09	4.4E-10	4.6E-10	5.7E-10
	total	1.0E-09	5.4E-10	1.5E-08	1.0E-09	2.0E-08	8.6E-10	5.1E-09	1.0E-09	1.1E-09	3.0E-09
-52	in utero	9.3E-10	1.4E-10	1.8E-08	9.3E-10	1.8E-08	9.4E-10	4.5E-09	9.3E-10	9.5E-10	3.1E-09
	post natal	5.5E-10	5.3E-10	1.3E-09	5.3E-10	6.8E-09	3.1E-10	2.1E-09	5.3E-10	5.5E-10	6.9E-10
	total	1.5E-09	6.7E-10	1.9E-08	1.5E-09	2.5E-08	1.2E-09	6.6E-09	1.5E-09	1.5E-09	3.8E-09
during	in utero	2.6E-09	4.2E-10	1.7E-07	2.6E-09	1.7E-07	2.7E-09	3.6E-08	2.6E-09	2.8E-09	2.5E-08
	post natal	8.4E-09	8.2E-09	2.1E-08	8.2E-09	1.0E-07	4.7E-09	3.2E-08	8.2E-09	8.5E-09	1.1E-08
	total	1.1E-08	8.6E-09	1.9E-07	1.1E-08	2.7E-07	7.4E-09	6.8E-08	1.1E-08	1.1E-08	3.6E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-238
($T_{1/2} = 4.47E+09$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.002$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.6E-11	6.0E-12	8.7E-10	3.6E-11	8.7E-10	3.6E-11	2.1E-10	3.6E-11	3.7E-11	1.4E-10
	post natal	2.9E-11	2.9E-11	7.2E-11	2.9E-11	3.7E-10	1.6E-11	1.1E-10	2.9E-11	3.0E-11	3.7E-11
	total	6.5E-11	3.5E-11	9.4E-10	6.5E-11	1.2E-09	5.2E-11	3.2E-10	6.5E-11	6.7E-11	1.8E-10
-26	in utero	3.3E-11	5.3E-12	7.2E-10	3.3E-11	7.2E-10	3.3E-11	1.8E-10	3.3E-11	3.4E-11	1.2E-10
	post natal	2.5E-11	2.4E-11	6.2E-11	2.4E-11	3.1E-10	1.4E-11	9.6E-11	2.4E-11	2.5E-11	3.2E-11
	total	5.8E-11	2.9E-11	7.8E-10	5.7E-11	1.0E-09	4.7E-11	2.8E-10	5.7E-11	5.9E-11	1.5E-10
concep ‡	in utero	1.7E-10	3.2E-11	7.0E-09	1.7E-10	7.0E-09	1.7E-10	1.6E-09	1.7E-10	1.8E-10	1.1E-09
	post natal	2.3E-10	2.3E-10	5.7E-10	2.3E-10	2.9E-09	1.3E-10	8.9E-10	2.3E-10	2.3E-10	2.9E-10
	total	4.0E-10	2.6E-10	7.6E-09	4.0E-10	9.9E-09	3.0E-10	2.5E-09	4.0E-10	4.1E-10	1.4E-09
5	in utero	1.4E-10	4.1E-11	7.4E-09	1.4E-10	7.4E-09	1.4E-10	1.7E-09	1.4E-10	1.5E-10	1.1E-09
	post natal	2.3E-10	2.2E-10	5.6E-10	2.2E-10	2.9E-09	1.3E-10	8.9E-10	2.2E-10	2.3E-10	2.9E-10
	total	3.7E-10	2.6E-10	8.0E-09	3.6E-10	1.0E-08	2.7E-10	2.6E-09	3.6E-10	3.8E-10	1.4E-09
10	in utero	1.1E-10	3.5E-11	7.8E-09	1.1E-10	7.8E-09	1.1E-10	1.7E-09	1.1E-10	1.4E-10	1.1E-09
	post natal	2.3E-10	2.2E-10	5.6E-10	2.2E-10	2.9E-09	1.3E-10	8.8E-10	2.2E-10	2.3E-10	2.9E-10
	total	3.4E-10	2.5E-10	8.4E-09	3.3E-10	1.1E-08	2.4E-10	2.6E-09	3.3E-10	3.7E-10	1.4E-09
15	in utero	9.6E-11	0.0E+00	6.9E-09	9.6E-11	6.9E-09	9.7E-11	1.4E-09	9.6E-11	1.6E-10	9.8E-10
	post natal	2.3E-10	2.3E-10	5.7E-10	2.3E-10	2.9E-09	1.3E-10	8.9E-10	2.3E-10	2.3E-10	2.9E-10
	total	3.3E-10	2.3E-10	7.5E-09	3.3E-10	9.8E-09	2.3E-10	2.3E-09	3.3E-10	3.9E-10	1.3E-09
25	in utero	6.2E-11	0.0E+00	4.6E-09	6.2E-11	4.6E-09	6.3E-11	9.2E-10	6.2E-11	1.1E-10	6.5E-10
	post natal	2.5E-10	2.5E-10	6.2E-10	2.5E-10	3.1E-09	1.4E-10	9.7E-10	2.5E-10	2.5E-10	3.2E-10
	total	3.1E-10	2.5E-10	5.2E-09	3.1E-10	7.7E-09	2.0E-10	1.9E-09	3.1E-10	3.6E-10	9.7E-10
35	in utero	2.2E-11	0.0E+00	1.6E-09	2.2E-11	1.6E-09	2.2E-11	3.3E-10	2.2E-11	4.0E-11	2.3E-10
	post natal	3.9E-10	3.8E-10	9.6E-10	3.8E-10	4.9E-09	2.2E-10	1.5E-09	3.8E-10	3.9E-10	4.9E-10
	total	4.1E-10	3.8E-10	2.6E-09	4.0E-10	6.5E-09	2.4E-10	1.8E-09	4.0E-10	4.3E-10	7.2E-10
Chronic											
-260 §	in utero	3.7E-11	6.0E-12	8.4E-10	3.7E-11	8.4E-10	3.7E-11	2.1E-10	3.7E-11	3.8E-11	1.4E-10
	post natal	2.8E-11	2.8E-11	7.0E-11	2.8E-11	3.5E-10	1.6E-11	1.1E-10	2.8E-11	2.9E-11	3.6E-11
	total	6.5E-11	3.4E-11	9.1E-10	6.5E-11	1.2E-09	5.3E-11	3.2E-10	6.5E-11	6.7E-11	1.8E-10
-52	in utero	3.7E-11	5.7E-12	7.3E-10	3.7E-11	7.3E-10	3.8E-11	1.8E-10	3.7E-11	3.8E-11	1.3E-10
	post natal	2.5E-11	2.4E-11	6.1E-11	2.4E-11	3.1E-10	1.4E-11	9.6E-11	2.4E-11	2.5E-11	3.2E-11
	total	6.2E-11	3.0E-11	7.9E-10	6.1E-11	1.0E-09	5.2E-11	2.8E-10	6.1E-11	6.3E-11	1.6E-10
during	in utero	8.5E-11	1.3E-11	5.4E-09	8.5E-11	5.4E-09	8.6E-11	1.1E-09	8.5E-11	9.1E-11	7.7E-10
	post natal	2.7E-10	2.7E-10	6.7E-10	2.7E-10	3.4E-09	1.5E-10	1.1E-09	2.7E-10	2.8E-10	3.4E-10
	total	3.6E-10	2.8E-10	6.1E-09	3.6E-10	8.8E-09	2.4E-10	2.2E-09	3.6E-10	3.7E-10	1.1E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-238
($T_{1/2} = 4.47E+09$ y) by the mother

Ingestion: $f_1 = 0.02$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-10	2.6E-11	3.9E-09	1.5E-10	3.9E-09	1.5E-10	9.4E-10	1.5E-10	1.6E-10	6.4E-10
	post natal	1.3E-10	1.2E-10	3.1E-10	1.2E-10	1.6E-09	7.2E-11	4.9E-10	1.2E-10	1.3E-10	1.6E-10
	total	2.8E-10	1.5E-10	4.2E-09	2.7E-10	5.5E-09	2.2E-10	1.4E-09	2.7E-10	2.9E-10	8.0E-10
-26	in utero	1.8E-10	3.0E-11	4.8E-09	1.8E-10	4.8E-09	1.8E-10	1.1E-09	1.8E-10	1.8E-10	7.8E-10
	post natal	1.5E-10	1.5E-10	3.8E-10	1.5E-10	1.9E-09	8.6E-11	5.9E-10	1.5E-10	1.6E-10	1.9E-10
	total	3.3E-10	1.8E-10	5.2E-09	3.3E-10	6.7E-09	2.7E-10	1.7E-09	3.3E-10	3.4E-10	9.7E-10
concep ‡	in utero	1.9E-09	3.5E-10	6.3E-08	1.9E-09	6.3E-08	2.0E-09	1.5E-08	1.9E-09	2.0E-09	1.0E-08
	post natal	1.7E-09	1.7E-09	4.1E-09	1.7E-09	2.1E-08	9.5E-10	6.5E-09	1.7E-09	1.7E-09	2.1E-09
	total	3.6E-09	2.1E-09	6.7E-08	3.6E-09	8.4E-08	3.0E-09	2.2E-08	3.6E-09	3.7E-09	1.2E-08
5	in utero	1.7E-09	5.6E-10	7.5E-08	1.7E-09	7.5E-08	1.7E-09	1.8E-08	1.7E-09	1.8E-09	1.1E-08
	post natal	1.8E-09	1.7E-09	4.3E-09	1.7E-09	2.2E-08	9.9E-10	6.8E-09	1.7E-09	1.8E-09	2.2E-09
	total	3.5E-09	2.3E-09	7.9E-08	3.4E-09	9.7E-08	2.7E-09	2.5E-08	3.4E-09	3.6E-09	1.3E-08
10	in utero	1.3E-09	5.3E-10	9.2E-08	1.3E-09	9.2E-08	1.3E-09	2.1E-08	1.3E-09	1.7E-09	1.3E-08
	post natal	1.9E-09	1.8E-09	4.6E-09	1.8E-09	2.3E-08	1.0E-09	7.2E-09	1.8E-09	1.9E-09	2.3E-09
	total	3.2E-09	2.3E-09	9.7E-08	3.1E-09	1.1E-07	2.3E-09	2.8E-08	3.1E-09	3.6E-09	1.5E-08
15	in utero	1.2E-09	0.0E+00	8.5E-08	1.2E-09	8.5E-08	1.2E-09	1.8E-08	1.2E-09	2.0E-09	1.2E-08
	post natal	2.0E-09	2.0E-09	4.9E-09	2.0E-09	2.5E-08	1.1E-09	7.7E-09	2.0E-09	2.0E-09	2.5E-09
	total	3.2E-09	2.0E-09	9.0E-08	3.2E-09	1.1E-07	2.3E-09	2.6E-08	3.2E-09	4.0E-09	1.5E-08
25	in utero	8.4E-10	0.0E+00	6.5E-08	8.4E-10	6.5E-08	8.5E-10	1.3E-08	8.4E-10	1.5E-09	9.2E-09
	post natal	2.7E-09	2.6E-09	6.5E-09	2.6E-09	3.3E-08	1.5E-09	1.0E-08	2.6E-09	2.7E-09	3.4E-09
	total	3.5E-09	2.6E-09	7.2E-08	3.4E-09	9.8E-08	2.3E-09	2.3E-08	3.4E-09	4.2E-09	1.3E-08
35	in utero	3.5E-10	0.0E+00	2.7E-08	3.5E-10	2.7E-08	3.5E-10	5.5E-09	3.5E-10	6.5E-10	3.9E-09
	post natal	5.9E-09	5.8E-09	1.5E-08	5.8E-09	7.4E-08	3.3E-09	2.3E-08	5.8E-09	6.0E-09	7.5E-09
	total	6.3E-09	5.8E-09	4.2E-08	6.2E-09	1.0E-07	3.7E-09	2.9E-08	6.2E-09	6.7E-09	1.1E-08
Chronic											
-260 §	in utero	1.7E-10	2.8E-11	4.0E-09	1.7E-10	4.0E-09	1.7E-10	9.9E-10	1.7E-10	1.8E-10	6.8E-10
	post natal	1.3E-10	1.3E-10	3.2E-10	1.3E-10	1.6E-09	7.3E-11	5.0E-10	1.3E-10	1.3E-10	1.6E-10
	total	3.0E-10	1.6E-10	4.3E-09	3.0E-10	5.6E-09	2.4E-10	1.5E-09	3.0E-10	3.1E-10	8.4E-10
-52	in utero	2.6E-10	3.6E-11	5.0E-09	2.6E-10	5.0E-09	2.6E-10	1.3E-09	2.6E-10	2.6E-10	8.8E-10
	post natal	1.5E-10	1.5E-10	3.8E-10	1.5E-10	1.9E-09	8.7E-11	6.0E-10	1.5E-10	1.6E-10	2.0E-10
	total	4.1E-10	1.9E-10	5.4E-09	4.1E-10	6.9E-09	3.5E-10	1.9E-09	4.1E-10	4.2E-10	1.1E-09
during	in utero	1.0E-09	1.8E-10	6.6E-08	1.0E-09	6.6E-08	1.1E-09	1.4E-08	1.0E-09	1.1E-09	9.5E-09
	post natal	3.0E-09	2.9E-09	7.3E-09	2.9E-09	3.7E-08	1.7E-09	1.2E-08	2.9E-09	3.0E-09	3.8E-09
	total	4.0E-09	3.1E-09	7.3E-08	3.9E-09	1.0E-07	2.8E-09	2.6E-08	3.9E-09	4.1E-09	1.3E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of U-238
($T_{1/2} = 4.47E+09$ y) by the mother

Ingestion: $f_1 = 0.002$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.5E-11	2.6E-12	3.9E-10	1.5E-11	3.9E-10	1.5E-11	9.4E-11	1.5E-11	1.6E-11	6.4E-11
	post natal	1.3E-11	1.2E-11	3.1E-11	1.2E-11	1.6E-10	7.2E-12	4.9E-11	1.2E-11	1.3E-11	1.6E-11
	total	2.8E-11	1.5E-11	4.2E-10	2.7E-11	5.5E-10	2.2E-11	1.4E-10	2.7E-11	2.9E-11	8.0E-11
-26	in utero	1.8E-11	3.0E-12	4.8E-10	1.8E-11	4.8E-10	1.8E-11	1.1E-10	1.8E-11	1.8E-11	7.8E-11
	post natal	1.5E-11	1.5E-11	3.8E-11	1.5E-11	1.9E-10	8.6E-12	5.9E-11	1.5E-11	1.6E-11	1.9E-11
	total	3.3E-11	1.8E-11	5.2E-10	3.3E-11	6.7E-10	2.7E-11	1.7E-10	3.3E-11	3.4E-11	9.7E-11
concep ‡	in utero	2.0E-10	3.5E-11	6.4E-09	2.0E-10	6.4E-09	2.0E-10	1.5E-09	2.0E-10	2.1E-10	1.0E-09
	post natal	1.7E-10	1.7E-10	4.1E-10	1.7E-10	2.1E-09	9.5E-11	6.5E-10	1.7E-10	1.7E-10	2.1E-10
	total	3.7E-10	2.1E-10	6.8E-09	3.7E-10	8.5E-09	2.9E-10	2.1E-09	3.7E-10	3.8E-10	1.2E-09
5	in utero	1.7E-10	5.6E-11	7.5E-09	1.7E-10	7.5E-09	1.7E-10	1.8E-09	1.7E-10	1.8E-10	1.1E-09
	post natal	1.8E-10	1.7E-10	4.3E-10	1.7E-10	2.2E-09	9.9E-11	6.8E-10	1.7E-10	1.8E-10	2.2E-10
	total	3.5E-10	2.3E-10	7.9E-09	3.4E-10	9.7E-09	2.7E-10	2.5E-09	3.4E-10	3.6E-10	1.3E-09
10	in utero	1.4E-10	5.7E-11	9.2E-09	1.4E-10	9.2E-09	1.4E-10	2.1E-09	1.4E-10	1.7E-10	1.3E-09
	post natal	1.9E-10	1.8E-10	4.6E-10	1.8E-10	2.3E-09	1.0E-10	7.2E-10	1.8E-10	1.9E-10	2.3E-10
	total	3.3E-10	2.4E-10	9.7E-09	3.2E-10	1.2E-08	2.4E-10	2.8E-09	3.2E-10	3.6E-10	1.5E-09
15	in utero	1.2E-10	0.0E+00	8.5E-09	1.2E-10	8.5E-09	1.2E-10	1.8E-09	1.2E-10	2.0E-10	1.2E-09
	post natal	2.0E-10	2.0E-10	4.9E-10	2.0E-10	2.5E-09	1.1E-10	7.7E-10	2.0E-10	2.0E-10	2.5E-10
	total	3.2E-10	2.0E-10	9.0E-09	3.2E-10	1.1E-08	2.3E-10	2.6E-09	3.2E-10	4.0E-10	1.5E-09
25	in utero	8.7E-11	0.0E+00	6.5E-09	8.7E-11	6.5E-09	8.8E-11	1.3E-09	8.7E-11	1.5E-10	9.2E-10
	post natal	2.7E-10	2.6E-10	6.5E-10	2.6E-10	3.3E-09	1.5E-10	1.0E-09	2.6E-10	2.7E-10	3.4E-10
	total	3.6E-10	2.6E-10	7.2E-09	3.5E-10	9.8E-09	2.4E-10	2.3E-09	3.5E-10	4.2E-10	1.3E-09
35	in utero	3.7E-11	0.0E+00	2.7E-09	3.7E-11	2.7E-09	3.7E-11	5.5E-10	3.7E-11	6.7E-11	3.9E-10
	post natal	5.9E-10	5.8E-10	1.5E-09	5.8E-10	7.4E-09	3.3E-10	2.3E-09	5.8E-10	6.0E-10	7.5E-10
	total	6.3E-10	5.8E-10	4.2E-09	6.2E-10	1.0E-08	3.7E-10	2.9E-09	6.2E-10	6.7E-10	1.1E-09
Chronic											
-260 §	in utero	1.7E-11	2.8E-12	4.0E-10	1.7E-11	4.0E-10	1.7E-11	9.9E-11	1.7E-11	1.8E-11	6.8E-11
	post natal	1.3E-11	1.3E-11	3.2E-11	1.3E-11	1.6E-10	7.3E-12	5.0E-11	1.3E-11	1.3E-11	1.6E-11
	total	3.0E-11	1.6E-11	4.3E-10	3.0E-11	5.6E-10	2.4E-11	1.5E-10	3.0E-11	3.1E-11	8.4E-11
-52	in utero	2.6E-11	3.6E-12	5.0E-10	2.6E-11	5.0E-10	2.6E-11	1.3E-10	2.6E-11	2.6E-11	8.8E-11
	post natal	1.5E-11	1.5E-11	3.8E-11	1.5E-11	1.9E-10	8.7E-12	6.0E-11	1.5E-11	1.6E-11	2.0E-11
	total	4.1E-11	1.9E-11	5.4E-10	4.1E-11	6.9E-10	3.5E-11	1.9E-10	4.1E-11	4.2E-11	1.1E-10
during	in utero	1.1E-10	1.9E-11	6.6E-09	1.1E-10	6.6E-09	1.1E-10	1.4E-09	1.1E-10	1.2E-10	9.5E-10
	post natal	3.0E-10	2.9E-10	7.3E-10	2.9E-10	3.7E-09	1.7E-10	1.2E-09	2.9E-10	3.0E-10	3.8E-10
	total	4.1E-10	3.1E-10	7.3E-09	4.0E-10	1.0E-08	2.8E-10	2.6E-09	4.0E-10	4.2E-10	1.3E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pu-239
($T_{1/2} = 2.41E+04$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.0005$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	9.6E-09	1.2E-09	1.1E-07	9.6E-09	1.1E-07	4.2E-08	9.6E-09	9.6E-09	9.6E-09	2.5E-08
	post natal	3.0E-08	1.0E-08	2.7E-07	1.0E-08	1.6E-06	6.5E-07	2.4E-08	1.0E-08	1.0E-08	9.5E-08
	total	4.0E-08	1.1E-08	3.8E-07	2.0E-08	1.7E-06	6.9E-07	3.4E-08	2.0E-08	2.0E-08	1.2E-07
-26	in utero	1.1E-08	1.5E-09	1.1E-07	1.1E-08	1.1E-07	4.3E-08	1.1E-08	1.1E-08	1.1E-08	2.6E-08
	post natal	3.0E-08	1.0E-08	2.8E-07	1.0E-08	1.7E-06	6.6E-07	2.4E-08	1.0E-08	1.0E-08	9.6E-08
	total	4.1E-08	1.1E-08	3.9E-07	2.1E-08	1.8E-06	7.0E-07	3.5E-08	2.1E-08	2.1E-08	1.2E-07
concep ‡	in utero	1.1E-08	1.4E-09	3.1E-07	1.1E-08	3.1E-07	1.0E-07	1.1E-08	1.1E-08	1.1E-08	5.5E-08
	post natal	9.5E-08	3.2E-08	8.7E-07	3.2E-08	5.2E-06	2.1E-06	7.5E-08	3.2E-08	3.3E-08	3.0E-07
	total	1.1E-07	3.3E-08	1.2E-06	4.3E-08	5.5E-06	2.2E-06	8.6E-08	4.3E-08	4.4E-08	3.6E-07
5	in utero	5.4E-09	1.3E-09	2.9E-07	5.4E-09	2.9E-07	9.2E-08	5.4E-09	5.4E-09	5.4E-09	4.7E-08
	post natal	9.3E-08	3.2E-08	8.5E-07	3.2E-08	5.1E-06	2.0E-06	7.4E-08	3.2E-08	3.2E-08	3.0E-07
	total	9.8E-08	3.3E-08	1.1E-06	3.7E-08	5.4E-06	2.1E-06	7.9E-08	3.7E-08	3.7E-08	3.5E-07
10	in utero	1.0E-09	1.5E-10	2.6E-07	1.0E-09	2.6E-07	7.8E-08	1.0E-09	1.0E-09	1.0E-09	3.8E-08
	post natal	9.1E-08	3.1E-08	8.3E-07	3.1E-08	5.0E-06	2.0E-06	7.2E-08	3.1E-08	3.1E-08	2.9E-07
	total	9.2E-08	3.1E-08	1.1E-06	3.2E-08	5.3E-06	2.1E-06	7.3E-08	3.2E-08	3.2E-08	3.3E-07
15	in utero	1.1E-09	0.0E+00	2.8E-07	1.1E-09	2.8E-07	8.2E-08	1.1E-09	1.1E-09	1.1E-09	4.1E-08
	post natal	1.2E-07	4.0E-08	1.1E-06	4.0E-08	6.4E-06	2.5E-06	9.2E-08	4.0E-08	4.0E-08	3.7E-07
	total	1.2E-07	4.0E-08	1.4E-06	4.1E-08	6.7E-06	2.6E-06	9.3E-08	4.1E-08	4.1E-08	4.1E-07
25	in utero	1.1E-09	0.0E+00	3.1E-07	1.1E-09	3.1E-07	9.1E-08	1.1E-09	1.1E-09	1.1E-09	4.6E-08
	post natal	2.2E-07	7.6E-08	2.1E-06	7.6E-08	1.2E-05	4.9E-06	1.8E-07	7.6E-08	7.8E-08	7.1E-07
	total	2.2E-07	7.6E-08	2.4E-06	7.7E-08	1.2E-05	5.0E-06	1.8E-07	7.7E-08	7.9E-08	7.6E-07
35	in utero	6.3E-10	0.0E+00	1.7E-07	6.3E-10	1.7E-07	5.1E-08	6.3E-10	6.3E-10	6.3E-10	2.6E-08
	post natal	5.0E-07	1.7E-07	4.6E-06	1.7E-07	2.7E-05	1.1E-05	4.0E-07	1.7E-07	1.7E-07	1.6E-06
	total	5.0E-07	1.7E-07	4.8E-06	1.7E-07	2.7E-05	1.1E-05	4.0E-07	1.7E-07	1.7E-07	1.6E-06
Chronic											
-260 §	in utero	9.6E-09	1.3E-09	1.1E-07	9.6E-09	1.1E-07	4.1E-08	9.6E-09	9.6E-09	9.6E-09	2.5E-08
	post natal	3.0E-08	1.0E-08	2.7E-07	1.0E-08	1.6E-06	6.4E-07	2.3E-08	1.0E-08	1.0E-08	9.4E-08
	total	4.0E-08	1.1E-08	3.8E-07	2.0E-08	1.7E-06	6.8E-07	3.3E-08	2.0E-08	2.0E-08	1.2E-07
-52	in utero	1.1E-08	1.5E-09	1.1E-07	1.1E-08	1.1E-07	4.2E-08	1.1E-08	1.1E-08	1.1E-08	2.6E-08
	post natal	3.0E-08	1.0E-08	2.7E-07	1.0E-08	1.6E-06	6.5E-07	2.4E-08	1.0E-08	1.0E-08	9.5E-08
	total	4.1E-08	1.1E-08	3.8E-07	2.1E-08	1.7E-06	6.9E-07	3.5E-08	2.1E-08	2.1E-08	1.2E-07
during	in utero	3.0E-09	4.5E-10	4.9E-07	3.0E-09	4.9E-07	1.5E-07	3.0E-09	3.0E-09	3.0E-09	7.4E-08
	post natal	2.4E-07	8.3E-08	2.2E-06	8.3E-08	1.3E-05	5.3E-06	1.9E-07	8.3E-08	8.4E-08	7.7E-07
	total	2.4E-07	8.3E-08	2.7E-06	8.6E-08	1.3E-05	5.5E-06	1.9E-07	8.6E-08	8.7E-08	8.4E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pu-239
($T_{1/2} = 2.41E+04$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type S $f_1 = 0.00001$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.9E-10	6.4E-11	5.6E-09	4.9E-10	5.6E-09	2.0E-09	4.9E-10	4.9E-10	4.9E-10	1.2E-09
	post natal	1.5E-09	5.1E-10	1.4E-08	5.1E-10	8.3E-08	3.3E-08	1.2E-09	5.1E-10	5.2E-10	4.8E-09
	total	2.0E-09	5.7E-10	2.0E-08	1.0E-09	8.9E-08	3.5E-08	1.7E-09	1.0E-09	1.0E-09	6.0E-09
-26	in utero	2.5E-10	3.4E-11	3.0E-09	2.5E-10	3.0E-09	1.1E-09	2.5E-10	2.5E-10	2.5E-10	6.4E-10
	post natal	9.0E-10	3.1E-10	8.2E-09	3.1E-10	4.9E-08	2.0E-08	7.1E-10	3.1E-10	3.1E-10	2.9E-09
	total	1.1E-09	3.4E-10	1.1E-08	5.6E-10	5.2E-08	2.1E-08	9.6E-10	5.6E-10	5.6E-10	3.5E-09
concep ‡	in utero	1.5E-10	2.1E-11	6.0E-09	1.5E-10	6.0E-09	1.9E-09	1.5E-10	1.5E-10	1.5E-10	9.9E-10
	post natal	2.2E-09	7.5E-10	2.0E-08	7.5E-10	1.2E-07	4.8E-08	1.7E-09	7.5E-10	7.6E-10	7.0E-09
	total	2.3E-09	7.7E-10	2.6E-08	9.0E-10	1.3E-07	5.0E-08	1.9E-09	9.0E-10	9.1E-10	8.0E-09
5	in utero	6.9E-11	1.6E-11	5.2E-09	6.9E-11	5.2E-09	1.6E-09	6.9E-11	6.9E-11	6.9E-11	8.1E-10
	post natal	2.0E-09	6.9E-10	1.9E-08	6.9E-10	1.1E-07	4.4E-08	1.6E-09	6.9E-10	7.0E-10	6.4E-09
	total	2.1E-09	7.1E-10	2.4E-08	7.6E-10	1.2E-07	4.6E-08	1.7E-09	7.6E-10	7.7E-10	7.2E-09
10	in utero	1.7E-11	1.8E-12	4.2E-09	1.7E-11	4.2E-09	1.3E-09	1.7E-11	1.7E-11	1.7E-11	6.3E-10
	post natal	1.8E-09	6.3E-10	1.7E-08	6.3E-10	1.0E-07	4.0E-08	1.5E-09	6.3E-10	6.4E-10	5.9E-09
	total	1.8E-09	6.3E-10	2.1E-08	6.5E-10	1.0E-07	4.1E-08	1.5E-09	6.5E-10	6.6E-10	6.5E-09
15	in utero	1.6E-11	0.0E+00	4.3E-09	1.6E-11	4.3E-09	1.3E-09	1.6E-11	1.6E-11	1.6E-11	6.4E-10
	post natal	2.2E-09	7.5E-10	2.0E-08	7.5E-10	1.2E-07	4.8E-08	1.7E-09	7.5E-10	7.6E-10	7.0E-09
	total	2.2E-09	7.5E-10	2.4E-08	7.7E-10	1.2E-07	4.9E-08	1.7E-09	7.7E-10	7.8E-10	7.6E-09
25	in utero	1.6E-11	0.0E+00	4.2E-09	1.6E-11	4.2E-09	1.2E-09	1.6E-11	1.6E-11	1.6E-11	6.3E-10
	post natal	3.6E-09	1.2E-09	3.3E-08	1.2E-09	2.0E-07	7.8E-08	2.8E-09	1.2E-09	1.2E-09	1.1E-08
	total	3.6E-09	1.2E-09	3.7E-08	1.2E-09	2.0E-07	7.9E-08	2.8E-09	1.2E-09	1.2E-09	1.2E-08
35	in utero	7.1E-12	0.0E+00	1.9E-09	7.1E-12	1.9E-09	5.7E-10	7.1E-12	7.1E-12	7.1E-12	2.9E-10
	post natal	6.0E-09	2.1E-09	5.5E-08	2.1E-09	3.3E-07	1.3E-07	4.8E-09	2.1E-09	2.1E-09	1.9E-08
	total	6.0E-09	2.1E-09	5.7E-08	2.1E-09	3.3E-07	1.3E-07	4.8E-09	2.1E-09	2.1E-09	1.9E-08
Chronic											
-260 §	in utero	4.4E-10	5.8E-11	5.2E-09	4.4E-10	5.2E-09	1.9E-09	4.4E-10	4.4E-10	4.4E-10	1.1E-09
	post natal	1.4E-09	4.9E-10	1.3E-08	4.9E-10	7.9E-08	3.1E-08	1.1E-09	4.9E-10	5.0E-10	4.6E-09
	total	1.8E-09	5.5E-10	1.8E-08	9.3E-10	8.4E-08	3.3E-08	1.5E-09	9.3E-10	9.4E-10	5.7E-09
-52	in utero	2.4E-10	3.3E-11	2.9E-09	2.4E-10	2.9E-09	1.1E-09	2.4E-10	2.4E-10	2.4E-10	6.3E-10
	post natal	8.9E-10	3.0E-10	8.2E-09	3.0E-10	4.9E-08	1.9E-08	7.1E-10	3.0E-10	3.1E-10	2.8E-09
	total	1.1E-09	3.3E-10	1.1E-08	5.4E-10	5.2E-08	2.0E-08	9.5E-10	5.4E-10	5.5E-10	3.4E-09
during	in utero	4.4E-11	5.9E-12	8.0E-09	4.4E-11	8.0E-09	2.4E-09	4.4E-11	4.4E-11	4.4E-11	1.2E-09
	post natal	4.4E-09	1.5E-09	4.0E-08	1.5E-09	2.4E-07	9.5E-08	3.5E-09	1.5E-09	1.5E-09	1.4E-08
	total	4.4E-09	1.5E-09	4.8E-08	1.5E-09	2.5E-07	9.7E-08	3.5E-09	1.5E-09	1.5E-09	1.5E-08

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pu-239
($T_{1/2} = 2.41E+04$ y) by the mother

Ingestion: $f_1 = 0.0005$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	7.8E-11	1.0E-11	9.6E-10	7.8E-11	9.6E-10	3.5E-10	7.8E-11	7.8E-11	7.8E-11	2.1E-10
	post natal	2.5E-10	8.4E-11	2.3E-09	8.4E-11	1.4E-08	5.4E-09	2.0E-10	8.4E-11	8.6E-11	7.9E-10
	total	3.3E-10	9.4E-11	3.3E-09	1.6E-10	1.5E-08	5.8E-09	2.8E-10	1.6E-10	1.6E-10	1.0E-09
-26	in utero	1.1E-10	1.4E-11	1.0E-09	1.1E-10	1.0E-09	3.9E-10	1.1E-10	1.1E-10	1.1E-10	2.4E-10
	post natal	2.6E-10	8.9E-11	2.4E-09	8.9E-11	1.4E-08	5.7E-09	2.1E-10	8.9E-11	9.0E-11	8.3E-10
	total	3.7E-10	1.0E-10	3.4E-09	2.0E-10	1.5E-08	6.1E-09	3.2E-10	2.0E-10	2.0E-10	1.1E-09
concep ‡	in utero	1.5E-10	1.7E-11	3.3E-09	1.5E-10	3.3E-09	1.1E-09	1.5E-10	1.5E-10	1.5E-10	6.1E-10
	post natal	8.8E-10	3.0E-10	8.1E-09	3.0E-10	4.8E-08	1.9E-08	7.0E-10	3.0E-10	3.0E-10	2.8E-09
	total	1.0E-09	3.2E-10	1.1E-08	4.5E-10	5.1E-08	2.0E-08	8.5E-10	4.5E-10	4.5E-10	3.4E-09
5	in utero	8.1E-11	1.8E-11	3.2E-09	8.1E-11	3.2E-09	1.0E-09	8.1E-11	8.1E-11	8.1E-11	5.4E-10
	post natal	8.9E-10	3.0E-10	8.1E-09	3.0E-10	4.9E-08	1.9E-08	7.0E-10	3.0E-10	3.1E-10	2.8E-09
	total	9.7E-10	3.2E-10	1.1E-08	3.8E-10	5.2E-08	2.0E-08	7.8E-10	3.8E-10	3.9E-10	3.3E-09
10	in utero	1.2E-11	2.4E-12	3.0E-09	1.2E-11	3.0E-09	9.1E-10	1.2E-11	1.2E-11	1.2E-11	4.4E-10
	post natal	8.9E-10	3.0E-10	8.1E-09	3.0E-10	4.9E-08	1.9E-08	7.0E-10	3.0E-10	3.1E-10	2.8E-09
	total	9.0E-10	3.0E-10	1.1E-08	3.1E-10	5.2E-08	2.0E-08	7.1E-10	3.1E-10	3.2E-10	3.2E-09
15	in utero	1.3E-11	0.0E+00	3.4E-09	1.3E-11	3.4E-09	1.0E-09	1.3E-11	1.3E-11	1.3E-11	5.0E-10
	post natal	1.2E-09	4.0E-10	1.1E-08	4.0E-10	6.5E-08	2.6E-08	9.4E-10	4.0E-10	4.1E-10	3.8E-09
	total	1.2E-09	4.0E-10	1.4E-08	4.1E-10	6.8E-08	2.7E-08	9.5E-10	4.1E-10	4.2E-10	4.3E-09
25	in utero	1.6E-11	0.0E+00	4.2E-09	1.6E-11	4.2E-09	1.2E-09	1.6E-11	1.6E-11	1.6E-11	6.2E-10
	post natal	2.6E-09	8.8E-10	2.4E-08	8.8E-10	1.4E-07	5.7E-08	2.1E-09	8.8E-10	9.0E-10	8.3E-09
	total	2.6E-09	8.8E-10	2.8E-08	9.0E-10	1.4E-07	5.8E-08	2.1E-09	9.0E-10	9.2E-10	8.9E-09
35	in utero	1.0E-11	0.0E+00	2.8E-09	1.0E-11	2.8E-09	8.2E-10	1.0E-11	1.0E-11	1.0E-11	4.1E-10
	post natal	7.6E-09	2.6E-09	6.9E-08	2.6E-09	4.1E-07	1.6E-07	6.0E-09	2.6E-09	2.6E-09	2.4E-08
	total	7.6E-09	2.6E-09	7.2E-08	2.6E-09	4.1E-07	1.6E-07	6.0E-09	2.6E-09	2.6E-09	2.4E-08
Chronic											
-260 §	in utero	8.2E-11	1.1E-11	9.6E-10	8.2E-11	9.6E-10	3.5E-10	8.2E-11	8.2E-11	8.2E-11	2.1E-10
	post natal	2.5E-10	8.5E-11	2.3E-09	8.5E-11	1.4E-08	5.4E-09	2.0E-10	8.5E-11	8.6E-11	7.9E-10
	total	3.3E-10	9.6E-11	3.3E-09	1.7E-10	1.5E-08	5.8E-09	2.8E-10	1.7E-10	1.7E-10	1.0E-09
-52	in utero	1.1E-10	1.4E-11	1.0E-09	1.1E-10	1.0E-09	3.9E-10	1.1E-10	1.1E-10	1.1E-10	2.4E-10
	post natal	2.6E-10	8.9E-11	2.4E-09	8.9E-11	1.4E-08	5.7E-09	2.1E-10	8.9E-11	9.0E-11	8.3E-10
	total	3.7E-10	1.0E-10	3.4E-09	2.0E-10	1.5E-08	6.1E-09	3.2E-10	2.0E-10	2.0E-10	1.1E-09
during	in utero	4.0E-11	6.4E-12	5.9E-09	4.0E-11	5.9E-09	1.8E-09	4.0E-11	4.0E-11	4.0E-11	8.9E-10
	post natal	2.7E-09	9.1E-10	2.5E-08	9.1E-10	1.5E-07	5.8E-08	2.1E-09	9.1E-10	9.3E-10	8.6E-09
	total	2.7E-09	9.2E-10	3.1E-08	9.5E-10	1.6E-07	6.0E-08	2.1E-09	9.5E-10	9.7E-10	9.5E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pu-239
($T_{1/2} = 2.41E+04$ y) by the mother

		Ingestion: $f_1 = 0.00001$									
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.6E-12	2.0E-13	1.9E-11	1.6E-12	1.9E-11	6.9E-12	1.6E-12	1.6E-12	1.6E-12	4.1E-12
	post natal	5.0E-12	1.7E-12	4.5E-11	1.7E-12	2.7E-10	1.1E-10	3.9E-12	1.7E-12	1.7E-12	1.6E-11
	total	6.6E-12	1.9E-12	6.4E-11	3.3E-12	2.9E-10	1.2E-10	5.5E-12	3.3E-12	3.3E-12	2.0E-11
-26	in utero	2.1E-12	2.7E-13	2.1E-11	2.1E-12	2.1E-11	7.8E-12	2.1E-12	2.1E-12	2.1E-12	4.8E-12
	post natal	5.2E-12	1.8E-12	4.8E-11	1.8E-12	2.9E-10	1.1E-10	4.1E-12	1.8E-12	1.8E-12	1.7E-11
	total	7.3E-12	2.1E-12	6.9E-11	3.9E-12	3.1E-10	1.2E-10	6.2E-12	3.9E-12	3.9E-12	2.2E-11
concep ‡	in utero	3.1E-12	3.5E-13	6.6E-11	3.1E-12	6.6E-11	2.2E-11	3.1E-12	3.1E-12	3.1E-12	1.2E-11
	post natal	1.8E-11	6.0E-12	1.6E-10	6.0E-12	9.7E-10	3.8E-10	1.4E-11	6.0E-12	6.1E-12	5.6E-11
	total	2.1E-11	6.3E-12	2.3E-10	9.1E-12	1.0E-09	4.0E-10	1.7E-11	9.1E-12	9.2E-12	6.8E-11
5	in utero	1.8E-12	3.6E-13	6.5E-11	1.8E-12	6.5E-11	2.1E-11	1.8E-12	1.8E-12	1.8E-12	1.1E-11
	post natal	1.8E-11	6.0E-12	1.6E-10	6.0E-12	9.7E-10	3.9E-10	1.4E-11	6.0E-12	6.1E-12	5.6E-11
	total	2.0E-11	6.4E-12	2.3E-10	7.8E-12	1.0E-09	4.1E-10	1.6E-11	7.8E-12	7.9E-12	6.7E-11
10	in utero	3.4E-13	1.5E-13	6.0E-11	3.4E-13	6.0E-11	1.8E-11	3.4E-13	3.4E-13	3.4E-13	9.0E-12
	post natal	1.8E-11	6.0E-12	1.6E-10	6.0E-12	9.8E-10	3.9E-10	1.4E-11	6.0E-12	6.1E-12	5.7E-11
	total	1.8E-11	6.1E-12	2.2E-10	6.3E-12	1.0E-09	4.1E-10	1.4E-11	6.3E-12	6.4E-12	6.6E-11
15	in utero	3.6E-13	0.0E+00	6.7E-11	3.6E-13	6.7E-11	2.0E-11	3.6E-13	3.6E-13	3.6E-13	1.0E-11
	post natal	2.4E-11	8.1E-12	2.2E-10	8.1E-12	1.3E-09	5.2E-10	1.9E-11	8.1E-12	8.2E-12	7.6E-11
	total	2.4E-11	8.1E-12	2.9E-10	8.5E-12	1.4E-09	5.4E-10	1.9E-11	8.5E-12	8.6E-12	8.6E-11
25	in utero	3.8E-13	0.0E+00	8.4E-11	3.8E-13	8.4E-11	2.5E-11	3.8E-13	3.8E-13	3.8E-13	1.2E-11
	post natal	5.2E-11	1.8E-11	4.8E-10	1.8E-11	2.9E-09	1.1E-09	4.1E-11	1.8E-11	1.8E-11	1.7E-10
	total	5.2E-11	1.8E-11	5.6E-10	1.8E-11	3.0E-09	1.1E-09	4.1E-11	1.8E-11	1.8E-11	1.8E-10
35	in utero	2.4E-13	0.0E+00	5.6E-11	2.4E-13	5.6E-11	1.6E-11	2.4E-13	2.4E-13	2.4E-13	8.3E-12
	post natal	1.5E-10	5.1E-11	1.4E-09	5.1E-11	8.3E-09	3.3E-09	1.2E-10	5.1E-11	5.2E-11	4.8E-10
	total	1.5E-10	5.1E-11	1.5E-09	5.1E-11	8.4E-09	3.3E-09	1.2E-10	5.1E-11	5.2E-11	4.9E-10
Chronic											
-260 §	in utero	1.6E-12	2.1E-13	1.9E-11	1.6E-12	1.9E-11	7.0E-12	1.6E-12	1.6E-12	1.6E-12	4.2E-12
	post natal	5.0E-12	1.7E-12	4.6E-11	1.7E-12	2.7E-10	1.1E-10	3.9E-12	1.7E-12	1.7E-12	1.6E-11
	total	6.6E-12	1.9E-12	6.5E-11	3.3E-12	2.9E-10	1.2E-10	5.5E-12	3.3E-12	3.3E-12	2.0E-11
-52	in utero	2.2E-12	2.8E-13	2.1E-11	2.2E-12	2.1E-11	7.8E-12	2.2E-12	2.2E-12	2.2E-12	4.8E-12
	post natal	5.2E-12	1.8E-12	4.8E-11	1.8E-12	2.9E-10	1.1E-10	4.1E-12	1.8E-12	1.8E-12	1.7E-11
	total	7.4E-12	2.1E-12	6.9E-11	4.0E-12	3.1E-10	1.2E-10	6.3E-12	4.0E-12	4.0E-12	2.2E-11
during	in utero	8.9E-13	1.5E-13	1.2E-10	8.9E-13	1.2E-10	3.6E-11	8.9E-13	8.9E-13	8.9E-13	1.8E-11
	post natal	5.4E-11	1.8E-11	4.9E-10	1.8E-11	3.0E-09	1.2E-09	4.3E-11	1.8E-11	1.9E-11	1.7E-10
	total	5.5E-11	1.8E-11	6.1E-10	1.9E-11	3.1E-09	1.2E-09	4.4E-11	1.9E-11	2.0E-11	1.9E-10

* Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Pu-239
($T_{1/2} = 2.41E+04$ y) by the mother

Ingestion: $f_1 = 0.0001$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	1.6E-11	2.0E-12	1.9E-10	1.6E-11	1.9E-10	6.9E-11	1.6E-11	1.6E-11	1.6E-11	4.1E-11
	post natal	5.0E-11	1.7E-11	4.5E-10	1.7E-11	2.7E-09	1.1E-09	3.9E-11	1.7E-11	1.7E-11	1.6E-10
	total	6.6E-11	1.9E-11	6.4E-10	3.3E-11	2.9E-09	1.2E-09	5.5E-11	3.3E-11	3.3E-11	2.0E-10
-26	in utero	2.1E-11	2.7E-12	2.1E-10	2.1E-11	2.1E-10	7.8E-11	2.1E-11	2.1E-11	2.1E-11	4.8E-11
	post natal	5.2E-11	1.8E-11	4.8E-10	1.8E-11	2.9E-09	1.1E-09	4.1E-11	1.8E-11	1.8E-11	1.7E-10
	total	7.3E-11	2.1E-11	6.9E-10	3.9E-11	3.1E-09	1.2E-09	6.2E-11	3.9E-11	3.9E-11	2.2E-10
concep ‡	in utero	3.1E-11	3.5E-12	6.6E-10	3.1E-11	6.6E-10	2.2E-10	3.1E-11	3.1E-11	3.1E-11	1.2E-10
	post natal	1.8E-10	6.0E-11	1.6E-09	6.0E-11	9.7E-09	3.8E-09	1.4E-10	6.0E-11	6.1E-11	5.6E-10
	total	2.1E-10	6.3E-11	2.3E-09	9.1E-11	1.0E-08	4.0E-09	1.7E-10	9.1E-11	9.2E-11	6.8E-10
5	in utero	1.6E-11	3.6E-12	6.5E-10	1.6E-11	6.5E-10	2.1E-10	1.6E-11	1.6E-11	1.6E-11	1.1E-10
	post natal	1.8E-10	6.0E-11	1.6E-09	6.0E-11	9.7E-09	3.9E-09	1.4E-10	6.0E-11	6.1E-11	5.6E-10
	total	2.0E-10	6.4E-11	2.2E-09	7.6E-11	1.0E-08	4.1E-09	1.6E-10	7.6E-11	7.7E-11	6.7E-10
10	in utero	2.5E-12	5.6E-13	6.0E-10	2.5E-12	6.0E-10	1.8E-10	2.5E-12	2.5E-12	2.5E-12	8.9E-11
	post natal	1.8E-10	6.0E-11	1.6E-09	6.0E-11	9.8E-09	3.9E-09	1.4E-10	6.0E-11	6.1E-11	5.7E-10
	total	1.8E-10	6.1E-11	2.2E-09	6.2E-11	1.0E-08	4.1E-09	1.4E-10	6.2E-11	6.3E-11	6.6E-10
15	in utero	2.7E-12	0.0E+00	6.7E-10	2.7E-12	6.7E-10	2.0E-10	2.7E-12	2.7E-12	2.7E-12	9.9E-11
	post natal	2.4E-10	8.1E-11	2.2E-09	8.1E-11	1.3E-08	5.2E-09	1.9E-10	8.1E-11	8.2E-11	7.6E-10
	total	2.4E-10	8.1E-11	2.9E-09	8.4E-11	1.4E-08	5.4E-09	1.9E-10	8.4E-11	8.5E-11	8.6E-10
25	in utero	3.2E-12	0.0E+00	8.4E-10	3.2E-12	8.4E-10	2.5E-10	3.2E-12	3.2E-12	3.2E-12	1.2E-10
	post natal	5.2E-10	1.8E-10	4.8E-09	1.8E-10	2.9E-08	1.1E-08	4.1E-10	1.8E-10	1.8E-10	1.7E-09
	total	5.2E-10	1.8E-10	5.6E-09	1.8E-10	3.0E-08	1.1E-08	4.1E-10	1.8E-10	1.8E-10	1.8E-09
35	in utero	2.1E-12	0.0E+00	5.6E-10	2.1E-12	5.6E-10	1.6E-10	2.1E-12	2.1E-12	2.1E-12	8.3E-11
	post natal	1.5E-09	5.1E-10	1.4E-08	5.1E-10	8.3E-08	3.3E-08	1.2E-09	5.1E-10	5.2E-10	4.8E-09
	total	1.5E-09	5.1E-10	1.5E-08	5.1E-10	8.4E-08	3.3E-08	1.2E-09	5.1E-10	5.2E-10	4.9E-09
Chronic											
-260 §	in utero	1.6E-11	2.1E-12	1.9E-10	1.6E-11	1.9E-10	7.0E-11	1.6E-11	1.6E-11	1.6E-11	4.2E-11
	post natal	5.0E-11	1.7E-11	4.6E-10	1.7E-11	2.7E-09	1.1E-09	3.9E-11	1.7E-11	1.7E-11	1.6E-10
	total	6.6E-11	1.9E-11	6.5E-10	3.3E-11	2.9E-09	1.2E-09	5.5E-11	3.3E-11	3.3E-11	2.0E-10
-52	in utero	2.2E-11	2.8E-12	2.1E-10	2.2E-11	2.1E-10	7.8E-11	2.2E-11	2.2E-11	2.2E-11	4.8E-11
	post natal	5.2E-11	1.8E-11	4.8E-10	1.8E-11	2.9E-09	1.1E-09	4.1E-11	1.8E-11	1.8E-11	1.7E-10
	total	7.4E-11	2.1E-11	6.9E-10	4.0E-11	3.1E-09	1.2E-09	6.3E-11	4.0E-11	4.0E-11	2.2E-10
during	in utero	8.1E-12	1.3E-12	1.2E-09	8.1E-12	1.2E-09	3.6E-10	8.1E-12	8.1E-12	8.1E-12	1.8E-10
	post natal	5.4E-10	1.8E-10	4.9E-09	1.8E-10	3.0E-08	1.2E-08	4.3E-10	1.8E-10	1.9E-10	1.7E-09
	total	5.5E-10	1.8E-10	6.1E-09	1.9E-10	3.1E-08	1.2E-08	4.4E-10	1.9E-10	2.0E-10	1.9E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Am-241
($T_{1/2} = 4.32E+02$ y) by the mother

Inhalation of particulate aerosol: AMAD = 5 μ m AMAD, Absorption Type M $f_1 = 0.0005$

Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	4.3E-09	5.6E-10	3.7E-08	4.3E-09	3.7E-08	1.4E-08	4.3E-09	4.3E-09	4.3E-09	9.1E-09
	post natal	1.3E-08	2.7E-09	9.9E-08	2.7E-09	5.4E-07	6.3E-08	8.9E-09	2.7E-09	2.8E-09	2.5E-08
	total	1.7E-08	3.3E-09	1.4E-07	7.0E-09	5.8E-07	7.7E-08	1.3E-08	7.0E-09	7.1E-09	3.4E-08
-26	in utero	3.8E-09	4.8E-10	3.8E-08	3.8E-09	3.8E-08	1.4E-08	3.8E-09	3.8E-09	3.8E-09	8.7E-09
	post natal	1.3E-08	2.9E-09	1.0E-07	2.9E-09	5.7E-07	6.7E-08	9.4E-09	2.9E-09	3.0E-09	2.6E-08
	total	1.7E-08	3.4E-09	1.4E-07	6.7E-09	6.1E-07	8.1E-08	1.3E-08	6.7E-09	6.8E-09	3.5E-08
concep ‡	in utero	6.1E-09	8.2E-10	3.1E-07	6.1E-09	3.1E-07	9.7E-08	6.1E-09	6.1E-09	6.1E-09	5.0E-08
	post natal	1.3E-07	2.8E-08	9.9E-07	2.8E-08	5.4E-06	6.4E-07	9.0E-08	2.8E-08	2.8E-08	2.5E-07
	total	1.4E-07	2.9E-08	1.3E-06	3.4E-08	5.7E-06	7.4E-07	9.6E-08	3.4E-08	3.4E-08	3.0E-07
5	in utero	3.2E-09	8.2E-10	2.9E-07	3.2E-09	2.9E-07	8.9E-08	3.2E-09	3.2E-09	3.2E-09	4.5E-08
	post natal	1.3E-07	2.7E-08	9.7E-07	2.7E-08	5.3E-06	6.3E-07	8.8E-08	2.7E-08	2.8E-08	2.5E-07
	total	1.3E-07	2.8E-08	1.3E-06	3.0E-08	5.6E-06	7.2E-07	9.1E-08	3.0E-08	3.1E-08	3.0E-07
10	in utero	1.0E-09	1.6E-10	2.5E-07	1.0E-09	2.5E-07	7.7E-08	1.0E-09	1.0E-09	1.0E-09	3.8E-08
	post natal	1.2E-07	2.6E-08	9.5E-07	2.6E-08	5.2E-06	6.1E-07	8.6E-08	2.6E-08	2.7E-08	2.4E-07
	total	1.2E-07	2.6E-08	1.2E-06	2.7E-08	5.5E-06	6.9E-07	8.7E-08	2.7E-08	2.8E-08	2.8E-07
15	in utero	8.1E-10	0.0E+00	2.1E-07	8.1E-10	2.1E-07	6.1E-08	8.1E-10	8.1E-10	8.1E-10	3.0E-08
	post natal	1.2E-07	2.5E-08	9.1E-07	2.5E-08	5.0E-06	5.9E-07	8.3E-08	2.5E-08	2.6E-08	2.3E-07
	total	1.2E-07	2.5E-08	1.1E-06	2.6E-08	5.2E-06	6.5E-07	8.4E-08	2.6E-08	2.7E-08	2.6E-07
25	in utero	4.1E-10	0.0E+00	1.1E-07	4.1E-10	1.1E-07	3.1E-08	4.1E-10	4.1E-10	4.1E-10	1.6E-08
	post natal	1.1E-07	2.3E-08	8.1E-07	2.3E-08	4.5E-06	5.2E-07	7.4E-08	2.3E-08	2.3E-08	2.1E-07
	total	1.1E-07	2.3E-08	9.2E-07	2.3E-08	4.6E-06	5.5E-07	7.4E-08	2.3E-08	2.3E-08	2.3E-07
35	in utero	8.2E-11	0.0E+00	2.1E-08	8.2E-11	2.1E-08	6.1E-09	8.2E-11	8.2E-11	8.2E-11	3.1E-09
	post natal	8.2E-08	1.8E-08	6.3E-07	1.8E-08	3.5E-06	4.1E-07	5.7E-08	1.8E-08	1.8E-08	1.6E-07
	total	8.2E-08	1.8E-08	6.5E-07	1.8E-08	3.5E-06	4.2E-07	5.7E-08	1.8E-08	1.8E-08	1.6E-07
Chronic											
-260 §	in utero	4.3E-09	5.6E-10	3.7E-08	4.3E-09	3.7E-08	1.4E-08	4.3E-09	4.3E-09	4.3E-09	9.1E-09
	post natal	1.3E-08	2.7E-09	9.8E-08	2.7E-09	5.4E-07	6.3E-08	8.9E-09	2.7E-09	2.8E-09	2.5E-08
	total	1.7E-08	3.3E-09	1.4E-07	7.0E-09	5.8E-07	7.7E-08	1.3E-08	7.0E-09	7.1E-09	3.4E-08
-52	in utero	3.9E-09	5.0E-10	3.7E-08	3.9E-09	3.7E-08	1.4E-08	3.9E-09	3.9E-09	3.9E-09	8.8E-09
	post natal	1.3E-08	2.9E-09	1.0E-07	2.9E-09	5.6E-07	6.6E-08	9.3E-09	2.9E-09	2.9E-09	2.6E-08
	total	1.7E-08	3.4E-09	1.4E-07	6.8E-09	6.0E-07	8.0E-08	1.3E-08	6.8E-09	6.8E-09	3.5E-08
during	in utero	1.2E-09	1.9E-10	1.6E-07	1.2E-09	1.6E-07	5.0E-08	1.2E-09	1.2E-09	1.2E-09	2.5E-08
	post natal	1.1E-07	2.4E-08	8.5E-07	2.4E-08	4.6E-06	5.4E-07	7.7E-08	2.4E-08	2.4E-08	2.1E-07
	total	1.1E-07	2.4E-08	1.0E-06	2.5E-08	4.8E-06	5.9E-07	7.8E-08	2.5E-08	2.5E-08	2.4E-07

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

Dose coefficients (Sv/Bq) for the offspring from intake of Am-241
($T_{1/2} = 4.32E+02$ y) by the mother

Ingestion: $f_1 = 0.0005$											
Scenario *		Gonads	Brain	R.B.M.	Thyroid	Bone sur	Liver	Kidneys	Spleen	Remainder	Effective
Acute											
-130 †	in utero	3.7E-11	4.8E-12	3.1E-10	3.7E-11	3.1E-10	1.2E-10	3.7E-11	3.7E-11	3.7E-11	7.7E-11
	post natal	1.1E-10	2.3E-11	8.2E-10	2.3E-11	4.5E-09	5.3E-10	7.4E-11	2.3E-11	2.4E-11	2.1E-10
	total	1.5E-10	2.8E-11	1.1E-09	6.0E-11	4.8E-09	6.5E-10	1.1E-10	6.0E-11	6.1E-11	2.9E-10
-26	in utero	3.2E-11	4.1E-12	3.3E-10	3.2E-11	3.3E-10	1.2E-10	3.2E-11	3.2E-11	3.2E-11	7.6E-11
	post natal	1.2E-10	2.5E-11	8.9E-10	2.5E-11	4.9E-09	5.7E-10	8.1E-11	2.5E-11	2.6E-11	2.3E-10
	total	1.5E-10	2.9E-11	1.2E-09	5.7E-11	5.2E-09	6.9E-10	1.1E-10	5.7E-11	5.8E-11	3.1E-10
concep ‡	in utero	1.1E-10	9.9E-12	3.2E-09	1.1E-10	3.2E-09	1.0E-09	1.1E-10	1.1E-10	1.1E-10	5.6E-10
	post natal	1.2E-09	2.6E-10	9.2E-09	2.6E-10	5.0E-08	5.9E-09	8.3E-10	2.6E-10	2.6E-10	2.3E-09
	total	1.3E-09	2.7E-10	1.2E-08	3.7E-10	5.3E-08	6.9E-09	9.4E-10	3.7E-10	3.7E-10	2.9E-09
5	in utero	7.1E-11	1.2E-11	3.2E-09	7.1E-11	3.2E-09	1.0E-09	7.1E-11	7.1E-11	7.1E-11	5.2E-10
	post natal	1.2E-09	2.6E-10	9.2E-09	2.6E-10	5.0E-08	5.9E-09	8.3E-10	2.6E-10	2.6E-10	2.3E-09
	total	1.3E-09	2.7E-10	1.2E-08	3.3E-10	5.3E-08	6.9E-09	9.0E-10	3.3E-10	3.3E-10	2.8E-09
10	in utero	3.5E-11	2.5E-11	3.0E-09	3.5E-11	3.0E-09	9.3E-10	3.5E-11	3.5E-11	3.5E-11	4.6E-10
	post natal	1.2E-09	2.6E-10	9.3E-09	2.6E-10	5.1E-08	6.0E-09	8.4E-10	2.6E-10	2.7E-10	2.3E-09
	total	1.2E-09	2.9E-10	1.2E-08	2.9E-10	5.4E-08	6.9E-09	8.8E-10	2.9E-10	3.0E-10	2.8E-09
15	in utero	3.2E-11	0.0E+00	2.5E-09	3.2E-11	2.5E-09	7.7E-10	3.2E-11	3.2E-11	3.2E-11	3.9E-10
	post natal	1.2E-09	2.6E-10	9.3E-09	2.6E-10	5.1E-08	6.0E-09	8.4E-10	2.6E-10	2.7E-10	2.4E-09
	total	1.2E-09	2.6E-10	1.2E-08	2.9E-10	5.3E-08	6.8E-09	8.7E-10	2.9E-10	3.0E-10	2.8E-09
25	in utero	2.3E-11	0.0E+00	1.5E-09	2.3E-11	1.5E-09	4.4E-10	2.3E-11	2.3E-11	2.3E-11	2.3E-10
	post natal	1.2E-09	2.6E-10	9.4E-09	2.6E-10	5.2E-08	6.1E-09	8.5E-10	2.6E-10	2.7E-10	2.4E-09
	total	1.2E-09	2.6E-10	1.1E-08	2.8E-10	5.3E-08	6.5E-09	8.7E-10	2.8E-10	2.9E-10	2.6E-09
35	in utero	1.2E-11	0.0E+00	3.5E-10	1.2E-11	3.5E-10	1.1E-10	1.2E-11	1.2E-11	1.2E-11	6.1E-11
	post natal	1.2E-09	2.7E-10	9.6E-09	2.7E-10	5.2E-08	6.2E-09	8.7E-10	2.7E-10	2.7E-10	2.4E-09
	total	1.2E-09	2.7E-10	9.9E-09	2.8E-10	5.2E-08	6.3E-09	8.8E-10	2.8E-10	2.8E-10	2.5E-09
Chronic											
-260 §	in utero	3.8E-11	4.9E-12	3.2E-10	3.8E-11	3.2E-10	1.2E-10	3.8E-11	3.8E-11	3.8E-11	7.8E-11
	post natal	1.1E-10	2.3E-11	8.3E-10	2.3E-11	4.5E-09	5.3E-10	7.5E-11	2.3E-11	2.4E-11	2.1E-10
	total	1.5E-10	2.8E-11	1.1E-09	6.1E-11	4.8E-09	6.5E-10	1.1E-10	6.1E-11	6.2E-11	2.9E-10
-52	in utero	3.7E-11	4.5E-12	3.4E-10	3.7E-11	3.4E-10	1.3E-10	3.7E-11	3.7E-11	3.7E-11	8.1E-11
	post natal	1.2E-10	2.5E-11	8.9E-10	2.5E-11	4.9E-09	5.7E-10	8.1E-11	2.5E-11	2.6E-11	2.3E-10
	total	1.6E-10	3.0E-11	1.2E-09	6.2E-11	5.2E-09	7.0E-10	1.2E-10	6.2E-11	6.3E-11	3.1E-10
during	in utero	3.5E-11	7.6E-12	2.0E-09	3.5E-11	2.0E-09	6.1E-10	3.5E-11	3.5E-11	3.5E-11	3.2E-10
	post natal	1.2E-09	2.6E-10	9.4E-09	2.6E-10	5.1E-08	6.0E-09	8.5E-10	2.6E-10	2.7E-10	2.4E-09
	total	1.2E-09	2.7E-10	1.1E-08	2.9E-10	5.3E-08	6.6E-09	8.9E-10	2.9E-10	3.0E-10	2.7E-09

- * Intake +/- before/during pregnancy, commencing first day of indicated week.
† -130 weeks = Acute intake 2.5 years before conception to the start of pregnancy.
‡ concep = Acute intake on day of conception.
§ -260 = Chronic intake from 5 years before conception to the start of pregnancy.

APPENDIX A: BIOKINETIC DATA AND MODELS

Hydrogen

Biokinetic Data

The behaviour of radioactive hydrogen (H) in mother and offspring depends on the chemical form entering the body. Two main chemical forms are considered, tritiated water and organic forms which may enter the normal biochemical pathways of the body. Tritiated water (HTO) rapidly enters the systemic circulation of the mother after intakes by inhalation or ingestion. Physiological studies demonstrate that water rapidly crosses the placenta and other membranes freely in both directions. As a consequence, tritiated water has been used clinically in tracer studies of placental transport. Tritium may also be present in organically bound forms (OBT) either in food or in organic compounds. Intakes of OBT may lead to a greater incorporation of H into organic constituents of cells and longer retention.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 56* (ICRP, 1989). In this model the retention of tritiated water is described by two components of retention with half-times of 10 days (97%) and 40 days (3%). For OBT, retention is again described by two components of retention with half-times of 10 days (50%) and 40 days (50%). In both cases tritium is taken to be uniformly distributed throughout the body. These parameters are taken to apply to female adults.

For the purposes of dosimetry, tritiated water in the body of the fetus and mother are assumed to be in equilibrium at all times after intake. Based on an average percentage body water in the fetus of 80% compared with a value of about 50% for the mother, a $C_F:C_M$ ratio of 1.6 is adopted for the calculation of dose coefficients for HTO, applied to intakes both before and during pregnancy. While it is reasonable to assume that HTO concentrations in body water will be the same in the fetus and mother, this is unlikely to apply to OBT in the mother. Using the same $C_F:C_M$ ratio of 1.6 for the two components of retention, HTO and OBT, is probably conservative. This conservatism can be assumed to be negligible for intakes of HTO since incorporation into OBT in maternal tissues accounts for a small proportion of tritium reaching blood (3% assumed). However, for intakes as OBT, a larger proportion of ^3H reaching blood may be incorporated into OBT in maternal tissues (50% assumed). The concentration of ^3H in the placenta is taken to be the same as in maternal tissues for intakes of HTO or OBT before and during pregnancy ($C_{Pi}:C_M = 1$).

For the offspring following birth, the parameters adopted in *ICRP Publication 56* (ICRP, 1989) for the 3-month old infant are applied. Thus for tritiated water and OBT, half-times of 3 days and 8 days are applied to 97% and 3% of body activity for HTO and equal proportions for OBT.

Carbon

Biokinetic Data

The biokinetic behaviour of radioactive carbon (C) in mother and offspring depends on the chemical form in which the element enters the body. Two main chemical forms of carbon are considered, inorganic carbon in the form of carbon dioxide and organic carbon, especially in forms that can enter the normal biochemical pathways of the body.

Following inhalation by the mother carbon dioxide rapidly diffuses through the alveolar membrane into the alveoli from where it is removed by exhalation or pulmonary capillary blood flow (West *et al.*, 1962).

The carbon dioxide entering the blood rapidly distributes throughout the bicarbonate pool of the body water. No information on bicarbonate transfer to the embryo or fetus has been found but, since it is present in the body water as a freely diffusible ion, and it can be assumed to diffuse readily through the placenta, a $C_F:C_M$ ratio of 1 is assumed.

Amino acids serve as metabolic substrates for the synthesis of proteins and they are also oxidised to provide energy. Most amino acids are actively transported across the placenta.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 56* (ICRP, 1989). In this model, retention of ^{14}C is described by a single component with a half-time of 40 days. The activity is taken to be uniformly distributed throughout the body after entry into the blood. These parameters are taken to apply to female adults.

The data on the transport of carbon across the placenta indicate that transfer to the fetus will vary considerably according to the molecular species involved; for many amino acids and other organic forms the $C_F:C_M$ ratios appear to lie in the range 1-2. For calculating doses resulting from transfer of radioactivity from the maternal blood, a default $C_F:C_M$ ratio of 1.5 is used in this report for intakes both before and during pregnancy. For ^{14}C -labelled carbon dioxide a $C_F:C_M$ ratio of 1 is adopted. The concentration of ^{14}C in the placenta is taken to be the same as that in the fetus (ie, $C_{\text{pl}}:C_M = 1$) for intakes of carbon dioxide and 1.5 for intakes of organic carbon, for intakes before and during pregnancy.

For the offspring from birth, the half-time of retention of carbon is taken to be 8 days, as applied to the 3-month-old infant in *ICRP Publication 56* (ICRP, 1989).

Sodium

Biokinetic data

The placental transfer of sodium (Na) has been studied in animals and humans (NCRP, 1998). The available data suggest that Na passes rapidly and freely across the placenta.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 30* (ICRP, 1980). It is assumed that of Na reaching the circulation, 30% is taken up by the skeleton and 70% is uniformly distributed throughout all other tissues and organs of the body. The half-time of retention in all tissues is taken to be 10 days, except that a small proportion (1%) of Na retained in the skeleton is assumed to have a half-time of 500 days. These parameters are taken to apply to female adults.

For the calculation of doses to the fetus, it is assumed that $C_F:C_M$ and $C_{\text{pl}}:C_M$ ratios of 1 apply to intakes before or during pregnancy.

Adult parameters are assumed to apply also to the distribution of Na in the fetus and offspring from birth, and to retention in the offspring.

Magnesium

Biokinetic data

The placental transfer of magnesium (Mg) has been studied in dogs, showing slow transfer to the fetus (NCRP, 1998). It is likely that transfer will be related to growth and mineralisation of the fetal skeleton.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 30* (ICRP, 1981). It is assumed that of Mg reaching the circulation, 20% is rapidly excreted, 40% is taken up by the skeleton and 40% is uniformly distributed throughout all other tissues and organs of the body. The half-time of retention in all tissues is taken to be 100 days. These parameters are taken to apply to female adults.

For the calculation of doses to the fetus, it is assumed that $C_F:C_M$ and $C_{PI}:C_M$ ratios of 1 apply to intakes before or during pregnancy.

The distribution of Mg in the fetus is assumed to be 0.5 in the skeleton and 0.5 distributed throughout all other tissues. Adult retention parameters are assumed to apply to the offspring from birth.

Phosphorus

Biokinetic data

Phosphorus (P) is an essential element, incorporated into protein, lipids and DNA and present in the largest amounts in bone mineral. Measurements of the Ca and P content of human fetal bone show Ca:P ratios of about 2 from 13 weeks to term (ICRP, 1995b; Montherrat-Carret *et al.* 1996). Data presented by Widdowson *et al.* (1988) show that total amounts of P in human fetal bone and soft tissues are about equal at about 5 months of gestation but that incorporation into the skeleton increases rapidly from this time. At term, the skeleton accounts for about 80% of fetal P.

Studies using experimental animals have shown that P as phosphate readily crosses the placenta (Sikov, 1961; NCRP, 1998). Transfer and concentrations of ^{32}P were shown to be greatest for administration in late gestation, corresponding to increased demand mainly due to skeletal growth. Sikov (1961) showed that concentrations of ^{32}P in fetal bone in the rat were about twice average tissue concentrations after administration in late gestation.

P shows some chemical similarities to antimony (Sb), both being members of Group VA of the periodic table. Limited measurements of stable Sb in human placenta and other tissues (Iyengar *et al.* 1978) suggest a $C_{PI}:C_M$ ratio of 2.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 30* (ICRP, 1979). It is assumed that of P reaching the circulation, 15% is rapidly excreted, 30% is taken up by the skeleton and 55% is uniformly distributed throughout all other tissues and organs of the body. The half-times of retention in all tissues except bone are taken to be 2 days (27%) and 19 days (73%). Retention in bone is assumed to be infinite; that is, long compared with the physical half-lives of important radioisotopes of P. These parameters are taken to apply to female adults.

Transfer of P to the fetus is related here to that of Ca for which more data are available and for which a specific model has been developed (see below). Following their entry to blood, the short-term retention of P and Ca in bone and soft tissues in adults are similar; that is, about one-third retained in the skeleton and roughly equal amounts in soft tissues (ICRP, 1979, 1995c). Ca:P ratios in human fetal bone of about 2 (see above) indicate that transfer of P will be less than that of Ca. However, data show that retention of P in fetal soft tissues will be substantially greater than that of Ca, consistent with its incorporation into cellular components. Accordingly, $C_F:C_M$ ratios for P are assumed to be the same as for Ca for intakes before 5 months of pregnancy. Although $C_F:C_M$ ratios were not used to calculate doses from radioisotopes of Ca, the transfer of Ca predicted by the model developed by Fell *et al.* (2001) for the alkaline earth elements (see below) corresponds to average $C_F:C_M$ ratios of about 10 at the end of the first and second trimesters, increasing to 17 at 35 weeks. In late pregnancy, accumulation of P by the fetus is determined predominantly

by rapid skeletal development, with a relatively small proportion required in soft tissues. Thus, a $C_F:C_M$ ratio of 10 is applied here to all intakes of P during pregnancy. Again by analogy with Ca, a value of 0.5 is used for intakes prior to conception. A $C_{PI}:C_M$ ratio of 2 is taken to apply to intakes before or during pregnancy.

The distribution of P in the fetus is assumed to be 0.75 in the skeleton and 0.25 in all other tissues, although it is recognised that this is likely to be a conservative assumption for doses delivered during early fetal development. Adult retention parameters are assumed to apply to the offspring from birth.

Sulphur

Biokinetic Data

The behaviour of sulphur (S) in the mother and offspring will depend upon the chemical form. Inorganic and organic forms of sulphur are considered separately. Little information is available on the transfer of inorganic sulphur to the fetus. The placental transfer and fetal incorporation of 35 Sulphate has been demonstrated (Dziewatkowski, 1953). Active transport of methionine and other organic molecules containing sulphur has been shown by Ishiwata *et al.* (1985).

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (ICRP, 1993). In this model, after entry of inorganic sulphur into the transfer compartment, 80% is promptly excreted with a half-time of 0.25 days and the remainder is retained with half-times of 20 days (15%) and 2000 days (5%). For sulphur incorporated into amino acids and other organic forms of sulphur, rapid urinary excretion of a major fraction of sulphur from blood would not be expected. For these compounds a uniform distribution throughout all organs and tissues with a biological retention half-time of 140 days is assumed (ICRP, 1993). These parameters are taken to apply to female adults.

The limited amount of information available shows widely variable results in different species and indicate $C_F:C_M$ ratios ranging from ~0.5 - 1 in humans and pigs to >5 in sheep and cattle and in the rodent skeleton. Since sheep, cattle and rodents may not be good models for humans the $C_F:C_M$ ratios adopted for the calculation of dose coefficients for sulphur given in this report are 2 for intakes during pregnancy and 1 for intakes before pregnancy. The concentration of sulphur in the placenta is taken to be twice that in maternal tissues for intakes before and during pregnancy ($C_{PI}:C_M = 2$).

For the offspring from birth, adult retention parameters are applied as adopted for infants and children in *ICRP Publication 67* (ICRP, 1993).

Potassium

Biokinetic data

Tissue concentrations of the alkali metal, K, are controlled by homeostasis; the behaviour of Cs in the body is determined by its similarity to K. Data are available on the concentration of K in fetal, maternal and placental tissues in humans and experimental animals (NCRP, 1998). These data and kinetic studies show that K passes freely and rapidly through the placenta.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 30* (ICRP, 1980). It is assumed that K reaching the circulation is distributed uniformly throughout all tissues of the body and retained with a half-time of 30 days. These parameters are taken to apply to female adults.

For the calculation of doses to the fetus, it is assumed that $C_F:C_M$ and $C_{Pl}:C_M$ ratios of 1 apply to intakes before and during pregnancy.

Adult retention parameters are assumed to apply to the offspring from birth.

Calcium

Biokinetic data

Human data are available for the calcium (Ca) content of the human fetus and skeletal development at different stages during gestation (ICRP, 1995b). Changes in maternal Ca metabolism during pregnancy have been studied in humans (see Fell *et al* 2001).

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 71* (ICRP, 1995c), following the form of the age-dependent model for the alkaline earth elements (ICRP, 1993), developed by Leggett (1992b). This model describes the deposition and retention of calcium in bone and also considers retention in soft tissues and routes of excretion. It takes account of initial uptake onto bone surfaces, transfer from surface to bone volume and recycling from bone and soft tissues to blood. The model is taken to apply also to female adults and has been used here as the basis for a model of transfer of the alkaline earth elements to the fetus, as developed by Fell *et al* (2001). During pregnancy, absorption of ingested Ca is taken to increase from 0.3 to 0.4 during the first trimester, 0.4 to 0.6 during the second trimester and remain at 0.6 throughout the third trimester. Urinary excretion of Ca is increased by doubling the transfer rate from maternal blood to urinary bladder between conception and the end of the first trimester and maintaining this rate throughout the second and third trimester. Bone turnover is unchanged during the first trimester, doubled over the second trimester and maintained at this level throughout the third trimester; all rates to, from and between bone compartments are doubled.

For the fetus, the alkaline earth model developed by Fell *et al* (2000) is used. Rates of transfer from maternal blood to fetal blood are derived on the basis of Ca requirements, but assuming that transfer is ten times greater than requirements. Uptake rates from fetal blood to bone surfaces are derived to fit the increasing Ca content of the skeleton. Other rates between fetal skeleton compartments and returns to fetal blood are as specified for Ca for infants in the Publication 71 model. The concentration of calcium in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{Pl}:C_M = 1$).

At birth, Ca in fetal soft tissues is assigned to soft tissues (compartment ST1) in the postnatal model (ICRP, 1995b). Trabecular and cortical bone are not distinguished in the fetal model; at birth, 20% of activity is assigned to trabecular compartments and 80% to cortical compartments.

Iron

Biokinetic Data

The kinetics of iron (Fe) compounds in pregnancy have been studied extensively in animals and limited human data are also available. The mechanisms by which iron crosses the placenta into the fetus are not clear but near term this is achieved against a concentration gradient (Bothwell *et al.*, 1979; Fletcher and Suter, 1969). Transfer is maintained in the presence of inadequate maternal iron stores, thus causing or aggravating iron deficiency in the mother (Beaton, 1974). These data suggest that placental transfer of iron involves an active transport mechanism (Galbraith, 1980).

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 69* (ICRP, 1995a). The model allows for the transfer of Fe reaching the circulation predominantly to the red bone marrow, followed by incorporation into haemoglobin in newly formed erythrocytes and release into the circulation. Smaller amounts of iron are stored in other tissues, principally the liver. Iron from senescent red blood cells is transferred mainly to the red bone marrow, liver and spleen. Losses of iron from the body are largely due to exfoliation of cells from the skin and GI tract with smaller amounts in sweat, bile and urine.

The parameters used in the *ICRP Publication 69* (ICRP, 1995a) model are applied here to female adults. In the case of absorption of iron from the gastrointestinal tract of the mother, the available data indicate a progressive increase over the period of pregnancy. On the basis of the available data, a fractional absorption (f_i) value of 0.1 is adopted for all of the first trimester with an increase to 0.3 at the end of the second trimester and 0.4 at the end of the third trimester.

For calculating doses to fetal tissues, the information available from animal and human studies is rather disparate. Based on human and primate studies, the $C_F:C_M$ ratio adopted for the calculation of doses to the fetus is 1 for intakes before and during pregnancy. The concentration of iron in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{Pl}:C_M = 1$).

The distribution of iron in the fetus is based on that adopted for the 3-month old infant in *ICRP Publication 69* (ICRP, 1995a) but no account is taken of the subsequent redistribution of transferred iron. For the offspring from birth, the model for the 3-month old infant is applied (ICRP, 1995a).

Cobalt

Biokinetic Data

For occupational and public exposure, the principal concern is considered to be cobalt (Co) in inorganic forms although isotopes of cobalt may also be present in association with food or other organic forms. The data available on transfer to the fetus relate to cobalt chloride and Co-labelled vitamin B₁₂. Animal data are available for both forms, human data on transfer of ⁵⁸Co labelled vitamin B₁₂ and on concentrations of stable Co in fetal and maternal blood.

Models

The model adopted for adults is that given in *ICRP Publication 67* (ICRP, 1993). In this model 50% of cobalt reaching the circulation is rapidly excreted with a half-time of 0.5 days, 5% is taken up by the liver and 45% is uniformly distributed in all other tissues. Fractions of 0.6, 0.2 and 0.2 are assumed to be lost from the liver and other tissues with biological half-times of 6, 60 and 800 days, respectively. These parameters are also taken to apply to female adults.

The available data suggest that for both inorganic forms of cobalt and for cobalt in vitamin B₁₂, fetal concentrations can exceed average maternal concentrations particularly at short times after administration in late gestation. Taking account of results indicating shorter retention times in the fetus, a $C_F:C_M$ ratio of 1 is adopted in this report for the calculation of dose coefficients for intakes of inorganic or organic forms of cobalt during pregnancy. For intakes prior to conception, the data indicate that Co retained by the mother will be less available for transfer to the fetus and a $C_F:C_M$ ratio of 0.2 is adopted. Vitamin B₁₂ is not considered separately because occupational and environmental intakes of radioisotopes of Co in this form are considered unlikely to comprise more than a small fraction of total intake. No data are available on the behaviour of cobalt associated with foodstuffs or other organic forms; the model for inorganic cobalt is, therefore, adopted

as a default. The concentration of cobalt in the placenta is taken to be twice that in maternal tissues for intakes before and during pregnancy ($C_{PI}:C_M = 2$).

In *ICRP Publication 67* (ICRP, 1993) adult biokinetic parameters are applied to infants and children. The same parameters are applied here to distribution in the fetus and to distribution and retention in the offspring from birth.

Zinc

Biokinetic Data

Data are available on the transfer of zinc (Zn) to the embryo and fetus in rodents, rabbits and cattle. In addition, measurements have been made of concentrations of stable zinc in fetal tissues from animals and in human fetal blood.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (1993). It is assumed that 20% of zinc reaching the circulation is taken up by the skeleton and retained with biological half-times of 400 days (97.5%) and 100,000 days (2.5%), respectively. The remainder is assumed to be uniformly distributed throughout all other organs and tissues, with 30% and 70% having biological half-times of 20 days and 400 days, respectively. It is assumed that, for calculating doses from ^{65}Zn , the element is uniformly distributed throughout the volume of mineral bone at all times after its deposition in the skeleton. For shorter-lived isotopes of zinc it is assumed that they remain on bone surfaces. These parameters are taken to apply to female adults.

Animal data, together with limited human data on stable zinc, indicate that zinc is readily transferred to the fetus and concentrations are likely to exceed maternal concentrations, particularly in late gestation. A $C_F:C_M$ ratio of 2 is adopted in this report for the calculation of dose coefficients for isotopes of zinc for intakes during pregnancy. The same ratio is adopted for intakes before pregnancy. The concentration of zinc in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{PI}:C_M = 1$).

In *ICRP Publication 67* (1993) adult biokinetic parameters are applied to infants and children except that the long-term component for retention in bone is taken to be related to the rate of bone remodelling and has shorter half-times in infants and children (100 days for 3-month old). The same parameters are applied here to distribution in the fetus and to distribution and retention in the offspring from birth, assuming retention from birth to be the same as in the 3-month-old infant.

Strontium

Biokinetic Data

Strontium (Sr), as an alkaline earth element, behaves similarly to Ca in the body although there are quantitative differences in the rate at which it crosses cell membranes or is accumulated by the skeleton. Measurements on human tissues and animal studies in which direct comparisons have been made have shown that Sr is transferred to the fetus less efficiently than Ca and the available data suggest a placental discrimination value of 0.6 (see Fell *et al* 2001).

Data are available with which to test the validity of model assumptions for the transfer of Sr to the fetus (see Fell *et al* 2001). Comparisons of concentrations of weapons fallout ^{90}Sr in diet, relative to Ca concentrations, and the same ratio in fetal bone, shows ratios in fetal bone to be 0.05 - 0.15 times those in diet (Kawamura *et al.* 1986; Mays and Lloyd, 1966). In addition, Tolstyckh *et al.* (1998) reported measurements

of concentrations of ^{90}Sr in 6 stillborn human fetuses and their mothers for whom the period of maximum contamination due to consumption of Techa river water occurred at different times before pregnancy.

Models

For strontium entering the circulation, an age-dependent model for the alkaline earth elements, developed by Leggett (1982, 1992b), was adopted in *ICRP Publication 67* (ICRP, 1993). This model applies element-specific parameters for uptake and retention in bone and other tissues. The model is taken to apply also to female adults and has been used here as the basis for a model of transfer of the alkaline earth elements to the fetus, as developed by Fell *et al* (2001). During pregnancy, absorption of ingested Sr is taken to increase from 0.3 to 0.4 during the first trimester, 0.4 to 0.6 during the second trimester and remain at 0.6 throughout the third trimester. As for other alkaline earth elements, urinary excretion of Sr is increased by doubling the transfer rate from maternal blood to urinary bladder between conception and the end of the first trimester and maintaining this rate throughout the second and third trimester. Bone turnover is unchanged during the first trimester, doubled over the second trimester and maintained at this level throughout the third trimester; all rates to, from and between bone compartments are doubled.

For the fetus, the alkaline earth model developed by Fell *et al* (2001) is used. Rates of transfer from maternal blood to fetal blood are derived on the basis of Ca requirements, applying a placental discrimination factor of 0.6 for transfer of Sr relative to Ca. Uptake rates from fetal blood to bone surfaces (and soft tissues) are as derived for Ca. Other rates between fetal skeleton compartments and returns to fetal blood are as specified for Sr for infants in the *ICRP Publication 67* (ICRP, 1993) model. The concentration of strontium in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{\text{Pl}}:C_{\text{M}} = 1$).

At birth, Sr in fetal soft tissues is assigned to soft tissues (compartment ST1) in the postnatal model and 20% of activity in fetal bone is assigned to trabecular compartments and 80% to cortical compartments.

Technetium

Biokinetic Data

Placental transfer studies with technetium (Tc) in humans and animals have almost all involved radiopharmaceuticals. Sastry *et al.* (1976) reported human placentography data for ^{99m}Tc human serum albumin administered during week 30 of pregnancy and calculated a $C_F:C_M$ ratio of 0.6. Herbert *et al.* (1969) investigated the biokinetic behaviour of ^{99m}Tc -albumin in six patients during a late pregnancy and reported a $C_F:C_M$ ratio for blood of 0.04 from 2.5 hours after injection.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (ICRP, 1993). It is assumed that 4% of technetium reaching the circulation is taken up by the thyroid gland and retained with a half-time of 0.5 days. Further fractions of 10% and 3% are assumed to be translocated to the stomach wall and liver, respectively, and the remaining fraction is assumed to be uniformly distributed in all other tissues. Biological half-times for the retention of technetium in all tissues other than the thyroid are taken to be 1.6, 3.7 and 22 days applying to fractions of 0.75, 0.2 and 0.05, respectively. The biological half-time in blood is assumed to be 0.02 days. These parameters are taken to apply to female adults.

On the basis of the available data the $C_F:C_M$ ratio adopted for the calculation of dose coefficients for isotopes of technetium is 1 for intakes before and during pregnancy. The concentration of technetium in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{PI}:C_M = 1$).

In *ICRP Publication 67* (1993) adult biokinetic parameters are applied to infants and children. The same parameters are applied here to distribution in the fetus and to distribution and retention in the offspring from birth.

Ruthenium

Biokinetic Data

There have been few published reports on the transfer of ruthenium (Ru) to the fetus. However, data are available for rats and for guinea pigs given Ru either during pregnancy or prior to conception.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 56* (1989). For ruthenium reaching the circulation, 0.15 is assumed to be rapidly excreted and the remainder is uniformly distributed throughout body tissues and retained with half-times of 8 days (0.35), 35 days (0.3) and 1000 days (0.2). These parameters are taken to apply also to female adults.

On the basis of the available data $C_F:C_M$ ratios adopted for the calculation of dose coefficients for isotopes of ruthenium are 0.2 for intakes during pregnancy and 0.01 for intakes prior to pregnancy. The concentration of ruthenium in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{PI}:C_M = 0.1$) and twice that in maternal tissues for intakes during pregnancy ($C_{PI}:C_M = 2$).

In *ICRP Publication 56* (1989) adult biokinetic parameters are applied to infants and children. The same parameters are applied here to distribution in the fetus and to distribution and retention in the offspring from birth.

Iodine

Biokinetic Data

Iodine (I) is readily translocated across the placenta and accumulates in the fetal thyroid in significant concentrations from about 11 weeks after conception (Moore and Persaud, 1998). Information on the transfer of radioiodine to the developing embryo and fetus is available from measurements of ^{131}I in the fetal thyroid after diagnostic administration prior to therapeutic abortions as well as measurements of nuclear weapons fallout. Radioactive iodide accumulates in the fetus at low levels before the thyroid starts functioning and is mainly concentrated in the liver and the intestine. During gestation the concentration of radioactive iodide in the fetal thyroid increases and towards the end of gestation it can exceed by 3 – 10 fold that in the maternal thyroid (Book and Goldman, 1975; Stieve *et al.* 1985). The concentration of radioiodine in the fetal thyroid is always higher than in the mother's thyroid, as illustrated by the data of Aboul-Khair *et al.* (1966) and Evans *et al.* (1967).

Pregnancy has been shown to be associated with increases in iodine uptake by the maternal thyroid, increases in concentrations of thyroid hormones (thyroxine and triiodotyrosine) in maternal blood (Aboul-Khair *et al.* 1964; Berghout *et al.* 1994) and increased rates of renal clearance (Aboul-Khair *et al.* 1964).

Several models have been proposed for the calculation of radiation doses to the fetus following intakes of radioisotopes of iodine by the mother. The modelling approach taken by Berkovski (1999a,b) includes a physiologically realistic treatment of separate maternal and fetal iodide pools with bidirectional placental transfer and is adopted here.

Models

In the model for iodine in the reference adult, given in ICRP Publication 56 (1989), it is assumed that 30% of iodine entering the blood is taken up by the thyroid gland and the remaining activity (70%) is rapidly excreted in urine with a half-time of 0.25 days. Iodide incorporated into thyroid hormone leaves the gland with a half-time of 80 days and is assumed to be uniformly distributed throughout all other tissues and retained with a half-time of 12 days. Most iodide (0.8) is subsequently released and is available for uptake by the thyroid and urinary excretion; the remainder is excreted in the faeces in organic form.

The model developed by Berkovski (1999a,b) to estimate *in utero* doses from radioisotopes of iodine includes a more complex representation of iodine biokinetics in the mother than used by ICRP (1989) to calculate doses to adult members of the public. Changes to the adult model were considered necessary for this specific application to provide adequate estimates of doses to the embryo from iodine in non-thyroidal maternal tissues. Thus, in addition to uptake by the thyroid gland, I is also taken up by a number of other tissues, although at much lower concentrations; these include the stomach, small intestine, salivary glands, liver, ovaries and the placenta. Because of their large mass, the skeletal muscles contain the largest iodine pool amongst the extrathyroidal tissues. The Berkovski (1999a,b) model takes account of available data on changes in iodine metabolism during pregnancy, with increases in rates of I uptake by the maternal thyroid and release of hormone from the gland and an increased rate of urinary excretion.

The model developed by Berkovski (1999a,b) fits available animal and human data on uptake of iodine by the fetal thyroid and hormone production. It takes account of bidirectional placental transfer of I between maternal and fetal pools and retention of I and organic iodine in the placenta. It also includes transfer of I and organic iodine to amniotic fluid and from amniotic fluid to the fetal I pool.

In ICRP Publication 56 (ICRP, 1989), the fractional uptake of iodine by the thyroid and excretion are assumed to be the same in infants and children as in adults but retention half-times for the thyroid and other tissues are reduced to 11.2 days and 1.12 days, respectively, in 3-month-old infants. These parameters are applied here to the offspring from birth.

Caesium

Biokinetic Data

The transfer of caesium (Cs) isotopes to the fetus has been followed in human studies and in work with experimental animals. Wilson and Spiers (1967) reported ^{137}Cs concentrations arising from weapons fallout in nine newborn children and their mothers. Measurements in the children were made within 3 days of birth and the results indicated very similar concentrations of ^{137}Cs in the mother and newborn. Similar observations have been made by other authors (Bengtsson *et al.*, 1964; Kaul *et al.*, 1966; Inuma *et al.*, 1969). Bertelli *et al.* (1992) reported that following an accident in Brazil in which a four-months pregnant woman was contaminated with ^{137}Cs , *in vivo* monitoring of the mother and newborn child at 1 week after birth showed the concentration of ^{137}Cs in the mother (0.91 kBq kg^{-1}) was very similar to that of her newborn child (0.97 kBq kg^{-1}). In a further study in Greece, following the accident at Chernobyl (April 1986), an infant born in July 1987 had a similar ^{137}Cs concentration as the mother (Kalef-Ezra and Yasumura, 1997). These studies all indicate highly facilitated transfer of ^{137}Cs across the placenta. Bertelli *et al.* (1992) reported that concentrations in the placenta were the same as whole body maternal and fetal concentrations.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 56* (ICRP, 1989). Caesium entering blood is distributed uniformly throughout all body tissues and retained with biological half-times of 2 days (10%) and 110 days (90%). Half-times in female adults are significantly shorter, particularly during pregnancy. A half-time of 50 days is applied here to the long-term component of retention.

On the basis of the available data the $C_F:C_M$ ratio adopted for the calculation of dose coefficients for isotopes of caesium given in this report is 1 for intakes both before and during pregnancy. The concentration of caesium in the placenta is taken to be the same as that in maternal tissues for intakes before and during pregnancy ($C_{Pl}:C_M = 1$).

In *ICRP Publication 56* (ICRP, 1989) shorter half-times of retention are adopted for infants and children than for adults. For 3-month-old infants, a single half-time of 16 days was used and is applied here to retention by the offspring at birth.

Lead

Biokinetic Data

Both human and animal studies have examined the transfer of lead (Pb) to the embryo and fetus, principally because of concerns about the toxicity of stable lead. Human data show nearly equal concentrations of lead in fetal and maternal blood and ready uptake of lead into fetal tissues. In contrast, animal studies suggest some degree of placental discrimination (Sikov, 1987).

A model for the transfer of lead to the fetus has been developed by Sikov and Hui (1996). The model assumes equal average concentrations in fetal and maternal tissues at all times after an acute intake during pregnancy.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (ICRP, 1993). A modification of the alkaline earth model is used (see strontium). As well as considering uptake and retention in bone, the model is adapted for lead to include red blood cells as a separate compartment, to consider excretion via sweat and hair, and to include two compartments for both the liver and kidneys. This model

takes account of the considerable differences in the time-dependent distribution of lead and the alkaline earth elements. Radioactive progeny of lead radioisotopes produced in bone volume are assumed to follow the behaviour of the parent radionuclide until removed from the bone volume. In all tissues other than bone volume the isotopes of bismuth and polonium produced inside the body by the decay of lead isotopes have their own biokinetic behaviour. These parameters are taken to apply also to female adults.

The available data indicate that the transfer of lead to the fetus follows the behaviour of calcium, with a greater transfer to skeletal tissues than to other soft tissues. On the basis of the available human data a $C_F:C_M$ ratio of 1 is adopted for the calculation of equivalent doses to fetal tissues. The concentration of lead in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 0.1$) and the same as that in maternal tissues for intakes during pregnancy ($C_{Pl}:C_M = 1$).

The distribution of lead in the fetus is taken to be the same as assumed for the short-term distribution in the 3-month-old infant in *ICRP Publication 67* (1993). For the offspring from birth, the model for the 3-month-old infant is applied.

Bismuth

Biokinetic data

Richardson (1992) measured transfer of Bi to the guinea-pig fetus. The data suggest a $C_F:C_M$ ratio of 0.1 is appropriate, as used for Po. Placental concentrations were greater than fetal concentrations but less than average maternal concentrations.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 30* (ICRP, 1980). It is assumed that of Bi reaching the circulation, 30% is rapidly excreted, 40% is taken up by the kidneys and 30% is uniformly distributed throughout all other organs and tissues of the body. In all tissues, fractions of 0.6 and 0.4 are assumed to be retained with biological half-lives of 0.6 and 5 days, respectively. These parameters are taken to apply to female adults.

On the basis of the limited data available, doses to the fetus are calculated on the basis that a $C_F:C_M$ ratio of 0.1 applies to intakes before or during pregnancy. The concentration of polonium in the placenta is taken to be the same as average concentrations in maternal tissues for intakes before and during pregnancy ($C_{Pl}:C_M = 1$).

On the basis of available data, distribution of Bi in the fetus is assumed to be 0.5 in kidneys and 0.5 in all other tissues. Adult retention parameters are taken to apply to activity retained at birth.

Polonium

Biokinetic Data

The fetal transfer of polonium (Po) has been studied using rodents and baboons. These data show low transfer of polonium to the fetus, consistent with limited data published for humans. Elevated concentrations of ^{210}Po in human placentae have been reported by Hill (1966) for populations consuming reindeer and caribou meat.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (1993). It is assumed that of polonium entering the circulation, fractions of 30%, 10%, 5%, 10%, and 45% are taken up by

liver, kidneys, spleen, red bone marrow, and all other tissues, respectively, and retained in all tissues with a biological half-time of 50 days. These parameters are taken to apply also to female adults.

On the basis of the available data a $C_F:C_M$ ratio of 0.1 is adopted for the calculation of dose coefficients for the fetus for intakes of isotopes of polonium both before and during pregnancy. The concentration of polonium in the placenta is taken to be five times that in maternal tissues for intakes before and during pregnancy ($C_{PI}:C_M = 5$).

In *ICRP Publication 67* (ICRP, 1993) adult biokinetic parameters are applied to infants and children. The same parameters are applied here to distribution in the fetus and to distribution and retention in the offspring from birth.

Radium

Biokinetic Data

Data are available on the transfer of radium (Ra) to the human embryo and fetus following intakes by the mother. The natural radium contents of fetal tissues and tissues from unrelated adults in the Federal Republic of Germany have been reported by Muth *et al.* (1960). The ^{226}Ra concentrations in fetal bones were approximately equal to those in adult bones (about 480 mBq kg^{-1}). Similarly, Rajewsky *et al.* (1965) reported ^{226}Ra concentrations in fetal bone to be independent of the stage of gestation and identical to that measured in adult bone. Schlenker and Keane (1987) reported measurements of the radium content in both mother and fetus for a case in which the mother, who had been a radium dial painter for 5-7 years from age 16, had died (at age 26 years) on the day of delivery of her stillborn child. Occupational exposure to radium ceased at least 2 years before the pregnancy. The fetus was thought to be in the eighth to ninth month of fetal life, the cause of death being placenta previa. From analyses of the mother's skeleton, which was recovered nearly complete, and that of the fetus, for which about three-quarters was recovered, total retention of ^{226}Ra in the fetus was estimated as about 0.1% of that in the mother with about half in the fetal skeleton. Assuming that the maternal and fetal skeletons contained 810 g and 27 g of Ca, respectively, the reported ^{226}Ra activities correspond to concentrations of 127 Bq g^{-1} Ca and 2.4 Bq g^{-1} Ca, respectively, and a fetus to mother concentration ratio of about 0.02.

Models

For radium entering the circulation, an age-dependent model for the alkaline earth elements, developed by Leggett (1992b), was adopted in *ICRP Publication 67* (ICRP, 1993). This model applies element-specific parameters for uptake and retention in bone and other tissues. The model is taken to apply also to female adults and has been used here as the basis for a model of transfer of the alkaline earth elements to the fetus, as developed by Fell *et al.* (2001). During pregnancy, absorption of ingested radium is taken to increase from 0.2 to 0.3 during the first trimester, 0.3 to 0.4 during the second trimester and remain at 0.4 throughout the third trimester. As for other alkaline earth elements, urinary excretion of Ra is increased by doubling the transfer rate from maternal blood to urinary bladder between conception and the end of the first trimester and maintaining this rate throughout the second and third trimester. Bone turnover is unchanged during the first trimester, doubled over the second trimester and maintained at this level throughout the third trimester; all rates to, from and between bone compartments are doubled.

For the fetus, doses are estimated using the alkaline earth model developed by Fell *et al.* (2001). Rates of transfer from maternal blood to fetal blood are derived on the basis of Ca requirements, applying a placental discrimination factor of 0.4 for transfer of Ra relative to Ca. Uptake rates from fetal blood to bone surfaces (and soft tissues) are as derived for Ca. Other rates between fetal skeleton compartments and returns to fetal blood are as specified for Ra for infants in the Publication 67 model. The concentration of radium in

the placenta is taken to be the same as that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 1$).

At birth, Ra in fetal soft tissues is assigned to ST1 in the postnatal model. Trabecular and cortical bone are not distinguished in the fetal model; at birth, 20% of activity is assigned to trabecular compartments and 80% to cortical compartments.

Thorium

Biokinetic Data

Weiner *et al.* (1985) gave preliminary data on concentrations of environmental thorium in human fetoplacental tissues in the first trimester. However, the levels were at the limit of detection of the method. They did not report detectable levels for older fetuses. Wrenn (1979) measured the level of ^{228}Th in the human at birth as 20 mBq kg^{-1} . Rat data show low levels of transfer.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 69* (ICRP, 1995a). For thorium reaching the circulation, as for plutonium, the main sites of deposition are the liver and skeleton. As discussed for plutonium, an actinide model is used that takes account of the redistribution of elements between and within tissues, particularly bone, and loss by excretion (ICRP, 1993). The model uses element-specific data for transfer rates. Isotopes of other elements produced in the body by the decay of thorium isotopes are considered generally to have their own biokinetic behaviour, depending on the site where they have been produced. This model is taken to apply also to female adults.

By analogy with plutonium, the $C_F:C_M$ ratios adopted in this report for the calculation of dose coefficients for intakes of thorium during are 0.1 and 1 for the first and third trimesters respectively with a progressive increase during the second trimester. A $C_F:C_M$ ratio of 0.03 is used for intakes prior to pregnancy. The concentration of thorium in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 0.1$) and twice that in maternal tissues for intakes during pregnancy ($C_{Pl}:C_M = 2$).

The distribution of Th in the fetus is taken to be the same as the short-term distribution in the 3-month-old infant in *ICRP Publication 69* (ICRP, 1995a). For the offspring from birth, the model for the 3-month-old infant is applied.

Uranium

Biokinetic Data

Weiner *et al.* (1985) measured significant concentrations of environmental uranium (U) in 3 out of 7 first trimester samples from human abortuses and 12 out of 16 second trimester samples. Combining all data, a concentration range of about $2 - 5 \text{ mBq kg}^{-1}$ was obtained compared with average adult concentrations of about 30 mBq kg^{-1} , corresponding to a $C_F:C_M$ ratio of about 0.1. Rat data gave $C_F:C_M$ ratios of 0.02 to 0.3 for administration at different stages during pregnancy.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 69* (ICRP, 1995a). The principal site of retention of uranium in the body is the skeleton. Because uranium tends to follow the behaviour of calcium in bone, the model used for the alkaline earth elements is applied to uranium, using data for transfer rates specific for uranium. Isotopes of other elements produced in the body by the decay of uranium isotopes are considered to have their own biokinetic behaviour depending on the site where they have been produced. This model is taken to apply also to female adults.

On the basis of the data available, the $C_F:C_M$ ratio adopted for the calculation of dose coefficients for uranium given in this report is 1 for intakes during pregnancy and 0.1 for intakes prior to pregnancy. The concentration of uranium in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 0.1$) and equal to that in maternal tissues for intakes during pregnancy ($C_{Pl}:C_M = 1$).

The distribution of U in the fetus is taken to be the same as the short-term distribution in the 3-month-old infant in *ICRP Publication 69* (ICRP, 1995a). For the offspring from birth, the model for the 3-month-old infant is applied.

Plutonium

Biokinetic Data

Most published data on the transfer of plutonium (Pu) across the placenta have been obtained using rats, although some data are also available for baboons, mice and guinea pigs. Limited human data are also available.

Prosser *et al.* (1994) reported measurements of ^{239}Pu in human fetal tissue obtained from second trimester terminations in the U.K., using alpha spectrometry and thermal ionisation mass spectrometry. Typical fetal tissue concentrations of $<50 \mu\text{Bq kg}^{-1}$ were recorded. Average whole-body concentrations in adults can be estimated from measurements of ^{239}Pu in liver and skeleton (Poppellwell *et al.*, 1985, 1989) to be about 2 mBq kg^{-1} , indicating a $C_F:C_M$ of <0.03 .

A study of the placental transfer of ^{239}Pu in the baboon (two animals) in late gestation (5 months post conception total gestation 6 months) showed that at 7 days after intravenous injection of ^{239}Pu citrate, retention by each fetus (one per mother) was about 3-4% (Paquet *et al.*, 1998). Retention in the placenta accounted for 8-12% of injected activity. Concentrations of ^{239}Pu in fetal and maternal bone were similar, although concentrations in fetal liver and other soft tissues were considerably lower than corresponding values for maternal tissues. The overall $C_F:C_M$ ratio was about 1 and the $C_{Pl}:C_M$ ratio was about 4-5.

Data for rodents show lower levels of transfer of Pu to the fetus than for baboons. Concentrations of ^{238}Pu in the guinea pig fetus in late gestation were two orders of magnitude greater after administration one week earlier than after administration one month prior to conception.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (ICRP, 1993). For plutonium entering the circulation, the main sites of deposition are the liver and skeleton. Leggett and his colleagues have developed an actinide model, adopted by ICRP, which takes into account bone remodelling and recycling of elements from the skeleton and soft tissues to body fluids (Leggett and Eckerman 1984, Leggett 1985, 1992a, ICRP 1993). Movement of plutonium and other actinides within the skeleton is modelled, taking account of burial of initial surface deposits and transfer from surfaces and bone volume to the marrow. This model is taken to apply to female adults.

On the basis of the available data, the $C_F:C_M$ ratios adopted in this report for the calculation of dose coefficients for intakes of plutonium during pregnancy are 0.1 and 1 for the first and third trimesters with a progressive increase during the second trimester. A $C_F:C_M$ ratio of 0.03 is used for intakes prior to pregnancy. The concentration of plutonium in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 0.1$) and five times that in maternal tissues for intakes during pregnancy ($C_{Pl}:C_M = 5$).

The age-dependent model for plutonium used in *ICRP Publication 67* (ICRP, 1993) takes account of greater initial deposition in bone surfaces and greater bone turnover in infants and children. The distribution

of plutonium in the fetus is taken to be the same as the short-term distribution in the 3-month-old infant. For the offspring following birth, the model for the 3-month-old infant is applied.

Americium

Biokinetic Data

Measurements have been made of the transfer of americium (Am), to the embryo and fetus of mice, rats, guinea pigs and baboons. The results obtained show that levels of transfer are consistently lower than corresponding values for Pu.

A study of the placental transfer of ^{241}Am in the baboon (2 animals) in late gestation (5 months post conception) showed that at 7 days after intravenous injection of ^{241}Am citrate, retention by each fetus (one per mother) was about 0.3-0.4% (Paquet *et al.*, 1998). Retention in the placenta accounted for 2-3% of injected activity. Concentrations of ^{241}Am in fetal bone and soft tissues were an order of magnitude or more lower than corresponding values for maternal tissues. The overall $C_F:C_M$ ratio was about 0.1 and the $C_{Pl}:C_M$ was about 1.

Data for rodents show lower levels of transfer of Am to the fetus than for baboons. Concentrations of ^{241}Am in the guinea pig fetus in late gestation were two orders of magnitude greater after administration one week earlier than after administration one month prior to conception.

Models

The biokinetic model for the reference adult is that given in *ICRP Publication 67* (1995). For americium entering the circulation, as for plutonium, the main sites of deposition are the liver and skeleton. As discussed for plutonium, an actinide model is used which takes account of the redistribution of elements between and within tissues, particularly bone, and loss by excretion (ICRP, 1993). This model is taken to apply also to female adults.

On the basis of the available data, the $C_F:C_M$ ratio of 0.1 has been used for the calculation of dose coefficients for intakes of americium during pregnancy and a value of 0.01 for intakes prior to pregnancy. The concentration of americium in the placenta is taken to be a tenth of that in maternal tissues for intakes before pregnancy ($C_{Pl}:C_M = 0.1$) and twice that in maternal tissues for intakes during pregnancy ($C_{Pl}:C_M = 2$).

The age-dependent model for americium used in *ICRP Publication 67* (1993) takes account of greater initial deposition in bone surfaces and greater bone turnover in infants and children. The distribution of americium in the fetus is taken to be the same as the short-term distribution in the 3-month-old infant. For the offspring from birth, the model for the 3-month-old infant is applied.

References

- Aboul-Khair, S. A., Buchanan, T. J., Crooks, J. Turnbull, A. C. (1966) Structural and Functional Development of the Human Foetal Thyroid. *Clin. Sci.* **31** 415-424.
- Aboul-Khair S. A., Crooks J., Turnbull A. C. and Hytten F. E., (1964) The Physiological Changes in Thyroid Function During Pregnancy. *Clin. Sci.* **27** 195-207
- Beaton, G. H. (1974) Epidemiology of iron deficiency. In: Iron in Biochemistry and Medicine. (Eds. A. Jacobs and M. Worwood.) Academic Press, New York, pp 477-528.

- Bengtsson, L. G., Naversten, Y., Svensson, K. G. (1964) Maternal and infantile metabolism of caesium. In: Assessment of Radioactivity in Man, Volume II, pp 21-32. IAEA, Vienna.
- Berghout A., Endert E., Ross A., Hogerzeil H. V., Smits N. J. and Wiersinga W. M., (1994) Thyroid Function and Thyroid Size in Normal Pregnant Women Living in an Iodine Replete Area. *Clinical Endocrinology*, **41**,275-379.
- Berkovski V. (1999a) Radioiodine biokinetics in the mother and fetus. Part 1. Pregnant woman. In: Radiation and Thyroid Cancer. World Scientific Publishing. Publication No. EUR 18552 EN of the European Commission, pp. 319-325.
- Berkovski V. (1999b) Radioiodine biokinetics in the mother and fetus. Part 2. Fetus. In: Radiation and Thyroid Cancer. World Scientific Publishing. Publication No. EUR 18552 EN of the European Commission, pp. 327-332.
- Bertelli, L., Oliveira, C. A. N., Lipsztein, J. L., Wrenn, M E. (1992) A Case study of the transfer of ^{137}Cs to the human fetus and nursing infant. *Radiat. Prot. Dosim.* **41**, 131–136.
- Book, S.A., Goldman, M. (1975) Thyroidal radioiodine exposure of the fetus. *Health Physics* **29**, 874–877.
- Bothwell, T. H., Charlton, R. W., Cook, J. D., Finch, C. A. (1979) Iron nutrition. In: *Iron Metabolism in Man*, Blackwell Scientific Publications, Oxford.
- Dziewiatkowski, D. D. (1953) Sulphate-sulphur metabolism in the rat fetus as indicated by sulfur-35. *J. Exper. Med.* **98**, 119–128.
- Evans, T. C., Kretschmar, R. M., Hodges, R. E., Song, C. W. (1967) Radionuclide uptake studies of the human fetal thyroid. *Nucl. Med.*, **8**, 157.
- Fell, T.P., Harrison, J.D., Leggett, R.W. (2001) A model for the transfer of alkaline earth elements to the fetus. *Radiat. Prot. Dosim.* (in press)
- Fletcher, J., Suter, P. E. N. (1969) The transport of iron by the human placenta. *Clin. Sci.* **36**, 209–220.
- Galbraith, G. M. P, Galbraith, R. M., Faulk, W. P. (1980) Immunological studies of transferrin and transferrin receptors of human placental trophoblast. *Placenta* **1**, 32–46.
- Herbert, R. J. T., Hibbard, B. M., Sheppard, M. A. (1969) Metabolic behaviour and radiation dosimetry for $^{99\text{m}}\text{Tc}$ -albumin in pregnancy. *J. Nucl. Med.* **10**, 224–232.
- Hill, C. R. (1966) Polonium-210 content of human tissue in relation to dietary habits. *Science* **152**, 1261–1262.
- ICRP (1979) Limits for Intakes of Radionuclides by Workers. Publication 30, Part 1. Annals of the ICRP **2**, (3/4). Pergamon Press, Oxford.

- ICRP (1980) Limits for Intakes of Radionuclides by Workers. Publication 30, Part 2. *Annals of the ICRP* **4**, (3/4). Pergamon Press, Oxford.
- ICRP (1981) Limits for Intakes of Radionuclides by Workers. Publication 30, Part 3. *Annals of the ICRP* **6**, (2/3). Pergamon Press, Oxford.
- ICRP (1989) Age-dependent doses to members of the public from intake of radionuclides: Part 1. Publication 56. *Annals of the ICRP* **20**, (2). Pergamon Press, Oxford.
- ICRP (1993) Age-dependent Doses to Members of the Public from Intake of Radionuclides: Part 2 Ingestion Dose Coefficients. ICRP Publication 67. *Annals of the ICRP*, **23** (3/4) 13–18. Elsevier Science Ltd, Oxford.
- ICRP (1995a) Age-dependent doses to members of the public from intakes of radionuclides: Part 3, Ingestion dose coefficients, ICRP Publication 69. *Annals of the ICRP*, **25** (1). Elsevier Science Ltd, Oxford.
- ICRP (1995b) Basic anatomical and physiological data for use in radiological protection. *Annals of the ICRP*, **25**, (2). ICRP Publication 70. Elsevier, Oxford.
- ICRP (1995c) Age-dependent doses to members of the public from intakes of radionuclides: Part 4, Inhalation dose coefficients, ICRP Publication 71. *Annals of the ICRP*, **25** (3/4). Elsevier Science Ltd, Oxford.
- Iinuma, T. A., Yashiro, S., Ishihara, T., Uchiyama, M., Nagai, T., Yamagata, N. (1969) Estimation of internal dose in human fetus and newborn infants due to fallout caesium-137. In: *Radiation Biology of the Fetal and Juvenile Mammal*. Proc. 9th Ann. Hanford Biology Symp., Washington, May 1969 (ed. by M. R. Sikov, D. D. Mahlum) pp. 105-116. USAEC Div. Tech. Inf., Oak Ridge.
- Ishiwata, K., Ido, T., Kawashima, K. (1985) Placental transfer of positron-emitting radionuclides in metabolic substrates. *Int. J. Nucl. Med. Biol.* **12**, 33–36.
- Iyengar, G. V., Kollmer, W. E., Bowen, H. J. M. (1978) *The elemental composition of human tissues and body fluids*. Verlag Chemir, New York.
- Kalef-Ezra, J. A., Yasumura, S. (1997) Doses and risk estimates to the human conceptus due to internal prenatal exposure to radioactive caesium. *Rad. Prot. Dosim.* **69**(3), 205–210.
- Kaul, A., Nay, V., Rajewsky, B., Stahlhofen, W., Unnewehr, F. (1966) Distribution of caesium-137 in the human organism and in the human foetus. *Nature* **209**, 1310–1312.
- Kawamura, H., Tanaka, G-I. and Shiraishi, K. (1986) Distribution of Sr in the fetal skeleton. *Health Phys.* **50**, 159-162.
- Leggett, R. W. (1985) A model of the retention, translocation, and excretion of systemic plutonium. *Health Phys.*, **49**, 1115-1137.

- Leggett, R. W. (1992a) A retention-excretion model for americium in humans. *Health Phys.*, **62**, 288-310.
- Leggett, R.W. (1992b) A generic age-specific biokinetic model for calcium-like elements. *Radiat. Prot. Dosim.* **41**, 183-198.
- Leggett, R. W., Eckerman, K. F. (1984) A model for the age-dependent skeletal retention of plutonium. In: *Radiation-Risk-Protection* (A. Kaul, R. Neider, J. Pensko, F.-E. Stieve and H. Brunner, Eds), **1**, pp 454-457. Fachverband für Strahlenschutz e. V. Berlin.
- Leggett, R.W., Eckerman, K.F., Williams, L.R. (1982) Strontium-90 in bone: a case study in age-dependent dosimetric modelling. *Health Phys.* **43**, 307–322.
- Mays, C. W., Lloyd, R.D. (1966) ^{90}Sr and ^{89}Sr dose estimates for the fetus and infant. *Health Phys.* **12**, 1225–1236.
- Montherrat-Carret, L., Perrat-Mabilon, B., Barbey, E., Bouloc, R., Boivin, G., Michelet, A., Magloire, H. (1996) Chemical and X-ray analysis of fluoride, phosphorus, and calcium in human foetal blood and hard tissues. *Archs oral Biol.* **41**, 1169-1178.
- Moore, K. L., Persaud, T. V. N. (1998) Sixth edition. *The Developing Human*. W. B. Saunders Company, London.
- Muth, M., Rajewsky, B., Hantke, H.J., Aurand, K. (1960) The normal radium content and the Ra-226/Ca ratio of various foods, drinking water and different organs and tissues of the human body. *Health Phys.* **2**, 239–245.
- NCRP (1998) Radionuclide exposure of the embryo/fetus. NCRP Report No.128. Bethesda, Maryland.
- Paquet, F., Poncy, J-L., Ham, G., Prosser, S. L., Harrison, J. D. (1998) Transfer of Po, Np, Pu and Am to the primate fetus. *Radiat. Prot. Dosim.* **79**, 303-306.
- Popplewell, D. S., Ham, G. J., Johnson, T. E., Barry, S. F. (1985) Plutonium in autopsy tissues in Great Britain. *Health Phys.* **49**, 304–309.
- Popplewell, D. S., Ham, G. J., McCarthy, W. M., Morgan, M. (1989) Isotopic composition of plutonium in human tissue samples determined by mass spectrometry. *Radiat. Prot. Dosim.* **26**, 313–316
- Prosser, S. L., McCarthy, W. M., Lands, C. (1994) The plutonium content of human fetal tissue and implications for fetal dose. *Radiat. Prot. Dosim.* **55**, 1–5.
- Rajewsky, B., Belloch-Zimmermann, V., Lohr, E., Stahlhofen, W. (1965) Radium-226 in human embryonic tissue, relationship of activity to the stage of pregnancy, measurement of natural ^{226}Ra occurrence in the human placenta. *Health Phys.* **11**, 161–169.
- Richardson, R.B. (1992) Transfer of radiobismuth to the fetus in guinea-pigs. *Radiat. Prot. Dosim.* **41**, 169-172.

- Sastry, K. G. K., Reddy, A. R., Navaratmaun, A. (1976) Dosimetry in radioisotope placentography. *Indian J. Med. Res.* **64**, 1527–1536.
- Schlenker, R.A., Keane, A.T. (1987) Radium uptake in utero. In: *Age-related Factors in Radionuclide Metabolism and Dosimetry*. (ed. by G.B. Gerber, H. Metivier, H. Smith) pp. 339–346, Martinus Nijhoff, Dordecht.
- Sikov, M.R. (1961) The distribution of radiophosphorus in relation to prenatal or postnatal age in thrat. *Phys. Med. Biol.* **6**, 295-302.
- Sikov, M. R. (1987) Placental transfer of the actinides and related heavy elements. In: *Age-related Factors in Radionuclide Metabolism and Dosimetry* (ed. by G. B. Gerber, H. Métivier, H. Smith). pp.303-314 Martinus Nijhoff, Dordrecht.
- Sikov, M. R., Hui, T. E. (1996) Contribution of maternal radionuclide burden to prenatal radiation dose. US Nuclear Regulatory Commission. NUREG/CR-5631; PNL-7445, Rev 2.
- Stieve, F. E., Zemlin, G., Griessl, I. (1985) Placental transfer of iodine and iodine compounds. (Gesellschaft für Strahlen- und Umweltforschung, mbH, Munchen, Neuherberg, Germany. Inst. Fur Strahlenschutz. Contract FE77552.
- Tolstyckh, E.I., Degteva, M.O., Kozheurov, V.P. and Burmistrov, D.S. (1998) Strontium transfer from maternal skeleton to the fetus estimated on the basis of the Techa River data. *Radiat. Prot. Dosim.*, **79**, 307-310.
- Weiner, R. E., McInroy, J. F., Wegst, A. V. (1985) Determination of environmental levels of Pu, Am, U and Th in human fetal tissue. *Health Physics.* **49**, 141.
- West, J.B., Holland, R.A.B., Dollery, C.T., et al. (1962) Interpretation of radioactive gas clearance rates from the lung. *J. Appl. Physiol.* **17**, 14-20.
- Widdowson, E.M., Southgate, D.A.T., Hey, E. (1988) Fetal Growth and Body Composition. In: *Perinatal Nutrition, Part1*. (Ed. B.S. Lindblad) pp.3-14.
- Wilson, A. R., Spiers, F. W. (1967) Fallout caesium-137 and potassium in newborn infants. *Nature* **215**, 470–474.
- Wrenn, M. E. (1979) In: *Actinides in animals and man*. RD Press, Salt Lake City. p. 207.

**APPENDIX B: COMPARISON OF DOSE COEFFICIENTS TO THE OFFSPRING WITH
DOSES COEFFICIENTS FOR WORKERS TAKEN FROM ICRP PUBLICATION 68.**

This Appendix compares both the *in utero* dose coefficient and the total dose coefficient for the offspring (ie. the sum of the *in utero* and postnatal doses) with the reference dose coefficient for the worker taken from ICRP Publication 68 (ICRP, 1994a). The comparison is made using a simple ratio, expressed in *per cent*, and all intake scenarios given in the tables of doses are considered.

A guide to the importance of each radionuclide and each intake scenario is given by a system of markers, *, **, and ***. Details are given in section 7 of the main report, Table 3 of the main report is repeated below for convenience.

TABLE. Categories for marks used in Appendix B

Category	$e_{\text{offspring}}/e_{\text{worker}}$	Ratio in <i>per cent</i> (for comparison with Appendix B)	Mark
1	< 1/20	< 5%	Not marked
2	1/20 - 1/6	5 - 16.7%	*
3	1/6 - 1	16.8 - 100%	**
4	> 1	> 100%	***

$e_{\text{offspring}}$ is the total dose coefficient for the offspring, ie. the sum of the *in utero* and postnatal doses and e_{worker} is the dose coefficient for workers taken from ICRP Publication 68.

The first line of each table gives the radionuclide, the type of intake, and the dose coefficient for the worker. F, M and S indicate inhalation of a 5µm AMAD aerosol of absorption Type F, M and S respectively, I indicates ingestion, and V indicates inhalation of a vapour. The codes in the first column indicating the intake scenario are explained in section 6 and are repeated here for convenience. Acute: 2½ years before conception (-130); 6 months before conception (-26); at conception (concep); and after 5, 10, 15, 25 and 35 weeks of gestation. Chronic: for 5 years before conception (-260); for 1 year before conception (-52); and throughout the period of gestation (during).

H-3 V 1.8E-11 Inhalation of tritiated water vapour					
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	3.4E-19	0.00	3.4E-19	0.00	
-26	1.2E-13	0.67	1.2E-13	0.67	
concep	2.3E-11	127.78	2.3E-11	127.79	***
5	2.6E-11	144.44	2.6E-11	144.48	***
10	3.6E-11	200.00	3.6E-11	200.06	***
15	3.4E-11	188.89	3.4E-11	188.99	***
25	3.2E-11	177.78	3.2E-11	178.24	***
35	2.3E-11	127.78	2.6E-11	142.78	***
-260	2.5E-13	1.39	2.5E-13	1.39	
-52	1.2E-12	6.67	1.2E-12	6.67 *	
during	3.0E-11	166.67	3.1E-11	170.22 ***	

H-3 V 1.8E-15 Inhalation of elemental hydrogen vapour					
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	3.4E-23	0.00	3.4E-23	0.00	
-26	1.2E-17	0.67	1.2E-17	0.67	
concep	2.3E-15	127.78	2.3E-15	127.78	***
5	2.6E-15	144.44	2.6E-15	144.44	***
10	3.6E-15	200.00	3.6E-15	200.00	***
15	3.4E-15	188.89	3.4E-15	188.89	***
25	3.2E-15	177.78	3.2E-15	177.78	***
35	2.3E-15	127.78	2.6E-15	144.44	***
-260	2.5E-17	1.39	2.5E-17	1.39	
-52	1.2E-16	6.67	1.2E-16	6.67 *	
during	3.0E-15	166.67	3.1E-15	172.22 ***	

H-3 V 1.8E-13 Inhalation of tritiated methane					
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	3.4E-21	0.00	3.4E-21	0.00	
-26	1.2E-15	0.67	1.2E-15	0.67	
concep	2.3E-13	127.78	2.3E-13	127.78	***
5	2.6E-13	144.44	2.6E-13	144.44	***
10	3.6E-13	200.00	3.6E-13	200.00	***
15	3.4E-13	188.89	3.4E-13	188.89	***
25	3.2E-13	177.78	3.2E-13	177.78	***
35	2.3E-13	127.78	2.6E-13	144.44	***
-260	2.5E-15	1.39	2.5E-15	1.39	
-52	1.2E-14	6.67	1.2E-14	6.67 *	
during	3.0E-13	166.67	3.1E-13	172.22 ***	

H-3 I 1.8E-11 Ingestion of tritiated water

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	3.4E-19	0.00	3.4E-19	0.00
-26	1.2E-13	0.67	1.2E-13	0.67
concep	2.3E-11	127.78	2.3E-11	127.79 ***
5	2.6E-11	144.44	2.6E-11	144.48 ***
10	3.6E-11	200.00	3.6E-11	200.06 ***
15	3.4E-11	188.89	3.4E-11	188.99 ***
25	3.2E-11	177.78	3.2E-11	178.24 ***
35	2.3E-11	127.78	2.6E-11	142.78 ***
-260	2.5E-13	1.39	2.5E-13	1.39
-52	1.2E-12	6.67	1.2E-12	6.67 *
during	3.0E-11	166.67	3.1E-11	170.22 ***

H-3 V 4.1E-11 Inhalation of organically bound tritium vapour

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	5.6E-18	0.00	5.6E-18	0.00
-26	2.0E-12	4.88	2.0E-12	4.89
concep	5.8E-11	141.46	5.8E-11	141.70 ***
5	6.7E-11	163.41	6.7E-11	163.85 ***
10	7.7E-11	187.80	7.7E-11	188.61 ***
15	7.4E-11	180.49	7.5E-11	182.00 ***
25	6.2E-11	151.22	6.4E-11	156.34 ***
35	2.9E-11	70.73	3.9E-11	94.15 **
-260	1.6E-12	3.90	1.6E-12	3.91
-52	7.9E-12	19.27	7.9E-12	19.30 **
during	6.0E-11	146.34	6.3E-11	153.17 ***

H-3 I 4.2E-11 Ingestion of organically bound tritium

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	5.6E-18	0.00	5.6E-18	0.00
-26	1.9E-12	4.52	1.9E-12	4.53
concep	5.8E-11	138.10	5.8E-11	138.33 ***
5	6.6E-11	157.14	6.6E-11	157.57 ***
10	7.6E-11	180.95	7.6E-11	181.74 ***
15	7.3E-11	173.81	7.4E-11	175.26 ***
25	6.2E-11	147.62	6.4E-11	152.62 ***
35	2.9E-11	69.05	3.9E-11	91.67 **
-260	1.6E-12	3.81	1.6E-12	3.82
-52	7.9E-12	18.81	7.9E-12	18.85 **
during	6.0E-11	142.86	6.3E-11	149.29 ***

C-14 V 6.5E-12 Inhalation of carbon dioxide					
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	9.2E-19	0.00	9.2E-19	0.00	
-26	2.9E-13	4.46	2.9E-13	4.46	
concep	7.5E-12	115.38	7.5E-12	115.39	***
5	7.4E-12	113.85	7.4E-12	113.85	***
10	7.2E-12	110.77	7.2E-12	110.78	***
15	6.9E-12	106.15	6.9E-12	106.17	***
25	5.7E-12	87.69	5.7E-12	87.75	**
35	2.5E-12	38.46	2.5E-12	38.66	**
-260	2.2E-13	3.38	2.2E-13	3.38	
-52	1.1E-12	16.92	1.1E-12	16.92	**
during	5.8E-12	89.23	5.8E-12	89.30	**

C-14 V 8.0E-13 Inhalation of carbon monoxide					
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	0.0E+00	0.00	0.0E+00	0.00	
-26	0.0E+00	0.00	0.0E+00	0.00	
concep	2.4E-12	300.00	2.4E-12	300.00	***
5	2.4E-12	300.00	2.4E-12	300.00	***
10	2.5E-12	312.50	2.5E-12	312.50	***
15	2.3E-12	287.50	2.3E-12	287.50	***
25	2.3E-12	287.50	2.3E-12	287.50	***
35	2.2E-12	275.00	2.2E-12	275.00	***
-260	2.7E-16	0.03	2.7E-16	0.03	
-52	1.3E-15	0.16	1.3E-15	0.16	
during	2.3E-12	287.50	2.3E-12	287.73	***

C-14 V 2.9E-12 Inhalation of carbon labelled methane					
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	5.5E-19	0.00	5.5E-19	0.00	
-26	1.7E-13	5.86	1.7E-13	5.87	*
concep	4.1E-12	141.38	4.1E-12	141.56	***
5	4.6E-12	158.62	4.6E-12	158.94	***
10	5.0E-12	172.41	5.0E-12	173.00	***
15	4.8E-12	165.52	4.8E-12	166.62	***
25	3.9E-12	134.48	4.0E-12	138.28	***
35	1.5E-12	51.72	1.9E-12	64.14	**
-260	1.3E-13	4.48	1.3E-13	4.49	
-52	6.5E-13	22.41	6.5E-13	22.44	**
during	3.8E-12	131.03	3.9E-12	134.83	***

C-14 V 5.8E-10 Inhalation of vapour (organic compounds)				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.1E-16	0.00	1.1E-16	0.00
-26	3.4E-11	5.86	3.4E-11	5.88 *
concep	8.2E-10	141.38	8.2E-10	141.72 ***
5	9.2E-10	158.62	9.2E-10	159.26 ***
10	9.9E-10	170.69	1.0E-09	171.86 ***
15	9.5E-10	163.79	9.6E-10	165.86 ***
25	7.7E-10	132.76	8.1E-10	140.00 ***
35	2.9E-10	50.00	4.3E-10	74.14 **
-260	2.6E-11	4.48	2.6E-11	4.49
-52	1.3E-10	22.41	1.3E-10	22.47 **
during	7.6E-10	131.03	8.0E-10	138.45 ***

C-14 I 5.8E-10 Ingestion of labelled organic compounds				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.1E-16	0.00	1.1E-16	0.00
-26	3.4E-11	5.86	3.4E-11	5.88 *
concep	8.1E-10	139.66	8.1E-10	140.00 ***
5	9.1E-10	156.90	9.1E-10	157.53 ***
10	9.8E-10	168.97	9.9E-10	170.12 ***
15	9.4E-10	162.07	9.5E-10	164.14 ***
25	7.6E-10	131.03	8.0E-10	138.10 ***
35	2.9E-10	50.00	4.3E-10	74.14 **
-260	2.6E-11	4.48	2.6E-11	4.49
-52	1.3E-10	22.41	1.3E-10	22.47 **
during	7.6E-10	131.03	8.0E-10	138.45 ***

Na-22 F 2.0E-09				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	7.4E-12	0.37	7.6E-12	0.38
-26	3.5E-11	1.75	3.6E-11	1.80
concep	1.7E-09	85.00	1.7E-09	85.08 **
5	1.7E-09	85.00	1.7E-09	85.08 **
10	1.7E-09	85.00	1.7E-09	85.09 **
15	1.8E-09	90.00	1.8E-09	90.10 **
25	1.8E-09	90.00	1.8E-09	90.19 **
35	1.4E-09	70.00	1.6E-09	80.50 **
-260	2.6E-11	1.30	2.6E-11	1.32
-52	1.0E-10	5.00	1.0E-10	5.06 *
during	1.7E-09	85.00	1.8E-09	87.55 **

Na-22 I 3.2E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.5E-11	0.47	1.5E-11	0.48
-26	7.2E-11	2.25	7.4E-11	2.32
concep	3.6E-09	112.50	3.6E-09	112.60 ***
5	3.4E-09	106.25	3.4E-09	106.36 ***
10	3.6E-09	112.50	3.6E-09	112.62 ***
15	3.6E-09	112.50	3.6E-09	112.63 ***
25	3.7E-09	115.63	3.7E-09	115.87 ***
35	2.9E-09	90.63	3.3E-09	104.38 ***
-260	5.4E-11	1.69	5.5E-11	1.71
-52	2.1E-10	6.56	2.1E-10	6.63 *
during	3.5E-09	109.38	3.6E-09	112.81 ***

Na-24 F 5.3E-10

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	1.8E-10	33.96	1.8E-10	33.96 **
5	1.7E-10	32.08	1.7E-10	32.08 **
10	1.9E-10	35.85	1.9E-10	35.85 **
15	1.9E-10	35.85	1.9E-10	35.85 **
25	2.0E-10	37.74	2.0E-10	37.74 **
35	2.0E-10	37.74	2.0E-10	37.74 **
-260	8.4E-14	0.02	8.4E-14	0.02
-52	4.2E-13	0.08	4.2E-13	0.08
during	1.9E-10	35.85	1.9E-10	35.91 **

Na-24 I 4.3E-10

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	3.8E-10	88.37	3.8E-10	88.37 **
5	3.6E-10	83.72	3.6E-10	83.72 **
10	3.9E-10	90.70	3.9E-10	90.70 **
15	3.9E-10	90.70	3.9E-10	90.70 **
25	4.1E-10	95.35	4.1E-10	95.35 **
35	4.2E-10	97.67	4.2E-10	97.67 **
-260	1.7E-13	0.04	1.7E-13	0.04
-52	8.7E-13	0.20	8.7E-13	0.20
during	3.9E-10	90.70	3.9E-10	90.86 **

Mg-28 F 1.1E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	3.1E-10	28.18	3.1E-10	28.18 **
5	3.0E-10	27.27	3.0E-10	27.27 **
10	3.6E-10	32.73	3.6E-10	32.73 **
15	3.7E-10	33.64	3.7E-10	33.64 **
25	3.8E-10	34.55	3.8E-10	34.55 **
35	3.8E-10	34.55	3.8E-10	34.55 **
-260	1.6E-13	0.01	1.6E-13	0.01
-52	8.1E-13	0.07	8.1E-13	0.07
during	3.6E-10	32.73	3.6E-10	32.85 **

Mg-28 M 1.7E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	3.0E-10	17.65	3.0E-10	17.65 **
5	2.9E-10	17.06	2.9E-10	17.06 **
10	3.2E-10	18.82	3.2E-10	18.82 **
15	3.2E-10	18.82	3.2E-10	18.82 **
25	3.0E-10	17.65	3.0E-10	17.65 **
35	2.8E-10	16.47	2.8E-10	16.47 *
-260	1.4E-13	0.01	1.4E-13	0.01
-52	7.1E-13	0.04	7.1E-13	0.04
during	3.0E-10	17.65	3.0E-10	17.69 **

Mg-28 I 2.2E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	7.1E-10	32.27	7.1E-10	32.27 **
5	7.0E-10	31.82	7.0E-10	31.82 **
10	7.7E-10	35.00	7.7E-10	35.00 **
15	7.5E-10	34.09	7.5E-10	34.09 **
25	7.0E-10	31.82	7.0E-10	31.82 **
35	6.3E-10	28.64	6.3E-10	28.64 **
-260	3.3E-13	0.02	3.3E-13	0.02
-52	1.6E-12	0.07	1.6E-12	0.07
during	7.0E-10	31.82	7.0E-10	31.89 **

P-32 F 1.1E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		0.0E+00	0.00	3.3E-35	0.00
-26		3.0E-15	0.00	3.0E-15	0.00
c		9.5E-10	86.36	9.5E-10	86.37 **
5		3.9E-09	354.55	3.9E-09	354.55 ***
10		1.4E-08	1272.73	1.4E-08	1272.78 ***
15		1.5E-08	1363.64	1.5E-08	1363.90 ***
25		1.7E-08	1545.45	1.7E-08	1554.09 ***
35		1.4E-08	1272.73	1.9E-08	1690.91 ***
-260		2.8E-12	0.25	2.8E-12	0.25
-52		1.4E-11	1.27	1.4E-11	1.27
c		1.3E-08	1181.82	1.4E-08	1281.82 ***

P-32 M 2.9E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		0.0E+00	0.00	3.0E-35	0.00
-26		3.1E-15	0.00	3.1E-15	0.00
c		7.9E-10	27.24	7.9E-10	27.24 **
5		3.2E-09	110.34	3.2E-09	110.35 ***
10		1.1E-08	379.31	1.1E-08	379.33 ***
15		1.2E-08	413.79	1.2E-08	413.88 ***
25		1.4E-08	482.76	1.4E-08	485.62 ***
35		1.1E-08	379.31	1.5E-08	506.90 ***
-260		2.4E-12	0.08	2.4E-12	0.08
-52		1.2E-11	0.41	1.2E-11	0.41
c		1.0E-08	344.83	1.1E-08	375.86 ***

P-32 I 2.4E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		0.0E+00	0.00	5.9E-35	0.00
-26		5.5E-15	0.00	5.5E-15	0.00
c		1.7E-09	70.83	1.7E-09	70.83 **
5		7.0E-09	291.67	7.0E-09	291.67 ***
10		2.5E-08	1041.67	2.5E-08	1041.71 ***
15		2.7E-08	1125.00	2.7E-08	1125.23 ***
25		3.1E-08	1291.67	3.1E-08	1298.75 ***
35		2.6E-08	1083.33	3.4E-08	1429.17 ***
-260		5.1E-12	0.21	5.1E-12	0.21
-52		2.6E-11	1.08	2.6E-11	1.08
c		2.3E-08	958.33	2.5E-08	1041.67 ***

P-33 F 1.4E-10					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.9E-22	0.00	1.9E-22	0.00
-26		1.2E-13	0.09	1.2E-13	0.09
c		4.6E-10	328.57	4.6E-10	328.78 ***
5		1.3E-09	928.57	1.3E-09	929.11 ***
10		3.0E-09	2142.86	3.0E-09	2144.29 ***
15		3.2E-09	2285.71	3.2E-09	2289.50 ***
25		3.2E-09	2285.71	3.2E-09	2313.57 ***
35		2.0E-09	1428.57	2.4E-09	1728.57 ***
-260		8.7E-13	0.62	8.7E-13	0.62
-52		4.3E-12	3.07	4.3E-12	3.07
c		2.5E-09	1785.71	2.6E-09	1857.14 ***

P-33 M 1.3E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.7E-22	0.00	1.7E-22	0.00
-26		1.1E-13	0.01	1.1E-13	0.01
c		4.0E-10	30.77	4.0E-10	30.79 **
5		1.1E-09	84.62	1.1E-09	84.67 **
10		2.5E-09	192.31	2.5E-09	192.45 ***
15		2.6E-09	200.00	2.6E-09	200.36 ***
25		2.6E-09	200.00	2.6E-09	202.62 ***
35		1.6E-09	123.08	1.9E-09	150.00 ***
-260		7.5E-13	0.06	7.5E-13	0.06
-52		3.8E-12	0.29	3.8E-12	0.29
c		2.1E-09	161.54	2.2E-09	168.00 ***

P-33 I 2.4E-10					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		3.4E-22	0.00	3.4E-22	0.00
-26		2.1E-13	0.09	2.1E-13	0.09
c		8.5E-10	354.17	8.5E-10	354.38 ***
5		2.4E-09	1000.00	2.4E-09	1000.58 ***
10		5.4E-09	2250.00	5.4E-09	2251.54 ***
15		5.8E-09	2416.67	5.8E-09	2420.71 ***
25		5.9E-09	2458.33	6.0E-09	2487.92 ***
35		3.6E-09	1500.00	4.4E-09	1820.83 ***
-260		1.6E-12	0.67	1.6E-12	0.67
-52		7.9E-12	3.29	7.9E-12	3.29
c		4.6E-09	1916.67	4.8E-09	1995.83 ***

S-35 V 1.2E-10 Inhalation of sulphur dioxide
Exposure scenario

(weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.5E-14	0.02	2.7E-14	0.02
-26	1.0E-11	8.33	1.1E-11	8.91 *
concep	1.1E-10	91.67	1.2E-10	96.83 **
5	1.3E-10	108.33	1.4E-10	115.25 ***
10	1.5E-10	125.00	1.6E-10	134.17 ***
15	1.4E-10	116.67	1.5E-10	129.17 ***
25	1.2E-10	100.00	1.5E-10	125.00 ***
35	5.5E-11	45.83	1.8E-10	145.83 ***
-260	3.5E-12	2.92	3.7E-12	3.09
-52	1.7E-11	14.17	1.8E-11	14.98 *
during	1.1E-10	91.67	1.5E-10	124.17 ***

S-35 F 8.0E-11
Exposure scenario

(weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.4E-14	0.02	1.5E-14	0.02
-26	6.1E-12	7.63	6.5E-12	8.13 *
concep	6.5E-11	81.25	6.9E-11	85.88 **
5	7.5E-11	93.75	8.0E-11	99.88 **
10	8.9E-11	111.25	9.6E-11	119.50 ***
15	8.3E-11	103.75	9.2E-11	114.75 ***
25	6.8E-11	85.00	8.6E-11	107.50 ***
35	3.2E-11	40.00	1.0E-10	126.25 ***
-260	2.1E-12	2.63	2.2E-12	2.78
-52	9.9E-12	12.38	1.0E-11	13.10 *
during	6.7E-11	83.75	9.0E-11	112.50 ***

S-35 M 1.1E-09
Exposure scenario

(weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.3E-14	0.00	1.4E-14	0.00
-26	5.5E-12	0.50	5.9E-12	0.53
concep	5.6E-11	5.09	5.9E-11	5.39 *
5	6.4E-11	5.82	6.8E-11	6.22 *
10	7.5E-11	6.82	8.1E-11	7.35 *
15	7.0E-11	6.36	7.8E-11	7.08 *
25	5.6E-11	5.09	7.2E-11	6.55 *
35	2.6E-11	2.36	8.3E-11	7.55 *
-260	1.8E-12	0.16	1.9E-12	0.17
-52	8.8E-12	0.80	9.3E-12	0.85
during	5.6E-11	5.09	7.5E-11	6.82 *

S-35 I 1.4E-10 Ingestion (inorganic compounds)				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.6E-14	0.02	2.8E-14	0.02
-26	1.1E-11	7.86	1.2E-11	8.38 *
concep	1.2E-10	85.71	1.3E-10	90.50 **
5	1.4E-10	100.00	1.5E-10	106.36 ***
10	1.6E-10	114.29	1.7E-10	122.86 ***
15	1.5E-10	107.14	1.7E-10	118.57 ***
25	1.2E-10	85.71	1.5E-10	108.57 ***
35	5.8E-11	41.43	1.9E-10	134.29 ***
-260	3.8E-12	2.71	4.0E-12	2.87
-52	1.8E-11	12.86	1.9E-11	13.64 *
during	1.2E-10	85.71	1.6E-10	115.71 ***

S-35 I 1.9E-10 Ingestion (elemental sulphur)				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	3.3E-15	0.00	3.5E-15	0.00
-26	1.4E-12	0.74	1.5E-12	0.79
concep	1.5E-11	7.89	1.6E-11	8.42 *
5	1.7E-11	8.95	1.8E-11	9.47 *
10	2.0E-11	10.53	2.1E-11	11.05 *
15	1.9E-11	10.00	2.1E-11	11.05 *
25	1.5E-11	7.89	1.9E-11	10.00 *
35	7.3E-12	3.84	2.3E-11	12.11 *
-260	4.7E-13	0.25	5.0E-13	0.26
-52	2.3E-12	1.21	2.4E-12	1.26
during	1.5E-11	7.89	2.0E-11	10.53 *

S-35 V 7.7E-10 Inhalation of carbon disulphide				
Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	6.1E-15	0.00	6.3E-15	0.00
-26	7.4E-11	9.61	7.6E-11	9.86 *
concep	1.1E-09	142.86	1.1E-09	148.05 ***
5	1.3E-09	168.83	1.4E-09	176.88 ***
10	1.5E-09	194.81	1.6E-09	207.53 ***
15	1.4E-09	181.82	1.6E-09	201.30 ***
25	1.0E-09	129.87	1.4E-09	179.22 ***
35	3.5E-10	45.45	1.3E-09	166.23 ***
-260	3.3E-11	4.29	3.4E-11	4.39
-52	1.6E-10	20.78	1.6E-10	21.32 **
during	1.1E-09	142.86	1.4E-09	187.01 ***

S-35 I 7.7E-10 Ingestion of organic sulphur

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	6.9E-15	0.00	7.1E-15	0.00
-26	8.3E-11	10.78	8.5E-11	11.05 *
concep	1.3E-09	168.83	1.3E-09	174.68 ***
5	1.5E-09	194.81	1.6E-09	203.90 ***
10	1.6E-09	207.79	1.7E-09	222.08 ***
15	1.5E-09	194.81	1.7E-09	216.88 ***
25	1.2E-09	155.84	1.6E-09	210.39 ***
35	4.0E-10	51.95	1.4E-09	181.82 ***
-260	3.7E-11	4.81	3.8E-11	4.93
-52	1.9E-10	24.68	1.9E-10	25.29 **
during	1.2E-09	155.84	1.6E-09	206.49 ***

K-42 F 2.0E-10

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	1.3E-10	65.00	1.3E-10	65.00 **
5	1.3E-10	65.00	1.3E-10	65.00 **
10	1.0E-10	50.00	1.0E-10	50.00 **
15	1.1E-10	55.00	1.1E-10	55.00 **
25	1.1E-10	55.00	1.1E-10	55.00 **
35	1.1E-10	55.00	1.1E-10	55.00 **
-260	5.3E-14	0.03	5.3E-14	0.03
-52	2.6E-13	0.13	2.6E-13	0.13
during	1.1E-10	55.00	1.1E-10	55.18 **

K-42 I 4.3E-10

Exposure scenario (weeks)	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	2.6E-10	60.47	2.6E-10	60.47 **
5	2.6E-10	60.47	2.6E-10	60.47 **
10	2.1E-10	48.84	2.1E-10	48.84 **
15	2.2E-10	51.16	2.2E-10	51.16 **
25	2.2E-10	51.16	2.2E-10	51.16 **
35	2.3E-10	53.49	2.3E-10	53.49 **
-260	1.1E-13	0.03	1.1E-13	0.03
-52	5.5E-13	0.13	5.5E-13	0.13
during	2.3E-10	53.49	2.3E-10	53.66 **

K-43 F 2.6E-10

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	1.1E-10	42.31	1.1E-10	42.31 **
5	1.1E-10	42.31	1.1E-10	42.31 **
10	1.0E-10	38.46	1.0E-10	38.46 **
15	1.0E-10	38.46	1.0E-10	38.46 **
25	1.0E-10	38.46	1.0E-10	38.46 **
35	1.0E-10	38.46	1.0E-10	38.46 **
-260	8.5E-14	0.03	8.5E-14	0.03
-52	4.2E-13	0.16	4.2E-13	0.16
during	1.0E-10	38.46	1.0E-10	38.61 **

K-43 I 2.5E-10

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	0.0E+00	0.00	0.0E+00	0.00
concep	2.4E-10	96.00	2.4E-10	96.00 **
5	2.3E-10	92.00	2.3E-10	92.00 **
10	2.1E-10	84.00	2.1E-10	84.00 **
15	2.1E-10	84.00	2.1E-10	84.00 **
25	2.1E-10	84.00	2.1E-10	84.00 **
35	2.1E-10	84.00	2.1E-10	84.00 **
-260	1.8E-13	0.07	1.8E-13	0.07
-52	8.8E-13	0.35	8.8E-13	0.35
during	2.1E-10	84.00	2.1E-10	84.32 **

Ca-45 M 2.3E-09

Exposure scenario
(weeks)*

	e(in utero)	% of e	e(offspring)	% of e
-130	8.8E-13	0.04	1.0E-12	0.04
-26	8.3E-11	3.61	9.1E-11	3.93
concep	4.6E-10	20.00	4.9E-10	21.39 **
5	9.0E-10	39.13	9.4E-10	41.09 **
10	4.0E-09	173.91	4.1E-09	177.39 ***
15	5.5E-09	239.13	5.7E-09	247.39 ***
25	5.4E-09	234.78	6.1E-09	265.65 ***
35	2.1E-09	91.30	4.2E-09	182.61 ***
-260	2.7E-11	1.17	2.9E-11	1.27
-52	1.3E-10	5.65	1.4E-10	6.09 *
during	3.7E-09	160.87	4.4E-09	189.57 ***

Ca-45 I 7.6E-10					
Exposure scenario	e(in utero) % of e		e(offspring) % of e		
(weeks)*					
-130	1.4E-12	0.18	1.6E-12	0.21	
-26	8.7E-11	11.45	9.5E-11	12.57	*
concep	4.4E-10	57.89	4.7E-10	61.97	**
5	1.1E-09	144.74	1.1E-09	150.39	***
10	7.3E-09	960.53	7.4E-09	972.89	***
15	1.1E-08	1447.37	1.1E-08	1485.53	***
25	1.1E-08	1447.37	1.2E-08	1631.58	***
35	4.5E-09	592.11	9.0E-09	1184.21	***
-260	2.7E-11	3.55	3.0E-11	3.89	
-52	1.2E-10	15.79	1.3E-10	17.24	**
during	7.4E-09	973.68	8.7E-09	1144.74	***

Ca-47 M 2.1E-09					
Exposure scenario	e(in utero) % of e		e(offspring) % of e		
(weeks)*					
-130	0.0E+00	0.00	0.0E+00	0.00	
-26	3.0E-23	0.00	3.0E-23	0.00	
concep	2.7E-10	12.86	2.7E-10	12.86	*
5	2.9E-10	13.81	2.9E-10	13.81	*
10	3.8E-09	180.95	3.8E-09	180.95	***
15	4.4E-09	209.52	4.4E-09	209.52	***
25	4.5E-09	214.29	4.5E-09	214.29	***
35	4.7E-09	223.81	4.8E-09	227.24	***
-260	4.8E-13	0.02	4.8E-13	0.02	
-52	2.4E-12	0.11	2.4E-12	0.11	
during	3.5E-09	166.67	3.5E-09	168.76	***

Ca-47 I 1.6E-09					
Exposure scenario	e(in utero) % of e		e(offspring) % of e		
(weeks)*					
-130	0.0E+00	0.00	0.0E+00	0.00	
-26	4.8E-23	0.00	4.8E-23	0.00	
concep	6.0E-10	37.50	6.0E-10	37.50	**
5	6.5E-10	40.63	6.5E-10	40.63	**
10	8.0E-09	500.00	8.0E-09	500.00	***
15	9.5E-09	593.75	9.5E-09	593.75	***
25	1.0E-08	625.00	1.0E-08	625.00	***
35	1.0E-08	625.00	1.0E-08	635.00	***
-260	9.5E-13	0.06	9.5E-13	0.06	
-52	4.7E-12	0.29	4.7E-12	0.29	
during	7.6E-09	475.00	7.7E-09	481.12	***

Fe-55 F 9.2E-10

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	5.9E-11	6.41	1.2E-10	13.26 *
-26	1.2E-10	13.04	2.4E-10	26.09 **
concep	1.4E-10	15.22	2.9E-10	31.52 **
5	1.3E-10	14.13	2.8E-10	30.43 **
10	1.2E-10	13.04	2.8E-10	30.43 **
15	1.0E-10	10.87	2.6E-10	28.26 **
25	6.4E-11	6.96	2.5E-10	27.61 **
35	1.6E-11	1.74	2.4E-10	25.65 **
-260	6.6E-11	7.17	1.4E-10	14.78 *
-52	1.2E-10	13.04	2.4E-10	26.09 **
during	7.9E-11	8.59	2.4E-10	25.98 **

Fe-55 M 3.3E-10

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.0E-11	6.06	4.1E-11	12.42 *
-26	3.8E-11	11.52	7.9E-11	23.94 **
concep	4.0E-11	12.12	8.6E-11	26.06 **
5	3.7E-11	11.21	8.4E-11	25.45 **
10	3.3E-11	10.00	8.1E-11	24.55 **
15	2.7E-11	8.18	7.5E-11	22.73 **
25	1.5E-11	4.55	6.3E-11	19.09 **
35	3.1E-12	0.94	4.7E-11	14.27 *
-260	2.2E-11	6.67	4.6E-11	13.94 *
-52	3.8E-11	11.52	7.9E-11	23.94 **
during	2.2E-11	6.67	6.9E-11	20.91 **

Fe-55 I 3.3E-10

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.0E-11	6.06	4.1E-11	12.42 *
-26	3.9E-11	11.82	8.0E-11	24.24 **
concep	4.6E-11	13.94	9.5E-11	28.79 **
5	4.4E-11	13.33	9.4E-11	28.48 **
10	4.0E-11	12.12	9.2E-11	27.88 **
15	4.7E-11	14.24	1.2E-10	37.27 **
25	5.5E-11	16.67	2.3E-10	68.18 **
35	1.7E-11	5.15	2.5E-10	74.85 **
-260	2.2E-11	6.67	4.6E-11	13.94 *
-52	3.9E-11	11.82	8.0E-11	24.24 **
during	2.6E-11	7.88	8.1E-11	24.55 **

Fe-59 F 3.0E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.3E-15	0.00	1.3E-15	0.00
-26	1.3E-10	4.33	1.3E-10	4.37
concep	2.5E-09	83.33	2.5E-09	84.00 **
5	2.6E-09	86.67	2.6E-09	87.83 **
10	2.7E-09	90.00	2.8E-09	92.00 **
15	2.7E-09	90.00	2.8E-09	93.67 **
25	2.5E-09	83.33	2.9E-09	95.33 **
35	1.0E-09	33.33	2.1E-09	70.00 **
-260	8.4E-11	2.80	8.5E-11	2.82
-52	4.2E-10	14.00	4.2E-10	14.12 *
during	2.2E-09	73.33	2.5E-09	83.67 **

Fe-59 M 3.2E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	4.5E-16	0.00	4.5E-16	0.00
-26	4.3E-11	1.34	4.3E-11	1.36
concep	9.0E-10	28.13	9.1E-10	28.33 **
5	9.3E-10	29.06	9.4E-10	29.41 **
10	9.3E-10	29.06	9.5E-10	29.66 **
15	9.1E-10	28.44	9.4E-10	29.44 **
25	7.5E-10	23.44	8.4E-10	26.25 **
35	3.2E-10	10.00	5.5E-10	17.19 **
-260	2.5E-11	0.78	2.5E-11	0.79
-52	1.2E-10	3.75	1.2E-10	3.78
during	7.5E-10	23.44	8.3E-10	26.00 **

Fe-59 I 1.8E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	4.4E-16	0.00	4.4E-16	0.00
-26	4.5E-11	2.50	4.5E-11	2.52
concep	1.4E-09	77.78	1.4E-09	78.15 **
5	1.4E-09	77.78	1.4E-09	78.44 **
10	1.4E-09	77.78	1.4E-09	78.89 **
15	1.7E-09	94.44	1.8E-09	97.22 **
25	2.4E-09	133.33	2.7E-09	150.56 ***
35	1.2E-09	66.67	2.4E-09	133.33 ***
-260	2.8E-11	1.56	2.8E-11	1.57
-52	1.4E-10	7.78	1.4E-10	7.84 *
during	1.2E-09	66.67	1.3E-09	72.22 **

Co-60 M 7.1E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.5E-10	2.11	1.7E-10	2.34
-26	4.1E-10	5.77	4.5E-10	6.34 *
concep	1.4E-09	19.72	1.7E-09	23.24 **
5	1.3E-09	18.31	1.6E-09	22.11 **
10	1.2E-09	16.90	1.5E-09	20.99 **
15	1.1E-09	15.49	1.4E-09	19.86 **
25	8.2E-10	11.55	1.2E-09	16.62 *
35	4.1E-10	5.77	9.2E-10	12.96 *
-260	2.0E-10	2.82	2.2E-10	3.10
-52	4.4E-10	6.20	4.8E-10	6.76 *
during	9.4E-10	13.24	1.3E-09	18.31 **

Co-60 S 1.7E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.1E-10	0.65	1.1E-10	0.67
-26	2.7E-10	1.59	2.8E-10	1.64
concep	1.0E-09	5.88	1.1E-09	6.24 *
5	1.0E-09	5.88	1.1E-09	6.26 *
10	9.4E-10	5.53	1.0E-09	5.94 *
15	8.7E-10	5.12	9.4E-10	5.55 *
25	6.6E-10	3.88	7.5E-10	4.43
35	3.5E-10	2.06	5.0E-10	2.94
-260	1.4E-10	0.82	1.5E-10	0.85
-52	2.9E-10	1.71	3.0E-10	1.76
during	7.4E-10	4.35	8.4E-10	4.91

Co-60 I 3.4E-09 Ingestion: $f_1 = 0.1$

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.4E-10	4.12	1.5E-10	4.41 *
-26	3.6E-10	10.59	4.0E-10	11.76 *
concep	2.1E-09	61.76	2.3E-09	67.65 **
5	2.0E-09	58.82	2.3E-09	67.65 **
10	1.9E-09	55.88	2.2E-09	64.71 **
15	1.7E-09	50.00	2.0E-09	58.82 **
25	1.3E-09	38.24	1.7E-09	50.00 **
35	7.8E-10	22.94	1.4E-09	41.18 **
-260	1.8E-10	5.29	2.0E-10	5.88 *
-52	3.9E-10	11.47	4.3E-10	12.65 **
during	1.5E-09	44.12	1.9E-09	55.88 **

Co-60 I 2.5E-09 Ingestion: $f_1 = 0.05$

Exposure scenario (weeks)	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	7.0E-11	2.80	7.8E-11	3.10
-26	1.8E-10	7.20	2.0E-10	7.96 *
concep	1.8E-09	72.00	1.9E-09	76.80 **
5	1.7E-09	68.00	1.8E-09	73.20 **
10	1.6E-09	64.00	1.7E-09	69.60 **
15	1.5E-09	60.00	1.7E-09	66.40 **
25	1.2E-09	48.00	1.4E-09	56.00 **
35	7.3E-10	29.20	1.1E-09	42.40 **
-260	9.1E-11	3.64	1.0E-10	4.01
-52	2.0E-10	8.00	2.2E-10	8.76 *
during	1.3E-09	52.00	1.5E-09	60.40 **

Zn-65 S 2.8E-09

Exposure scenario (weeks)	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	2.8E-11	1.00	3.4E-11	1.22
-26	7.1E-10	25.36	8.6E-10	30.71 **
concep	1.7E-09	60.71	2.0E-09	72.86 **
5	1.7E-09	60.71	2.1E-09	75.00 **
10	1.6E-09	57.14	2.1E-09	73.93 **
15	1.5E-09	53.57	2.0E-09	73.21 **
25	1.1E-09	39.29	1.9E-09	66.43 **
35	3.4E-10	12.14	1.4E-09	51.43 **
-260	2.0E-10	7.14	2.4E-10	8.64 *
-52	8.0E-10	28.57	9.7E-10	34.64 **
during	1.2E-09	42.86	1.9E-09	67.14 **

Zn-65 I 3.9E-09

Exposure scenario (weeks)	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	5.4E-11	1.38	6.6E-11	1.69
-26	1.5E-09	38.46	1.8E-09	46.92 **
concep	3.8E-09	97.44	4.5E-09	116.67 ***
5	3.7E-09	94.87	4.6E-09	117.44 ***
10	3.5E-09	89.74	4.5E-09	115.38 ***
15	3.3E-09	84.62	4.5E-09	115.38 ***
25	2.4E-09	61.54	4.1E-09	105.13 ***
35	7.9E-10	20.26	3.5E-09	89.49 **
-260	4.2E-10	10.77	5.1E-10	13.10 *
-52	1.7E-09	43.59	2.1E-09	53.08 **
during	2.6E-09	66.67	4.1E-09	105.13 ***

Sr-90 F 3.0E-08		Exposure scenario			
(weeks)*	e(in utero)	% of e	e(offspring)	% of e	
-130	2.2E-10	0.73	3.3E-10	1.10	
-26	7.2E-10	2.40	9.7E-10	3.23	
concep	2.4E-09	8.00	2.9E-09	9.70	*
5	3.9E-09	13.00	4.4E-09	14.73	*
10	1.9E-08	63.33	2.0E-08	66.37	**
15	2.9E-08	96.67	3.2E-08	105.00	***
25	3.2E-08	106.67	4.2E-08	139.00	***
35	1.5E-08	50.00	4.6E-08	153.33	***
-260	3.5E-10	1.17	4.9E-10	1.63	
-52	8.8E-10	2.93	1.2E-09	3.87	
during	2.1E-08	70.00	3.1E-08	103.00	***

Sr-90 S 7.7E-08		Exposure scenario			
(weeks)*	e(in utero)	% of e	e(offspring)	% of e	
-130	2.7E-11	0.04	3.9E-11	0.05	
-26	5.5E-11	0.07	7.8E-11	0.10	
concep	9.4E-11	0.12	1.3E-10	0.16	
5	1.3E-10	0.17	1.6E-10	0.21	
10	3.9E-10	0.51	4.3E-10	0.56	
15	6.0E-10	0.78	6.8E-10	0.88	
25	7.4E-10	0.96	1.0E-09	1.30	
35	3.3E-10	0.43	1.0E-09	1.35	
-260	3.2E-11	0.04	4.6E-11	0.06	
-52	5.9E-11	0.08	8.2E-11	0.11	
during	4.7E-10	0.61	7.1E-10	0.92	

Sr-90 I 2.8E-08		Exposure scenario			
(weeks)*	e(in utero)	% of e	e(offspring)	% of e	
-130	1.9E-10	0.68	2.9E-10	1.02	
-26	6.4E-10	2.29	8.6E-10	3.07	
concep	2.1E-09	7.50	2.5E-09	9.11	*
5	3.8E-09	13.57	4.3E-09	15.43	*
10	2.0E-08	71.43	2.1E-08	74.93	**
15	3.6E-08	128.57	3.9E-08	139.64	***
25	4.8E-08	171.43	6.3E-08	225.00	***
35	2.3E-08	82.14	7.0E-08	250.00	***
-260	3.1E-10	1.11	4.3E-10	1.54	
-52	7.8E-10	2.79	1.0E-09	3.68	
during	2.8E-08	100.00	4.3E-08	153.57	***

Sr-90 I 2.8E-08

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	6.5E-12	0.02	9.7E-12	0.03
-26	2.1E-11	0.08	2.8E-11	0.10
concep	7.0E-11	0.25	8.5E-11	0.30
5	1.3E-10	0.46	1.5E-10	0.52
10	6.8E-10	2.43	7.1E-10	2.55
15	1.2E-09	4.29	1.3E-09	4.64
25	1.6E-09	5.71	2.1E-09	7.46 *
35	7.5E-10	2.68	2.3E-09	8.39 *
-260	1.0E-11	0.04	1.4E-11	0.05
-52	2.6E-11	0.09	3.4E-11	0.12
during	9.4E-10	3.36	1.4E-09	5.07 *

Tc-99m F 2.0E-11

Exposure scenario

(weeks)	e in utero	% of e	e offspring	% of e
-130	3.8E-32	0.00	3.8E-32	0.00
-26	3.7E-22	0.00	3.7E-22	0.00
concep	3.8E-12	19.00	3.8E-12	19.00 **
5	3.6E-12	18.00	3.6E-12	18.00 **
10	7.2E-12	36.00	7.2E-12	36.00 **
15	8.4E-12	42.00	8.4E-12	42.00 **
25	9.0E-12	45.00	9.0E-12	45.00 **
35	8.7E-12	43.50	8.7E-12	43.50 **
-260	7.3E-16	0.00	7.3E-16	0.00
-52	3.7E-15	0.02	3.7E-15	0.02
during	7.5E-12	37.50	7.5E-12	37.55 **

Tc-99m M 2.9E-11

Exposure scenario

(weeks)	e in utero	% of e	e offspring	% of e
-130	3.1E-22	0.00	3.2E-22	0.00
-26	2.2E-20	0.00	2.2E-20	0.00
concep	3.9E-12	13.45	3.9E-12	13.45 *
5	3.8E-12	13.10	3.8E-12	13.10 *
10	6.1E-12	21.03	6.1E-12	21.03 **
15	6.9E-12	23.79	6.9E-12	23.79 **
25	7.2E-12	24.83	7.2E-12	24.83 **
35	6.7E-12	23.10	6.7E-12	23.10 **
-260	7.2E-16	0.00	7.2E-16	0.00
-52	3.6E-15	0.01	3.6E-15	0.01
during	6.2E-12	21.38	6.2E-12	21.40 **

Tc-99m I 2.2E-11

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	6.9E-32	0.00	6.9E-32	0.00
-26	6.7E-22	0.00	6.7E-22	0.00
concep	9.7E-12	44.09	9.7E-12	44.09 **
5	9.4E-12	42.73	9.4E-12	42.73 **
10	1.5E-11	68.18	1.5E-11	68.18 **
15	1.7E-11	77.27	1.7E-11	77.27 **
25	1.7E-11	77.27	1.7E-11	77.27 **
35	1.6E-11	72.73	1.6E-11	72.73 **
-260	1.7E-15	0.01	1.7E-15	0.01
-52	8.6E-15	0.04	8.6E-15	0.04
during	1.5E-11	68.18	1.5E-11	68.25 **

Ru-106 V 1.8E-08

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.1E-10	1.17	2.1E-10	1.18
-26	1.4E-09	7.78	1.4E-09	7.87 *
concep	6.0E-09	33.33	6.5E-09	36.22 **
5	4.1E-09	22.78	4.7E-09	25.94 **
10	2.0E-09	11.11	2.6E-09	14.67 *
15	1.8E-09	10.00	2.5E-09	14.00 *
25	1.3E-09	7.22	2.3E-09	12.78 *
35	5.3E-10	2.94	2.7E-09	15.17 *
-260	5.3E-10	2.94	5.4E-10	2.97
-52	1.7E-09	9.44	1.7E-09	9.54 *
during	2.0E-09	11.11	3.1E-09	17.22 **

Ru-106 F 9.8E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.2E-10	1.22	1.2E-10	1.24
-26	7.9E-10	8.06	8.0E-10	8.15 *
concep	3.3E-09	33.67	3.6E-09	36.63 **
5	2.2E-09	22.45	2.5E-09	25.61 **
10	1.1E-09	11.22	1.5E-09	14.80 *
15	9.9E-10	10.10	1.4E-09	14.18 *
25	7.2E-10	7.35	1.3E-09	13.06 *
35	2.9E-10	2.96	1.5E-09	15.20 *
-260	2.9E-10	2.96	2.9E-10	2.99
-52	9.5E-10	9.69	9.6E-10	9.79 *
during	1.1E-09	11.22	1.7E-09	17.35 **

Ru-106 M 1.7E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	3.4E-11	0.20	3.4E-11	0.20
-26	2.2E-10	1.29	2.2E-10	1.31
concep	7.3E-10	4.29	8.1E-10	4.76
5	5.1E-10	3.00	6.0E-10	3.52
10	2.9E-10	1.71	3.9E-10	2.28
15	2.6E-10	1.53	3.7E-10	2.18
25	1.9E-10	1.12	3.3E-10	1.94
35	7.5E-11	0.44	3.0E-10	1.79
-260	7.9E-11	0.46	8.0E-11	0.47
-52	2.5E-10	1.47	2.5E-10	1.49
during	2.7E-10	1.59	4.1E-10	2.41

Ru-106 S 3.5E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.2E-11	0.03	1.2E-11	0.03
-26	7.5E-11	0.21	7.6E-11	0.22
concep	3.2E-10	0.91	3.4E-10	0.98
5	2.4E-10	0.69	2.7E-10	0.76
10	1.5E-10	0.43	1.8E-10	0.51
15	1.4E-10	0.40	1.7E-10	0.49
25	1.0E-10	0.29	1.5E-10	0.42
35	4.8E-11	0.14	1.4E-10	0.41
-260	2.8E-11	0.08	2.8E-11	0.08
-52	8.8E-11	0.25	8.9E-11	0.25
during	1.4E-10	0.40	1.9E-10	0.54

Ru-106 I 7.0E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	2.0E-11	0.29	2.0E-11	0.29
-26	1.4E-10	2.00	1.4E-10	2.02
concep	6.9E-10	9.86	7.4E-10	10.56 *
5	5.1E-10	7.29	5.6E-10	8.07 *
10	3.0E-10	4.29	3.6E-10	5.16 *
15	2.8E-10	4.00	3.5E-10	4.99
25	2.1E-10	3.00	3.1E-10	4.39
35	1.1E-10	1.57	3.2E-10	4.57
-260	5.1E-11	0.73	5.2E-11	0.74
-52	1.7E-10	2.43	1.7E-10	2.45
during	2.8E-10	4.00	3.8E-10	5.43 *

I-125 V 1.4E-08 Inhalation of elemental iodine vapour

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	1.1E-16	0.00	1.2E-16	0.00
-26	1.6E-11	0.11	1.7E-11	0.12
concep	3.1E-10	2.21	3.2E-10	2.29
5	8.7E-10	6.21	9.2E-10	6.57 *
10	1.6E-09	11.43	1.7E-09	12.14 *
15	5.1E-09	36.43	5.3E-09	37.86 **
25	1.2E-08	85.71	1.3E-08	92.86 **
35	1.1E-08	78.57	1.7E-08	121.43 ***
-260	1.1E-11	0.08	1.2E-11	0.09
-52	5.2E-11	0.37	5.5E-11	0.39
during	6.7E-09	47.86	8.2E-09	58.57 **

I-125 V 1.1E-08 Inhalation of methyl iodide

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	8.5E-17	0.00	8.9E-17	0.00
-26	1.3E-11	0.12	1.4E-11	0.12
concep	2.4E-10	2.18	2.5E-10	2.29
5	6.7E-10	6.09	7.1E-10	6.42 *
10	1.2E-09	10.91	1.3E-09	11.55 *
15	4.0E-09	36.36	4.1E-09	37.64 **
25	9.0E-09	81.82	9.5E-09	86.82 **
35	8.7E-09	79.09	1.4E-08	122.73 ***
-260	8.2E-12	0.07	8.6E-12	0.08
-52	4.1E-11	0.37	4.3E-11	0.39
during	5.2E-09	47.27	6.4E-09	58.18 **

I-125 F 7.3E-09

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	5.8E-17	0.00	6.1E-17	0.00
-26	8.6E-12	0.12	9.0E-12	0.12
concep	1.7E-10	2.33	1.8E-10	2.44
5	4.6E-10	6.30	4.8E-10	6.63 *
10	8.3E-10	11.37	8.8E-10	12.03 *
15	2.7E-09	36.99	2.8E-09	38.25 **
25	6.2E-09	84.93	6.6E-09	90.14 **
35	6.0E-09	82.19	9.3E-09	127.40 ***
-260	5.6E-12	0.08	5.9E-12	0.08
-52	2.8E-11	0.38	2.9E-11	0.40
during	3.6E-09	49.32	4.4E-09	60.41 **

I-125 I 1.5E-08					
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	1.2E-16	0.00	1.3E-16	0.00	
-26	1.8E-11	0.12	1.9E-11	0.13	
concep	3.5E-10	2.33	3.7E-10	2.45	
5	9.6E-10	6.40	1.0E-09	6.74 *	
10	1.7E-09	11.33	1.8E-09	12.00 *	
15	5.6E-09	37.33	5.8E-09	38.60 **	
25	1.3E-08	86.67	1.4E-08	91.87 **	
35	1.2E-08	80.00	1.9E-08	125.33 ***	
-260	1.2E-11	0.08	1.3E-11	0.08	
-52	5.8E-11	0.39	6.1E-11	0.41	
during	7.4E-09	49.33	9.1E-09	60.67 **	

I-131 V 2.0E-08		Inhalation of elemental iodine vapour			
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	0.0E+00	0.00	0.0E+00	0.00	
-26	2.8E-18	0.00	2.8E-18	0.00	
concep	6.9E-11	0.35	6.9E-11	0.35	
5	7.2E-11	0.36	7.2E-11	0.36	
10	1.9E-10	0.95	1.9E-10	0.95	
15	1.1E-08	55.00	1.1E-08	55.00 **	
25	3.1E-08	155.00	3.1E-08	155.00 ***	
35	5.0E-08	250.00	5.5E-08	275.00 ***	
-260	1.7E-13	0.00	1.7E-13	0.00	
-52	8.6E-13	0.00	8.6E-13	0.00	
during	1.9E-08	95.00	2.1E-08	105.00 **	

I-131 V 1.5E-08		Inhalation of methyl iodide			
Exposure scenario					
(weeks)	e _{in utero}	% of e	e _{offspring}	% of e	
-130	0.0E+00	0.00	0.0E+00	0.00	
-26	2.2E-18	0.00	2.2E-18	0.00	
concep	5.4E-11	0.36	5.4E-11	0.36	
5	5.6E-11	0.37	5.6E-11	0.37	
10	1.5E-10	1.00	1.5E-10	1.00	
15	8.6E-09	57.33	8.6E-09	57.33 **	
25	2.4E-08	160.00	2.4E-08	160.02 ***	
35	3.9E-08	260.00	4.3E-08	284.67 ***	
-260	1.3E-13	0.00	1.3E-13	0.00	
-52	6.7E-13	0.00	6.7E-13	0.00	
during	1.5E-08	100.00	1.6E-08	109.33 ***	

I-131 F 1.1E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	1.5E-18	0.00	1.5E-18	0.00
concep	3.7E-11	0.34	3.7E-11	0.34
5	3.9E-11	0.35	3.9E-11	0.35
10	1.0E-10	0.91	1.0E-10	0.91
15	5.8E-09	52.73	5.8E-09	52.73 **
25	1.6E-08	145.45	1.6E-08	145.47 ***
35	2.6E-08	236.36	2.9E-08	259.09 ***
-260	9.2E-14	0.00	9.2E-14	0.00
-52	4.6E-13	0.00	4.6E-13	0.00
during	1.0E-08	90.91	1.1E-08	99.91 **

I-131 I 2.2E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	3.1E-18	0.00	3.1E-18	0.00
concep	7.8E-11	0.35	7.8E-11	0.35
5	8.1E-11	0.37	8.1E-11	0.37
10	2.1E-10	0.95	2.1E-10	0.95
15	1.2E-08	54.55	1.2E-08	54.55 **
25	3.4E-08	154.55	3.4E-08	154.56 ***
35	5.5E-08	250.00	6.0E-08	274.09 ***
-260	1.9E-13	0.00	1.9E-13	0.00
-52	9.6E-13	0.00	9.6E-13	0.00
during	2.1E-08	95.45	2.3E-08	105.00 ***

Cs-137 F 6.7E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	9.8E-13	0.01	1.0E-12	0.01
-26	8.7E-10	12.99	8.8E-10	13.18 *
concep	3.5E-09	52.24	3.5E-09	52.57 **
5	3.3E-09	49.25	3.3E-09	49.78 **
10	3.2E-09	47.76	3.3E-09	48.61 **
15	3.0E-09	44.78	3.1E-09	46.16 **
25	2.4E-09	35.82	2.6E-09	39.55 **
35	8.6E-10	12.84	1.5E-09	22.69 **
-260	2.0E-10	2.99	2.0E-10	3.00
-52	9.8E-10	14.63	9.9E-10	14.72 *
during	2.5E-09	37.31	2.7E-09	40.75 **

Cs-137 I 1.3E-08

Exposure scenario
(weeks)

	e _{in utero}	% of e	e _{offspring}	% of e
-130	2.0E-12	0.02	2.0E-12	0.02
-26	1.8E-09	13.85	1.8E-09	14.06 *
concep	7.2E-09	55.38	7.2E-09	55.73 **
5	6.9E-09	53.08	7.0E-09	53.64 **
10	6.6E-09	50.77	6.7E-09	51.69 **
15	6.3E-09	48.46	6.5E-09	49.92 **
25	5.0E-09	38.46	5.5E-09	42.38 **
35	1.8E-09	13.85	3.2E-09	24.62 **
-260	4.2E-10	3.23	4.2E-10	3.25
-52	2.0E-09	15.38	2.0E-09	15.48 *
during	5.2E-09	40.00	5.7E-09	43.69 **

Pb-210 F 1.1E-06

Exposure scenario
(weeks)*

	e(in utero)	% of e	e(offspring)	% of e
-130	3.8E-08	3.45	1.2E-07	10.45 *
-26	4.7E-08	4.27	1.6E-07	14.27 *
concep	4.6E-08	4.18	1.8E-07	16.00 *
5	3.5E-08	3.18	1.7E-07	15.91 *
10	2.8E-08	2.55	1.8E-07	16.18 *
15	2.2E-08	2.00	1.9E-07	17.45 **
25	1.0E-08	0.91	2.2E-07	20.00 **
35	7.3E-10	0.07	3.6E-07	32.79 **
-260	3.8E-08	3.45	1.2E-07	10.82 *
-52	4.7E-08	4.27	1.6E-07	14.27 *
during	1.8E-08	1.64	2.3E-07	20.73 **

Pb-210 I 6.8E-07

Exposure scenario
(weeks)*

	e(in utero)	% of e	e(offspring)	% of e
-130	2.4E-08	3.53	7.2E-08	10.59 *
-26	2.9E-08	4.26	9.8E-08	14.41 *
concep	2.9E-08	4.26	1.1E-07	16.62 *
5	2.2E-08	3.24	1.1E-07	16.32 *
10	1.8E-08	2.65	1.1E-07	16.76 **
15	1.4E-08	2.06	1.1E-07	16.76 **
25	6.4E-09	0.94	1.4E-07	20.06 **
35	4.5E-10	0.07	2.3E-07	33.89 **
-260	2.4E-08	3.53	7.5E-08	11.03 *
-52	3.0E-08	4.41	1.0E-07	14.71 *
during	1.1E-08	1.62	1.4E-07	20.74 **

Bi-210 F 1.4E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	9.3E-22	0.00	9.3E-22	0.00
concep	1.4E-10	10.00	1.4E-10	10.00 *
5	1.3E-10	9.29	1.3E-10	9.29 *
10	1.8E-11	1.29	1.8E-11	1.29
15	2.0E-11	1.43	2.0E-11	1.43
25	2.0E-11	1.43	2.0E-11	1.43
35	1.9E-11	1.36	2.0E-11	1.41
-260	7.0E-13	0.05	7.0E-13	0.05
-52	3.5E-12	0.25	3.5E-12	0.25
during	3.6E-11	2.57	3.6E-11	2.60

Bi-210 M 6.0E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	4.2E-16	0.00	4.2E-16	0.00
-26	1.1E-12	0.00	1.1E-12	0.00
concep	3.3E-11	0.06	3.3E-11	0.06
5	2.6E-11	0.04	2.6E-11	0.04
10	5.0E-12	0.01	5.0E-12	0.01
15	5.6E-12	0.01	5.6E-12	0.01
25	5.1E-12	0.01	5.1E-12	0.01
35	3.5E-12	0.01	3.7E-12	0.01
-260	5.9E-13	0.00	5.9E-13	0.00
-52	2.9E-12	0.00	2.9E-12	0.00
during	8.2E-12	0.01	8.3E-12	0.01

Bi-210 I 1.3E-09

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	1.7E-22	0.00	1.7E-22	0.00
concep	2.4E-11	1.85	2.4E-11	1.85
5	2.3E-11	1.77	2.3E-11	1.77
10	3.2E-12	0.25	3.2E-12	0.25
15	3.6E-12	0.28	3.6E-12	0.28
25	3.6E-12	0.28	3.6E-12	0.28
35	3.3E-12	0.25	3.4E-12	0.26
-260	1.3E-13	0.01	1.3E-13	0.01
-52	6.3E-13	0.05	6.3E-13	0.05
during	6.5E-12	0.50	6.6E-12	0.51

Bi-214 F 1.2E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	6.5E-26	0.00	6.5E-26	0.00
concep	9.8E-11	0.82	9.8E-11	0.82
5	9.8E-11	0.82	9.8E-11	0.82
10	9.2E-12	0.08	9.2E-12	0.08
15	1.0E-11	0.08	1.0E-11	0.08
25	9.6E-12	0.08	9.6E-12	0.08
35	9.6E-12	0.08	9.6E-12	0.08
-260	1.0E-15	0.00	1.0E-15	0.00
-52	5.1E-15	0.00	5.1E-15	0.00
during	2.7E-11	0.22	2.7E-11	0.23

Bi-214 M 2.1E-08

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	2.1E-18	0.00	2.1E-18	0.00
-26	1.0E-16	0.00	1.0E-16	0.00
concep	1.1E-11	0.05	1.1E-11	0.05
5	1.1E-11	0.05	1.1E-11	0.05
10	2.2E-12	0.01	2.2E-12	0.01
15	2.2E-12	0.01	2.2E-12	0.01
25	2.0E-12	0.01	2.0E-12	0.01
35	1.8E-12	0.01	1.8E-12	0.01
-260	1.6E-16	0.00	1.6E-16	0.00
-52	7.7E-16	0.00	7.7E-16	0.00
during	3.8E-12	0.02	3.8E-12	0.02

Bi-214 I 1.1E-10

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	0.0E+00	0.00	0.0E+00	0.00
-26	1.2E-26	0.00	1.2E-26	0.00
concep	6.4E-12	5.82	6.4E-12	5.82 *
5	6.3E-12	5.73	6.3E-12	5.73 *
10	4.9E-12	4.45	4.9E-12	4.45
15	4.6E-12	4.18	4.6E-12	4.18
25	4.2E-12	3.82	4.2E-12	3.82
35	3.3E-12	3.00	3.3E-12	3.00
-260	1.1E-16	0.00	1.1E-16	0.00
-52	5.5E-16	0.00	5.5E-16	0.00
during	4.6E-12	4.18	4.6E-12	4.18

Po-210 F 7.1E-07

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	5.1E-15	0.00	5.1E-15	0.00
-26	4.9E-09	0.69	4.9E-09	0.69
concep	1.6E-07	22.54	1.6E-07	22.59 **
5	1.1E-07	15.49	1.1E-07	15.60 *
10	6.9E-08	9.72	7.1E-08	9.93 *
15	6.8E-08	9.58	7.1E-08	9.99 *
25	5.7E-08	8.03	6.8E-08	9.58 *
35	2.3E-08	3.24	6.4E-08	9.01 *
-260	4.5E-09	0.63	4.5E-09	0.64
-52	2.2E-08	3.10	2.2E-08	3.11
during	6.6E-08	9.30	7.8E-08	10.99 *

Po-210 M 2.2E-06

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	7.7E-13	0.00	7.8E-13	0.00
-26	3.0E-09	0.14	3.0E-09	0.14
concep	4.2E-08	1.91	4.2E-08	1.92
5	3.0E-08	1.36	3.0E-08	1.39
10	1.9E-08	0.86	2.0E-08	0.90
15	1.9E-08	0.86	2.0E-08	0.92
25	1.5E-08	0.68	1.9E-08	0.85
35	5.3E-09	0.24	1.5E-08	0.70
-260	1.6E-09	0.07	1.6E-09	0.07
-52	7.8E-09	0.35	7.9E-09	0.36
during	1.8E-08	0.82	2.2E-08	0.98

Po-210 I 2.4E-07

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	1.7E-15	0.00	1.7E-15	0.00
-26	1.6E-09	0.67	1.6E-09	0.67
concep	5.2E-08	21.67	5.2E-08	21.73 **
5	3.8E-08	15.83	3.8E-08	15.94 *
10	2.3E-08	9.58	2.4E-08	9.80 *
15	2.3E-08	9.58	2.4E-08	9.99 *
25	1.9E-08	7.92	2.3E-08	9.46 *
35	7.5E-09	3.13	2.2E-08	8.96 *
-260	1.5E-09	0.63	1.5E-09	0.63
-52	7.6E-09	3.17	7.6E-09	3.18
during	2.2E-08	9.17	2.6E-08	10.83 *

Ra-226 M 2.2E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		8.9E-10	0.04	9.3E-10	0.04
-26		7.0E-09	0.32	7.4E-09	0.33
concep		2.6E-08	1.18	2.7E-08	1.23
5		3.6E-08	1.64	3.7E-08	1.70
10		1.4E-07	6.36	1.4E-07	6.45 *
15		2.1E-07	9.55	2.1E-07	9.71 *
25		2.5E-07	11.36	2.6E-07	11.95 *
35		1.2E-07	5.45	1.7E-07	7.73 *
-260		2.6E-09	0.12	2.7E-09	0.12
-52		8.9E-09	0.40	9.3E-09	0.42
during		1.6E-07	7.27	1.8E-07	8.00 *

Ra-226 I 2.8E-07					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.1E-09	0.39	1.1E-09	0.41
-26		1.9E-09	0.68	2.0E-09	0.70
concep		1.3E-08	4.64	1.3E-08	4.71
5		2.2E-08	7.86	2.2E-08	7.98 *
10		2.1E-07	75.00	2.1E-07	75.33 **
15		3.7E-07	132.14	3.7E-07	133.36 ***
25		4.8E-07	171.43	5.0E-07	178.93 ***
35		2.6E-07	92.86	3.6E-07	128.57 ***
-260		1.4E-09	0.50	1.5E-09	0.52
-52		2.9E-09	1.04	3.0E-09	1.07
during		2.9E-07	103.57	3.2E-07	113.57 ***

Th-228 M 2.2E-05					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.1E-07	0.50	1.4E-07	0.63
-26		2.2E-07	1.00	2.8E-07	1.26
concep		2.9E-07	1.32	5.1E-07	2.32
5		2.6E-07	1.18	4.8E-07	2.18
10		2.2E-07	1.00	4.4E-07	2.00
15		2.1E-07	0.95	5.0E-07	2.27
25		1.8E-07	0.82	7.8E-07	3.55
35		6.1E-08	0.28	1.5E-06	6.64 *
-260		1.3E-07	0.59	1.6E-07	0.74
-52		2.1E-07	0.95	2.7E-07	1.22
during		2.8E-07	1.27	9.0E-07	4.09

Th-228 S 2.5E-05

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	5.5E-09	0.02	7.0E-09	0.03
-26	5.9E-09	0.02	7.7E-09	0.03
concep	6.6E-09	0.03	1.2E-08	0.05
5	5.8E-09	0.02	1.1E-08	0.04
10	4.9E-09	0.02	9.8E-09	0.04
15	4.6E-09	0.02	1.1E-08	0.04
25	4.0E-09	0.02	1.5E-08	0.06
35	1.9E-09	0.01	2.3E-08	0.09
-260	5.1E-09	0.02	6.5E-09	0.03
-52	5.8E-09	0.02	7.6E-09	0.03
during	6.1E-09	0.02	1.8E-08	0.07

Th-228 I 7.2E-08

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	9.6E-10	1.33	1.2E-09	1.67
-26	2.0E-09	2.78	2.5E-09	3.49
concep	3.8E-09	5.28	5.8E-09	8.06 *
5	3.6E-09	5.00	5.7E-09	7.92 *
10	3.3E-09	4.58	5.5E-09	7.64 *
15	3.3E-09	4.58	6.3E-09	8.75 *
25	3.5E-09	4.86	1.0E-08	14.58 *
35	2.6E-09	3.61	2.5E-08	34.17 **
-260	1.1E-09	1.53	1.4E-09	1.92
-52	2.0E-09	2.78	2.5E-09	3.49
during	4.4E-09	6.11	1.1E-08	15.83 *

Th-228 I 3.5E-08

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	3.8E-10	1.09	4.8E-10	1.37
-26	8.0E-10	2.29	1.0E-09	2.86
concep	1.9E-09	5.43	2.7E-09	7.71
5	1.8E-09	5.14	2.6E-09	7.43
10	1.8E-09	5.14	2.7E-09	7.71
15	1.8E-09	5.14	3.0E-09	8.57
25	2.1E-09	6.00	4.9E-09	14.00 *
35	2.0E-09	5.71	1.1E-08	31.43 *
-260	4.4E-10	1.26	5.5E-10	1.57
-52	8.1E-10	2.31	1.0E-09	2.86
during	2.4E-09	6.86	5.2E-09	14.86 *

Th-232 M 2.9E-05				
Exposure scenario (weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	2.8E-08	0.10	1.3E-07	0.44
-26	2.2E-08	0.08	1.2E-07	0.42
concep	4.1E-08	0.14	3.5E-07	1.21
5	3.5E-08	0.12	3.4E-07	1.16
10	2.8E-08	0.10	3.2E-07	1.10
15	3.0E-08	0.10	4.1E-07	1.41
25	3.3E-08	0.11	7.5E-07	2.60
35	1.9E-08	0.07	1.6E-06	5.58 *
-260	2.8E-08	0.10	1.3E-07	0.44
-52	2.1E-08	0.07	1.2E-07	0.41
during	5.4E-08	0.19	8.3E-07	2.88

Th-232 S 1.2E-05				
Exposure scenario (weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	1.7E-09	0.01	7.1E-09	0.06
-26	5.9E-10	0.00	3.7E-09	0.03
concep	8.3E-10	0.01	8.4E-09	0.07
5	6.7E-10	0.01	7.8E-09	0.06
10	5.3E-10	0.00	7.0E-09	0.06
15	5.3E-10	0.00	8.3E-09	0.07
25	5.4E-10	0.00	1.4E-08	0.11
35	2.6E-10	0.00	2.4E-08	0.20
-260	1.7E-09	0.01	6.8E-09	0.06
-52	5.9E-10	0.00	3.7E-09	0.03
during	1.0E-09	0.01	1.7E-08	0.14

Th-232 I 2.2E-07				
Exposure scenario (weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	2.3E-10	0.10	1.1E-09	0.49
-26	2.0E-10	0.09	1.1E-09	0.48
concep	4.5E-10	0.20	3.4E-09	1.52
5	4.0E-10	0.18	3.3E-09	1.50
10	3.3E-10	0.15	3.2E-09	1.47
15	3.7E-10	0.17	4.2E-09	1.90
25	4.5E-10	0.20	8.8E-09	4.02
35	3.1E-10	0.14	2.4E-08	11.05 *
-260	2.4E-10	0.11	1.1E-09	0.50
-52	2.0E-10	0.09	1.1E-09	0.48
during	6.6E-10	0.30	9.4E-09	4.25

Th-232 I 9.2E-08

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	9.5E-11	0.10	4.4E-10	0.48
-26	8.0E-11	0.09	4.2E-10	0.46
concep	1.8E-10	0.20	1.4E-09	1.52
5	1.6E-10	0.17	1.4E-09	1.52
10	1.3E-10	0.14	1.3E-09	1.41
15	1.5E-10	0.16	1.7E-09	1.85
25	1.8E-10	0.20	3.5E-09	3.80
35	1.2E-10	0.13	9.9E-09	10.76
-260	9.8E-11	0.11	4.4E-10	0.48
-52	8.0E-11	0.09	4.2E-10	0.46
during	2.6E-10	0.28	3.8E-09	4.13

U-234 F 6.4E-07

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	1.0E-08	1.56	1.3E-08	1.95
-26	1.2E-08	1.88	1.5E-08	2.34
concep	1.6E-07	25.00	1.9E-07	30.16 **
5	1.8E-07	28.13	2.1E-07	33.44 **
10	2.1E-07	32.81	2.5E-07	38.44 **
15	1.9E-07	29.69	2.3E-07	35.78 **
25	1.5E-07	23.44	2.0E-07	31.56 **
35	6.2E-08	9.69	1.8E-07	28.44 **
-260	1.1E-08	1.72	1.4E-08	2.11
-52	1.4E-08	2.19	1.7E-08	2.66
during	1.5E-07	23.44	2.1E-07	32.66 **

U-234 M 2.1E-06

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	2.5E-09	0.12	3.1E-09	0.15
-26	3.3E-09	0.16	4.0E-09	0.19
concep	3.6E-08	1.71	4.4E-08	2.11
5	3.8E-08	1.81	4.7E-08	2.22
10	4.0E-08	1.90	4.9E-08	2.34
15	3.6E-08	1.71	4.5E-08	2.17
25	2.4E-08	1.14	3.5E-08	1.67
35	8.5E-09	0.40	2.7E-08	1.26
-260	2.6E-09	0.12	3.2E-09	0.15
-52	3.5E-09	0.17	4.3E-09	0.20
during	2.8E-08	1.33	4.0E-08	1.90

U-234 S 6.8E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.6E-10	0.00	2.0E-10	0.00
-26		1.4E-10	0.00	1.8E-10	0.00
concep		1.2E-09	0.02	1.5E-09	0.02
5		1.2E-09	0.02	1.5E-09	0.02
10		1.3E-09	0.02	1.6E-09	0.02
15		1.1E-09	0.02	1.4E-09	0.02
25		7.3E-10	0.01	1.1E-09	0.02
35		2.6E-10	0.00	8.0E-10	0.01
-260		1.6E-10	0.00	2.0E-10	0.00
-52		1.4E-10	0.00	1.8E-10	0.00
during		8.7E-10	0.01	1.2E-09	0.02

U-234 I 4.9E-08					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		7.2E-10	1.47	9.0E-10	1.84
-26		8.8E-10	1.80	1.1E-09	2.22
concep		1.1E-08	22.45	1.3E-08	27.14 **
5		1.3E-08	26.53	1.5E-08	31.43 **
10		1.5E-08	30.61	1.8E-08	35.92 **
15		1.4E-08	28.57	1.7E-08	34.29 **
25		1.0E-08	20.41	1.4E-08	27.96 **
35		4.4E-09	8.98	1.3E-08	25.71 **
-260		7.6E-10	1.55	9.4E-10	1.92
-52		9.9E-10	2.02	1.2E-09	2.45
during		1.1E-08	22.45	1.5E-08	30.82 **

U-234 I 8.3E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		7.2E-11	0.87	9.0E-11	1.08
-26		8.8E-11	1.06	1.1E-10	1.33
concep		1.1E-09	13.25	1.3E-09	15.66
5		1.3E-09	15.66	1.5E-09	18.07
10		1.5E-09	18.07	1.8E-09	21.69
15		1.4E-09	16.87	1.7E-09	20.48
25		1.0E-09	12.05	1.4E-09	16.87
35		4.4E-10	5.30	1.3E-09	15.66
-260		7.6E-11	0.92	9.4E-11	1.13
-52		9.9E-11	1.19	1.2E-10	1.45
during		1.1E-09	13.25	1.5E-09	18.07

U-235 F 6.0E-07					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		9.5E-09	1.58	1.2E-08	1.98
-26		1.1E-08	1.83	1.4E-08	2.30
concep		1.5E-07	25.00	1.8E-07	30.17 **
5		1.7E-07	28.33	2.0E-07	33.83 **
10		1.9E-07	31.67	2.2E-07	37.33 **
15		1.8E-07	30.00	2.2E-07	36.17 **
25		1.4E-07	23.33	1.9E-07	31.50 **
35		5.8E-08	9.67	1.7E-07	28.00 **
-260		1.0E-08	1.67	1.2E-08	2.07
-52		1.3E-08	2.17	1.6E-08	2.65
during		1.4E-07	23.33	1.9E-07	32.50 **

U-235 M 1.8E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		2.3E-09	0.13	2.9E-09	0.16
-26		3.0E-09	0.17	3.7E-09	0.21
concep		3.3E-08	1.83	4.1E-08	2.27
5		3.5E-08	1.94	4.3E-08	2.40
10		3.7E-08	2.06	4.6E-08	2.53
15		3.3E-08	1.83	4.2E-08	2.33
25		2.2E-08	1.22	3.3E-08	1.83
35		7.9E-09	0.44	2.5E-08	1.38
-260		2.5E-09	0.14	3.1E-09	0.17
-52		3.3E-09	0.18	4.0E-09	0.22
during		2.6E-08	1.44	3.7E-08	2.06

U-235 S 6.1E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.6E-10	0.00	2.0E-10	0.00
-26		1.4E-10	0.00	1.7E-10	0.00
concep		1.2E-09	0.02	1.5E-09	0.02
5		1.2E-09	0.02	1.5E-09	0.02
10		1.2E-09	0.02	1.5E-09	0.02
15		1.1E-09	0.02	1.4E-09	0.02
25		7.3E-10	0.01	1.1E-09	0.02
35		2.7E-10	0.00	7.8E-10	0.01
-260		1.5E-10	0.00	1.9E-10	0.00
-52		1.4E-10	0.00	1.7E-10	0.00
during		8.5E-10	0.01	1.2E-09	0.02

U-235 I 4.6E-08					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		6.7E-10	1.46	8.4E-10	1.83
-26		8.1E-10	1.76	1.0E-09	2.20
concep		1.1E-08	23.91	1.3E-08	28.70 **
5		1.2E-08	26.09	1.4E-08	31.09 **
10		1.4E-08	30.43	1.6E-08	35.65 **
15		1.3E-08	28.26	1.6E-08	33.91 **
25		9.7E-09	21.09	1.3E-08	28.70 **
35		4.1E-09	8.91	1.2E-08	25.87 **
-260		7.1E-10	1.54	8.8E-10	1.91
-52		9.2E-10	2.00	1.1E-09	2.43
during		1.0E-08	21.74	1.4E-08	30.22 **

U-235 I 8.3E-09					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		6.7E-11	0.81	8.4E-11	1.01
-26		8.1E-11	0.98	1.0E-10	1.20
concep		1.2E-09	14.46	1.4E-09	16.87
5		1.3E-09	15.66	1.5E-09	18.07
10		1.5E-09	18.07	1.7E-09	20.48
15		1.4E-09	16.87	1.7E-09	20.48
25		1.0E-09	12.05	1.4E-09	16.87
35		4.6E-10	5.54	1.2E-09	14.46
-260		7.1E-11	0.86	8.8E-11	1.06
-52		9.3E-11	1.12	1.1E-10	1.33
during		1.1E-09	13.25	1.5E-09	18.07

U-238 F 5.8E-07					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		9.1E-09	1.57	1.1E-08	1.97
-26		1.1E-08	1.90	1.4E-08	2.36
concep		1.4E-07	24.14	1.7E-07	29.31 **
5		1.6E-07	27.59	1.9E-07	32.93 **
10		1.8E-07	31.03	2.1E-07	36.72 **
15		1.7E-07	29.31	2.1E-07	35.52 **
25		1.3E-07	22.41	1.8E-07	30.52 **
35		5.5E-08	9.48	1.7E-07	28.45 **
-260		9.5E-09	1.64	1.2E-08	2.03
-52		1.2E-08	2.07	1.5E-08	2.55
during		1.3E-07	22.41	1.8E-07	31.55 **

U-238 M 1.6E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		2.2E-09	0.14	2.8E-09	0.17
-26		2.9E-09	0.18	3.6E-09	0.22
concep		3.2E-08	2.00	4.0E-08	2.48
5		3.3E-08	2.06	4.1E-08	2.56
10		3.5E-08	2.19	4.3E-08	2.71
15		3.1E-08	1.94	4.0E-08	2.48
25		2.1E-08	1.31	3.1E-08	1.94
35		7.6E-09	0.47	2.4E-08	1.48
-260		2.4E-09	0.15	3.0E-09	0.19
-52		3.1E-09	0.19	3.8E-09	0.24
during		2.5E-08	1.56	3.6E-08	2.25

U-238 S 5.7E-06					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		1.4E-10	0.00	1.8E-10	0.00
-26		1.2E-10	0.00	1.5E-10	0.00
concep		1.1E-09	0.02	1.4E-09	0.02
5		1.1E-09	0.02	1.4E-09	0.02
10		1.1E-09	0.02	1.4E-09	0.02
15		9.8E-10	0.02	1.3E-09	0.02
25		6.5E-10	0.01	9.7E-10	0.02
35		2.3E-10	0.00	7.2E-10	0.01
-260		1.4E-10	0.00	1.8E-10	0.00
-52		1.3E-10	0.00	1.6E-10	0.00
during		7.7E-10	0.01	1.1E-09	0.02

U-238 I 4.4E-08					
Exposure scenario		e(in utero) % of e		e(offspring) % of e	
(weeks)*					
-130		6.4E-10	1.45	8.0E-10	1.82
-26		7.8E-10	1.77	9.7E-10	2.20
concep		1.0E-08	22.73	1.2E-08	27.50 **
5		1.1E-08	25.00	1.3E-08	30.00 **
10		1.3E-08	29.55	1.5E-08	34.77 **
15		1.2E-08	27.27	1.5E-08	32.95 **
25		9.2E-09	20.91	1.3E-08	28.64 **
35		3.9E-09	8.86	1.1E-08	25.91 **
-260		6.8E-10	1.55	8.4E-10	1.91
-52		8.8E-10	2.00	1.1E-09	2.45
during		9.5E-09	21.59	1.3E-08	30.23 **

U-238 I 7.6E-09

Exposure scenario

(weeks)*	e(in utero)	% of e	e(offspring)	% of e
-130	6.4E-11	0.84	8.0E-11	1.05
-26	7.8E-11	1.03	9.7E-11	1.28
concep	1.0E-09	13.16	1.2E-09	15.79
5	1.1E-09	14.47	1.3E-09	17.11
10	1.3E-09	17.11	1.5E-09	19.74
15	1.2E-09	15.79	1.5E-09	19.74
25	9.2E-10	12.11	1.3E-09	17.11
35	3.9E-10	5.13	1.1E-09	14.47
-260	6.8E-11	0.89	8.4E-11	1.11
-52	8.8E-11	1.16	1.1E-10	1.45
during	9.5E-10	12.50	1.3E-09	17.11

Pu-239 M 3.2E-05

Exposure scenario

(weeks)	e in utero	% of e	e offspring	% of e
-130	2.5E-08	0.08	1.2E-07	0.38
-26	2.6E-08	0.08	1.2E-07	0.38
concep	5.5E-08	0.17	3.6E-07	1.11
5	4.7E-08	0.15	3.5E-07	1.08
10	3.8E-08	0.12	3.3E-07	1.03
15	4.1E-08	0.13	4.1E-07	1.28
25	4.6E-08	0.14	7.6E-07	2.36
35	2.6E-08	0.08	1.6E-06	5.08 *
-260	2.5E-08	0.08	1.2E-07	0.37
-52	2.6E-08	0.08	1.2E-07	0.38
during	7.4E-08	0.23	8.4E-07	2.64

Pu-239 S 8.3E-06

Exposure scenario

(weeks)	e in utero	% of e	e offspring	% of e
-130	1.2E-09	0.01	6.0E-09	0.07
-26	6.4E-10	0.01	3.5E-09	0.04
concep	9.9E-10	0.01	8.0E-09	0.10
5	8.1E-10	0.01	7.2E-09	0.09
10	6.3E-10	0.01	6.5E-09	0.08
15	6.4E-10	0.01	7.6E-09	0.09
25	6.3E-10	0.01	1.2E-08	0.14
35	2.9E-10	0.00	1.9E-08	0.23
-260	1.1E-09	0.01	5.7E-09	0.07
-52	6.3E-10	0.01	3.4E-09	0.04
during	1.2E-09	0.01	1.5E-08	0.18

Pu-239 I 2.5E-07 Ingestion: $f_1 = 0.0005$

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	2.1E-10	0.08	1.0E-09	0.40
-26	2.4E-10	0.10	1.1E-09	0.43
concep	6.1E-10	0.24	3.4E-09	1.36
5	5.4E-10	0.22	3.3E-09	1.34
10	4.4E-10	0.18	3.2E-09	1.30
15	5.0E-10	0.20	4.3E-09	1.72
25	6.2E-10	0.25	8.9E-09	3.57
35	4.1E-10	0.16	2.4E-08	9.76 *
-260	2.1E-10	0.08	1.0E-09	0.40
-52	2.4E-10	0.10	1.1E-09	0.43
during	8.9E-10	0.36	9.5E-09	3.80

Pu-239 I 9.0E-09 Ingestion: $f_1 = 0.00001$

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	4.1E-12	0.05	2.0E-11	0.22
-26	4.8E-12	0.05	2.2E-11	0.24
concep	1.2E-11	0.13	6.8E-11	0.76
5	1.1E-11	0.12	6.7E-11	0.74
10	9.0E-12	0.10	6.6E-11	0.73
15	1.0E-11	0.11	8.6E-11	0.96
25	1.2E-11	0.13	1.8E-10	2.00
35	8.3E-12	0.09	4.9E-10	5.44
-260	4.2E-12	0.05	2.0E-11	0.22
-52	4.8E-12	0.05	2.2E-11	0.24
during	1.8E-11	0.20	1.9E-10	2.11

Pu-239 I 5.3E-08 Ingestion: $f_1 = 0.0001$

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	4.1E-11	0.08	2.0E-10	0.38
-26	4.8E-11	0.09	2.2E-10	0.42
concep	1.2E-10	0.23	6.8E-10	1.28
5	1.1E-10	0.21	6.7E-10	1.26
10	8.9E-11	0.17	6.6E-10	1.25
15	9.9E-11	0.19	8.6E-10	1.62
25	1.2E-10	0.23	1.8E-09	3.40
35	8.3E-11	0.16	4.9E-09	9.25 *
-260	4.2E-11	0.08	2.0E-10	0.38
-52	4.8E-11	0.09	2.2E-10	0.42
during	1.8E-10	0.34	1.9E-09	3.58

Am-241 M 2.7E-05

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	9.1E-09	0.03	3.4E-08	0.13
-26	8.7E-09	0.03	3.5E-08	0.13
concep	5.0E-08	0.19	3.0E-07	1.11
5	4.5E-08	0.17	3.0E-07	1.09
10	3.8E-08	0.14	2.8E-07	1.03
15	3.0E-08	0.11	2.6E-07	0.96
25	1.6E-08	0.06	2.3E-07	0.84
35	3.1E-09	0.01	1.6E-07	0.60
-260	9.1E-09	0.03	3.4E-08	0.13
-52	8.8E-09	0.03	3.5E-08	0.13
during	2.5E-08	0.09	2.4E-07	0.87

Am-241 I 2.0E-07

Exposure scenario
(weeks)

	$e_{in\ utero}$	% of e	$e_{offspring}$	% of e
-130	7.7E-11	0.04	2.9E-10	0.14
-26	7.6E-11	0.04	3.1E-10	0.15
concep	5.6E-10	0.28	2.9E-09	1.43
5	5.2E-10	0.26	2.8E-09	1.41
10	4.6E-10	0.23	2.8E-09	1.38
15	3.9E-10	0.19	2.8E-09	1.40
25	2.3E-10	0.12	2.6E-09	1.32
35	6.1E-11	0.03	2.5E-09	1.23
-260	7.8E-11	0.04	2.9E-10	0.14
-52	8.1E-11	0.04	3.1E-10	0.16
during	3.2E-10	0.16	2.7E-09	1.36

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