



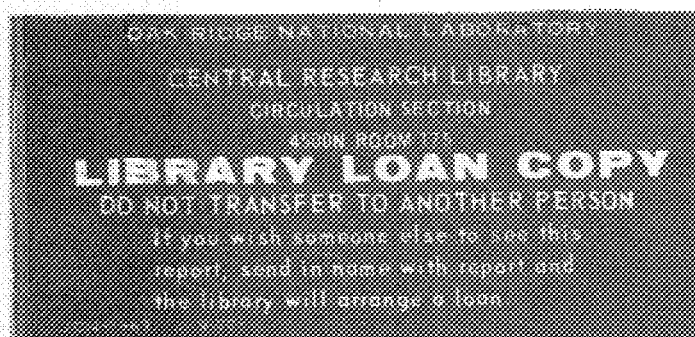
3 4456 0263742 1

ORNL/TM-8381/V3

ornl**OAK RIDGE
NATIONAL
LABORATORY****MARTIN MARIETTA**

**Specific Absorbed Fractions of
Energy at Various Ages from
Internal Photon Sources.
III. Five-Year-Old**

M. Cristy
K. F. Eckerman



OPERATED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

Printed in the United States of America. Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road, Springfield, Virginia 22161
NTIS price codes—Printed Copy: A04 Microfiche A01

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Health and Safety Research Division

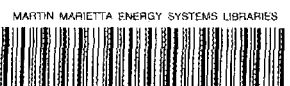
**SPECIFIC ABSORBED FRACTIONS OF ENERGY AT VARIOUS AGES
FROM INTERNAL PHOTON SOURCES.
III. FIVE-YEAR-OLD.**

**M. Cristy and K. F. Eckerman
Metabolism and Dosimetry Research Group**

**Date Completed: February 1987
Date Published: April 1987**

NOTICE This document contains information of a preliminary nature.
It is subject to revision or correction and therefore does not represent a
final report.

**Prepared by the
OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37831
operated by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
Contract No. DE-AC05-84OR21400**



3 4456 0263742

CONTENTS

VOLUME III. FIVE-YEAR-OLD

LIST OF TABLES	v
ACKNOWLEDGMENTS	vii
ABSTRACT	ix
INTRODUCTION	1
TABLES OF RECOMMENDED VALUES OF Φ (APPENDIX A) AND TABLES OF RAW DATA AND RECOMMENDED VALUES (APPENDIX B)	2
REFERENCES	4
APPENDIX A TABLES OF SPECIFIC ABSORBED FRACTIONS— RECOMMENDED VALUES	5
APPENDIX B TABLES OF SPECIFIC ABSORBED FRACTIONS—RAW DATA AND RECOMMENDED VALUES	33

LIST OF TABLES

VOLUME III. FIVE-YEAR-OLD

Table		Page
1.	Comparison of whole-body masses	2
2.	Abbreviations used in Appendices A and B.....	3

ACKNOWLEDGMENTS

We would like to thank Dr. J. C. Ryman for assistance with the computer programming and Drs. R. W. Leggett, G. D. Kerr, and G. G. Killough for useful discussions throughout this investigation. This research was sponsored primarily by the Office of Health and Environmental Research, U.S. Department of Energy, under contract DE-AC05-84OR21400 with Martin Marietta Energy Systems, Inc. Earlier work on the phantoms (see Appendix A of Volume 1 of these reports) was sponsored by the Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission; this and additional support from the U.S. Environmental Protection Agency, the U.S. Food and Drug Administration, the U.S. Department of Transportation, and other offices within the Nuclear Regulatory Commission have been critical to the development of our research program and are also gratefully acknowledged.

ABSTRACT

This report is the third volume of a series in which specific absorbed fractions (Φ 's) in various organs of the body ("target organs") from sources of monoenergetic photons in various other organs ("source organs") are tabulated. The first volume (ORNL/TM-8381:Vol. 1) outlines various methods used to compute the Φ -values and describes how the "best" estimates recommended by us are chosen. In this volume Φ -values are tabulated for a five-year-old or 19-kg person. In companion volumes Φ -values are tabulated for the newborn, for ages 1, 10, and 15 years, for an adult female, and for an adult male. These Φ -values can be used in calculating the photon component of the dose-equivalent rate in a given target organ from a given radionuclide that is present in a given source organ. The methods used to calculate Φ are similar to those used by Snyder et al. (1974) for an adult. However, an important difference involves the dosimetry for radiosensitive tissues in the skeleton. The International Commission on Radiological Protection recognizes, in the radiation protection system of its Publication 26 (1977), that the endosteal, or "bone surface," cells are the tissue at risk for bone cancer. We have applied the dosimetry methods that Spiers and co-workers developed for beta-emitting radionuclides deposited in bone to follow the transport of secondary electrons (freed by photon interactions) through the microscopic structure of the skeleton. With these methods we can estimate Φ in the endosteal cells and can better estimate Φ in the active marrow; the latter is overestimated with the methods of Snyder et al. at photon energies below 200 keV.

INTRODUCTION

This report gives tables of specific absorbed fractions (Φ 's) in various organs of the body ("target organs") from sources of monoenergetic photons in various other organs ("source organs") for a five-year-old or 19-kg person. These Φ -values can be used in calculating the photon component of the dose-equivalent rate in a given target organ from a given radionuclide that is present in a given source organ. A companion report (Cristy and Eckerman 1987a) describes the procedures used in choosing the "best" estimate of Φ from the estimates generated by several methods for a given source-target pair—that report should be consulted for that and other background information. The Φ -values calculated by these methods and the "best" estimates recommended by us are published in this report for the five-year-old and in other companion reports (Cristy and Eckerman 1987b-g) for the newborn, for ages 1, 10, and 15 years, for an adult female, and for an adult male. Note that from here forward the text is the same as that given in the reports for the other ages; it is reprinted in each volume for convenience.

The tables of specific absorbed fractions are available on diskettes for personal computers, by request.

The methods used to calculate Φ are similar to those used by Snyder, Ford, Warner, and Watson (1974) for an adult. Simple equations describing the geometry of the body and its organs ("mathematical phantoms") are used (1) with a computer program that simulates radiation transport with Monte Carlo methods or (2) with a computer program that integrates the point-source kernel equation (including buildup) over the volumes of the source and target organs. The source of the photons is assumed to be distributed uniformly in a given source organ. One important difference between our methods and that of Snyder et al. is that a better method to calculate the specific absorbed fraction in the active marrow and the endosteal cells of the skeleton has been employed; if the initial photon energy is less than 200 keV, the earlier method substantially overestimates Φ when active marrow is the target organ. Also, we have made more use of the converse Monte Carlo estimate, $\Phi(\text{source organ} \leftarrow \text{target organ})$, as an approximation to the direct Monte Carlo estimate, $\Phi(\text{target organ} \leftarrow \text{source organ})$, sometimes in conjunction with a correction factor; and we have made more extensive use of empirical correction factors for the estimates generated by the point-source kernel method. These methods are discussed in chapters II and III of Cristy and Eckerman (1987a).

The mathematical phantoms used in our work are designed like the adult phantom of Snyder et al. (1974) and have different densities and chemical compositions for lung, skeletal, and soft tissues. (We use the term "soft tissues" to mean near-unit-density tissues, i.e., density ≈ 1 g/cm³.) These phantoms have been described by Cristy (1980), but several changes have been made in our phantoms since the 1980 report: (1) the age 15 phantom of Cristy (1980) has been redesigned so that it now represents both a 15-year-old male and an adult female; (2) the adult phantom of Cristy (1980) has been modified slightly and is now labeled "adult male," although it is hermaphroditic and could also represent a larger than average adult female; (3) the densities and chemical compositions of the tissues have been changed in all of the phantoms; and (4) the densities and compositions of the skeletal and soft tissues of the newborn phantom are now different from those at other ages. The equations describing the phantoms, as amended, and the newer data on densities and compositions are given in Appendix A of Cristy and Eckerman (1987a).

Because of the change in tissue densities in the phantoms, the organ and whole-body masses have also changed slightly. As explained in Appendix B of Cristy and Eckerman (1987a), the

design of the phantom series was viewed as a geometry problem where volume, not mass, values were of prime interest; and furthermore, if the design approach had been to obtain correct (numerical value) masses at the expense of correct (numerical) volumes, the errors in the specific absorbed fraction would have been larger than with this approach. The magnitude of the changes in mass is also trivial. For the purpose of estimating specific absorbed fractions from photons, we view the adult male phantom simply as a model for the 70-kg Reference Man, the fifteen-year-old-male/adult-female phantom as a model for either the 58-kg Reference Woman or a 55-kg fifteen-year-old male, the age 10 phantom as a model for a 32-to-33-kg male or female child, and so on, even though the masses of organs in the phantoms and the masses of the phantoms themselves may be slightly different from values in ICRP Publication 23 (1975). A comparison of whole-body masses between the phantoms and humans is given in Table 1; in the tables of specific absorbed fractions for each age we give the nominal value of mass rather than the actual mass of the phantom in the identifying heading. We recommend use of the organ masses from ICRP Publication 23 (1975), especially for the 70-kg adult male, for all other purposes, e.g., for computing Φ -values from non-penetrating radiations. If masses of organs in children are not available, the masses in the phantoms could be used with little error. The masses of the organs of the phantoms are given in Appendix B of Cristy and Eckerman (1987a); the centroids of the organs are given in Appendix C of that report.

Table 1. Comparison of whole-body masses

Phantom	Whole-body mass of phantom (kg)		Age	Whole-body mass of human (kg) ^e	
	Actual	Nominal		Female	Male
Newborn	3.6	3.4	Newborn	3.4	3.4 ^f
Age 1	9.7	9.8	1 year	9.5	10.1
Age 5	19.8	19	5 years	18.6	18.8
Age 10	33.2	32	10 years	31.9	32.7
15-AF ^a	56.8 ^b	55-58 ^d	15 years	51.6	54.5
Adult male	73.7 ^c	70	Adult	56.7 (58) ^g	71.7 (70) ^g

^aAge-15-male/adult-female phantom.

^b56.4 kg without the female breasts.

^c73.3 kg without the female breasts.

^d55 kg for age 15 male and 58 kg for adult female.

^eData for ages newborn to 15 years are from Watson and Lowrey (1967).

Data for adults are from ICRP Publication 23, p.13.

^f3.5 kg for newborn male is given in ICRP Publication 23.

^gReference whole-body masses were rounded to 58 and 70 kg for adult females and males in ICRP Publication 23.

TABLES OF RECOMMENDED VALUES OF Φ (APPENDIX A) AND TABLES OF RAW DATA AND RECOMMENDED VALUES (APPENDIX B).

The tables of recommended values comprise Appendix A. The Φ -values as calculated by the various methods [direct Monte Carlo estimate, $\Phi(\text{target} \leftarrow \text{source})$; converse Monte Carlo estimate, $\Phi(\text{source} \leftarrow \text{target})$; and point-source kernel estimate, $\Phi(\text{target} \leftrightarrow \text{source})$] comprise Appendix B; and the recommended values are also reprinted for convenience. Note that the units are kg^{-1} . Because

Φ -values smaller than 10^{-10} kg^{-1} are zero for all practical purposes, they are given as 0.0 in Appendix A, but in Appendix B the values are given as calculated by the computer programs. Φ -values with coefficients of variation (C.V.) greater than 50% were never used in deriving recommended values, but these data are given in Appendix B. Blank entries in the tables of Appendix B indicate that no data are available.

The source and target organs are arranged alphabetically in the appendices. The meanings of abbreviations are given in Table 2. The recommended values for the organ "MUSCLE" in Appendix A are taken from the data for the "remaining tissue" compartment of the phantom; these data are listed under "REMAINING TISSUE" in Appendix B.

Table 2. Abbreviations used in Appendices A and B

Abbreviation	Meaning
BL	Bladder
CONT	Contents
GI	Gastrointestinal
LLI	Lower large intestine
SI	Small intestine
ULI	Upper large intestine
MC(2<-1)	Monte Carlo estimate of $\Phi(\text{organ 2} \leftarrow \text{organ 1})$
MC(1<-2)	Monte Carlo estimate of $\Phi(\text{organ 1} \leftarrow \text{organ 2})$
PK(2<->1)	Point-source kernel estimate of $\Phi(\text{organ 2} \leftrightarrow \text{organ 1})$
RECOM'D(2<-1)	Recommended value of $\Phi(\text{organ 2} \leftarrow \text{organ 1})$
RECOM'D(1<-2)	Recommended value of $\Phi(\text{organ 1} \leftarrow \text{organ 2})$
1.2E-03 (for example)	1.2×10^{-3}

In Appendix B the organs are labeled as "ORGAN 1" and "ORGAN 2" rather than as source and target organs. Which is source and which is target depend upon the context. For example, on the first page of Appendix B under "ORGAN 1 = ADRENALS" and "ORGAN 2 = BRAIN" are listed values for "MC(2<-1)", "MC(1<-2)", "PK(2<->1)", "RECOM'D(2<-1)", and "RECOM'D(1<-2)". The symbols like "<-" should be read as arrows, and the abbreviations have the following meanings, respectively: (1) Monte Carlo estimate of Φ for source = organ 1 and target = organ 2; (2) Monte Carlo estimate of Φ for source = organ 2 and target = organ 1; (3) Point-source kernel estimate of Φ , where either can be designated source or target; (4) Recommended value of Φ for source = organ 1 and target = organ 2; and (5) Recommended value of Φ for source = organ 2 and target = organ 1. Note that if one is interested in the raw data for source = brain and target = adrenals, one must look under "ORGAN 1 = ADRENALS" and "ORGAN 2 = BRAIN" in the tables. There is no listing for "ORGAN 1 = BRAIN" and "ORGAN 2 = ADRENALS"; for each "organ 1" there follow only those "organs 2" which follow "organ 1" alphabetically, to avoid redundancy.

The entries in the tables for active marrow can be confusing if not considered carefully, because Φ -values for active marrow as a target are computed by two different methods. As explained in detail in the companion volume on methods (Cristy and Eckerman 1987a), we have used new methods to calculate Φ -values for the active marrow and the endosteal cells of the skeleton as target organs; and these values are given as the recommended values in Appendix A, under the heading "TARGET" and labeled "SKELETON: ACTIVE MARROW" and "SKELETON: BONE SURFACES;" these values do not appear in Appendix B. (We use the terms "endosteal cells" and "bone surfaces" synonymously.)

We also compute Φ -values for active marrow as a **target** in the old way, i.e., with the method used by Snyder et al. (1974). These values are given only in Appendix B and labeled as either "ORGAN 1 = SKELETON: ACTIVE MARROW" (when the context indicates that organ 1 is the target) or "ORGAN 2 = SKELETON: ACTIVE MARROW" (when the context indicates that organ 2 is the target). These values are given because they are useful as converse Monte Carlo estimates in developing the recommended values when active marrow is the source organ (see Cristy and Eckerman 1987a).

If the active marrow or the skeleton as a whole ("SKELETON: WHOLE SKELETON" in the appendices) is the **source organ**, the method used to compute Φ is like that used by Snyder et al. (1974). No data are given in either appendix for endosteal cells as a source organ.

REFERENCES

- Cristy, M. 1980. *Mathematical phantoms representing children of various ages for use in estimates of internal dose*. U.S. Nuclear Regulatory Commission Rep. NUREG/CR-1159 (also Oak Ridge National Laboratory Rep. ORNL/NUREG/TM-367).
- Cristy, M., and Eckerman, K.F. 1987a. *Specific absorbed fractions of energy at various ages from internal photon sources. I. Methods*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 1.
- 1987b. *Specific absorbed fractions of energy at various ages from internal photon sources. II. One-year-old*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 2.
- 1987c. *Specific absorbed fractions of energy at various ages from internal photon sources. III. Five-year-old*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 3.
- 1987d. *Specific absorbed fractions of energy at various ages from internal photon sources. IV. Ten-year-old*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 4.
- 1987e. *Specific absorbed fractions of energy at various ages from internal photon sources. V. Fifteen-year-old male and adult female*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 5.
- 1987f. *Specific absorbed fractions of energy at various ages from internal photon sources. VI. Newborn*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 6.
- 1987g. *Specific absorbed fractions of energy at various ages from internal photon sources. VII. Adult male*. Oak Ridge National Laboratory Rep. ORNL/TM-8381:Vol. 7.
- International Commission on Radiological Protection. 1975. *Report of the task group on Reference Man*. ICRP Publication 23. Oxford: Pergamon Press.
- ICRP 1977. Recommendations of the International Commission on Radiological Protection. ICRP Publication 26. *Annals of the ICRP* 1: No. 3.
- Snyder, W.S., Ford, M.R., Warner, G.G., and Watson, S.B. 1974. *A tabulation of dose equivalent per microcurie-day for source and target organs of an adult for various radionuclides: Part 1*. Oak Ridge National Laboratory Rep. ORNL-5000.
- Watson, E.H., and Lowrey, G.H. 1967. *Growth and development of children*, 5th ed. Chicago: Year Book Medical.

APPENDIX A

TABLES OF SPECIFIC ABSORBED FRACTIONS—RECOMMENDED VALUES

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

-----SOURCE = ADRENALS-----												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.4E+02	8.1E+01	4.3E+01	1.5E+01	4.9E+00	2.9E+00	3.2E+00	3.6E+00	3.2E+00	2.9E+00	2.7E+00	2.3E+00
BRAIN	0.0	0.0	0.0	2.9E-06	1.2E-04	2.7E-04	4.4E-04	6.7E-04	7.8E-04	8.2E-04	8.5E-04	9.1E-04
BREASTS	0.0	2.4E-09	3.5E-05	3.2E-03	7.5E-03	1.2E-02	1.1E-02	8.4E-03	8.0E-03	7.7E-03	7.5E-03	6.2E-03
GALL BL WALL	0.0	2.0E-04	1.1E-02	5.0E-02	7.6E-02	5.4E-02	4.5E-02	4.1E-02	3.5E-02	3.1E-02	2.9E-02	2.3E-02
GI TRACT :												
LLI WALL	0.0	3.9E-09	1.9E-05	1.3E-03	3.8E-03	5.6E-03	5.2E-03	4.6E-03	5.1E-03	4.9E-03	4.7E-03	3.9E-03
SI WALL	0.0	7.2E-07	3.8E-04	5.9E-03	1.7E-02	1.6E-02	1.5E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	8.8E-03
STOMACH WALL	0.0	8.2E-05	4.8E-03	3.3E-02	4.8E-02	3.6E-02	2.8E-02	2.8E-02	2.6E-02	2.3E-02	2.2E-02	1.9E-02
ULI WALL	0.0	5.1E-07	4.0E-04	6.4E-03	1.9E-02	1.6E-02	1.4E-02	1.5E-02	1.5E-02	1.5E-02	1.3E-02	1.0E-02
HEART WALL	0.0	6.3E-05	6.8E-03	3.4E-02	4.3E-02	3.1E-02	2.8E-02	2.8E-02	2.7E-02	2.4E-02	2.3E-02	1.8E-02
KIDNEYS	1.5E-02	1.3E-01	2.6E-01	2.7E-01	1.6E-01	1.1E-01	1.0E-01	1.1E-01	9.9E-02	8.9E-02	8.1E-02	6.5E-02
LIVER	1.3E-04	1.2E-02	5.0E-02	8.9E-02	7.2E-02	4.9E-02	4.4E-02	4.4E-02	4.0E-02	3.7E-02	3.5E-02	2.8E-02
LUNGS	1.8E-04	1.4E-02	5.3E-02	7.8E-02	5.6E-02	3.6E-02	3.3E-02	3.1E-02	3.1E-02	2.8E-02	2.5E-02	1.8E-02
MUSCLE	1.9E-02	3.6E-02	4.0E-02	3.2E-02	2.0E-02	1.4E-02	1.4E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	9.9E-03
OVARIES	0.0	2.3E-10	1.0E-05	1.7E-03	6.3E-03	7.2E-03	7.4E-03	6.9E-03	6.4E-03	6.1E-03	5.9E-03	4.9E-03
PANCREAS	1.9E-06	1.8E-02	1.3E-01	2.8E-01	1.9E-01	1.2E-01	1.1E-01	9.9E-02	9.1E-02	7.9E-02	7.2E-02	7.0E-02
SKELETON :												
ACTIVE MARROW	3.8E-04	6.3E-03	1.7E-02	2.8E-02	2.8E-02	2.3E-02	2.2E-02	2.2E-02	2.1E-02	1.9E-02	1.8E-02	1.5E-02
BONE SURFACES	1.5E-03	2.6E-02	7.6E-02	1.3E-01	1.1E-01	4.3E-02	2.4E-02	2.0E-02	1.8E-02	1.7E-02	1.6E-02	1.3E-02
SKIN	9.9E-09	2.5E-04	1.5E-03	5.1E-03	5.6E-03	4.9E-03	5.3E-03	5.9E-03	5.6E-03	5.4E-03	5.2E-03	4.2E-03
SPLEEN	3.7E-07	5.9E-03	5.6E-02	1.4E-01	1.2E-01	6.7E-02	6.5E-02	6.0E-02	5.3E-02	5.4E-02	5.4E-02	4.0E-02
TESTES	0.0	0.0	2.9E-09	5.2E-05	5.2E-04	1.1E-03	1.4E-03	1.6E-03	1.7E-03	1.7E-03	1.7E-03	1.5E-03
THYMUS	0.0	1.1E-09	1.9E-05	4.4E-03	6.6E-03	7.2E-03	6.9E-03	6.6E-03	7.0E-03	6.8E-03	6.4E-03	5.3E-03
THYROID	0.0	0.0	1.9E-07	2.2E-04	1.8E-03	3.0E-03	2.9E-03	3.2E-03	3.2E-03	3.1E-03	3.0E-03	2.6E-03
URINARY BL WALL	0.0	0.0	3.5E-07	2.8E-04	1.8E-03	2.7E-03	3.1E-03	3.4E-03	3.3E-03	3.3E-03	3.2E-03	2.7E-03
UTERUS	0.0	0.0	5.9E-06	1.3E-03	5.2E-03	6.4E-03	6.9E-03	6.4E-03	5.8E-03	5.6E-03	5.4E-03	4.5E-03
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.4E-02	3.0E-02	1.9E-02	1.7E-02	1.7E-02	1.6E-02	1.4E-02	1.3E-02	1.1E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = BRAIN												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	0.0	0.0	2.9E-06	1.2E-04	2.7E-04	4.4E-04	6.7E-04	7.8E-04	8.2E-04	8.5E-04	9.1E-04
BRAIN	7.7E-01	7.2E-01	6.4E-01	4.2E-01	2.1E-01	1.2E-01	1.2E-01	1.3E-01	1.2E-01	1.1E-01	9.8E-02	7.9E-02
BREASTS	0.0	0.0	8.0E-09	2.6E-05	2.0E-04	5.7E-04	7.0E-04	1.0E-03	1.4E-03	1.6E-03	1.6E-03	1.4E-03
GALL BL WALL	0.0	0.0	0.0	6.8E-07	4.1E-05	9.9E-05	1.5E-04	2.4E-04	3.3E-04	3.9E-04	4.4E-04	5.1E-04
GI TRACT :												
LLI WALL	0.0	0.0	0.0	1.6E-08	3.6E-06	1.6E-05	3.3E-05	6.7E-05	1.1E-04	1.4E-04	1.7E-04	2.2E-04
SI WALL	0.0	0.0	0.0	6.8E-08	1.0E-05	4.2E-05	7.5E-05	1.5E-04	2.4E-04	2.8E-04	3.1E-04	3.8E-04
STOMACH WALL	0.0	0.0	0.0	1.3E-06	5.9E-05	1.3E-04	1.8E-04	2.8E-04	3.8E-04	4.4E-04	5.0E-04	5.7E-04
ULI WALL	0.0	0.0	0.0	9.3E-08	1.3E-05	4.2E-05	7.4E-05	1.3E-04	2.0E-04	2.4E-04	2.8E-04	3.4E-04
HEART WALL	0.0	0.0	1.6E-08	3.0E-05	2.9E-04	7.8E-04	9.0E-04	1.3E-03	1.5E-03	1.5E-03	1.4E-03	1.6E-03
KIDNEYS	0.0	0.0	0.0	6.1E-07	5.5E-05	1.1E-04	1.9E-04	3.4E-04	4.4E-04	5.0E-04	5.3E-04	5.9E-04
LIVER	0.0	0.0	0.0	1.8E-06	1.3E-04	2.4E-04	3.6E-04	5.3E-04	6.7E-04	7.2E-04	7.5E-04	7.0E-04
LUNGS	0.0	0.0	1.1E-06	1.5E-04	8.7E-04	1.4E-03	1.5E-03	2.0E-03	2.1E-03	2.0E-03	1.9E-03	2.1E-03
MUSCLE	6.0E-07	3.1E-05	5.0E-04	3.1E-03	4.5E-03	3.8E-03	3.8E-03	3.9E-03	3.9E-03	3.7E-03	3.5E-03	3.0E-03
OVARIES	0.0	0.0	0.0	1.5E-08	4.3E-06	1.3E-05	3.9E-05	1.1E-04	1.7E-04	2.1E-04	2.3E-04	2.9E-04
PANCREAS	0.0	0.0	0.0	1.8E-06	1.0E-04	2.5E-04	3.7E-04	5.3E-04	6.8E-04	7.4E-04	7.7E-04	7.6E-04
SKELETON :												
ACTIVE MARROW	1.9E-03	6.1E-03	1.2E-02	2.0E-02	1.8E-02	1.2E-02	1.1E-02	1.0E-02	9.9E-03	9.4E-03	8.8E-03	7.4E-03
BONE SURFACES	1.2E-02	4.4E-02	9.4E-02	1.5E-01	1.1E-01	3.8E-02	2.1E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02
SKIN	1.2E-05	3.5E-04	1.5E-03	5.2E-03	6.3E-03	5.1E-03	5.5E-03	6.1E-03	6.1E-03	5.8E-03	5.4E-03	4.6E-03
SPLEEN	0.0	0.0	0.0	1.5E-06	1.4E-04	2.5E-04	4.0E-04	6.2E-04	7.6E-04	8.4E-04	8.9E-04	1.0E-03
TESTES	0.0	0.0	0.0	4.6E-10	5.2E-07	4.2E-06	1.1E-05	2.9E-05	5.5E-05	7.7E-05	9.6E-05	1.6E-04
THYMUS	0.0	0.0	1.1E-06	1.6E-04	1.3E-03	2.0E-03	2.1E-03	2.6E-03	3.1E-03	3.2E-03	3.1E-03	2.9E-03
THYROID	0.0	5.6E-07	2.5E-04	2.9E-03	1.0E-02	9.8E-03	9.6E-03	9.9E-03	9.9E-03	9.7E-03	9.2E-03	7.2E-03
URINARY BL WALL	0.0	0.0	0.0	3.6E-09	1.8E-06	1.0E-05	2.4E-05	5.2E-05	9.0E-05	1.2E-04	1.4E-04	1.9E-04
UTERUS	0.0	0.0	0.0	1.2E-08	3.8E-06	1.8E-05	3.8E-05	9.1E-05	1.5E-04	1.8E-04	2.1E-04	2.8E-04
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.2E-02	2.5E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02	8.6E-03

∞

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = BREASTS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	2.4E-09	3.5E-05	3.2E-03	7.5E-03	1.2E-02	1.1E-02	8.4E-03	8.0E-03	7.7E-03	7.5E-03	6.2E-03
BRAIN	0.0	0.0	8.0E-09	2.6E-05	2.0E-04	5.7E-04	7.0E-04	1.0E-03	1.4E-03	1.6E-03	1.6E-03	1.4E-03
BREASTS	4.6E+02	2.3E+02	1.2E+02	3.7E+01	1.1E+01	6.9E+00	7.9E+00	8.7E+00	8.5E+00	7.8E+00	7.2E+00	5.6E+00
GALL BL WALL	0.0	1.3E-08	6.3E-05	3.9E-03	7.7E-03	9.6E-03	8.6E-03	8.9E-03	8.5E-03	8.1E-03	7.9E-03	6.5E-03
GI TRACT :												
LLI WALL	0.0	0.0	9.7E-08	8.3E-05	5.4E-04	1.1E-03	1.5E-03	1.8E-03	1.9E-03	1.9E-03	1.8E-03	1.6E-03
SI WALL	0.0	0.0	5.7E-07	2.5E-04	1.7E-03	2.5E-03	2.6E-03	2.9E-03	3.0E-03	3.1E-03	3.2E-03	3.1E-03
STOMACH WALL	0.0	7.2E-06	1.1E-03	7.3E-03	1.6E-02	1.2E-02	1.1E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02
ULI WALL	0.0	0.0	1.4E-06	5.2E-04	2.3E-03	2.5E-03	2.6E-03	2.8E-03	2.9E-03	3.0E-03	3.0E-03	3.2E-03
HEART WALL	1.0E-06	4.0E-03	3.6E-02	9.7E-02	7.4E-02	4.9E-02	4.7E-02	4.8E-02	5.0E-02	4.7E-02	4.3E-02	3.2E-02
KIDNEYS	0.0	0.0	3.7E-06	1.5E-03	3.5E-03	4.5E-03	4.5E-03	5.4E-03	5.2E-03	5.0E-03	4.8E-03	4.2E-03
LIVER	0.0	6.5E-06	1.7E-03	1.2E-02	1.7E-02	1.2E-02	1.2E-02	1.3E-02	1.4E-02	1.2E-02	1.1E-02	1.0E-02
LUNGS	1.2E-04	1.3E-02	5.6E-02	8.2E-02	5.2E-02	3.2E-02	3.2E-02	3.3E-02	3.1E-02	2.8E-02	2.5E-02	2.2E-02
MUSCLE	7.6E-03	1.4E-02	1.6E-02	1.4E-02	9.2E-03	6.7E-03	7.2E-03	7.9E-03	8.0E-03	7.5E-03	7.1E-03	5.9E-03
OVARIES	0.0	0.0	1.7E-08	6.5E-05	8.7E-04	1.6E-03	1.9E-03	2.1E-03	2.2E-03	2.1E-03	2.1E-03	1.8E-03
PANCREAS	0.0	7.2E-08	1.7E-04	4.5E-03	1.6E-02	1.3E-02	1.0E-02	1.1E-02	1.2E-02	1.1E-02	9.6E-03	9.0E-03
SKELETON :												
ACTIVE MARROW	3.0E-04	4.5E-03	8.4E-03	9.0E-03	7.0E-03	5.7E-03	6.3E-03	6.7E-03	6.7E-03	6.6E-03	6.3E-03	5.0E-03
BONE SURFACES	1.3E-03	2.2E-02	4.3E-02	5.0E-02	3.4E-02	1.3E-02	8.3E-03	7.4E-03	7.4E-03	7.2E-03	6.9E-03	5.5E-03
SKIN	2.0E-01	1.7E-01	1.1E-01	4.7E-02	1.7E-02	1.1E-02	1.2E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	9.8E-03
SPLEEN	0.0	2.1E-08	6.8E-05	7.0E-03	9.1E-03	9.7E-03	9.8E-03	9.8E-03	9.2E-03	8.6E-03	8.0E-03	6.4E-03
THYMUS	0.0	1.7E-04	5.8E-03	4.7E-02	4.8E-02	3.1E-02	3.1E-02	3.4E-02	3.3E-02	3.5E-02	3.5E-02	2.7E-02
THYROID	0.0	4.5E-09	5.2E-05	4.0E-03	1.1E-02	1.2E-02	9.0E-03	9.3E-03	9.3E-03	8.7E-03	8.2E-03	6.8E-03
URINARY BL WALL	0.0	0.0	1.9E-09	2.1E-05	4.3E-04	9.4E-04	1.2E-03	1.5E-03	1.5E-03	1.5E-03	1.5E-03	1.3E-03
UTERUS	0.0	0.0	1.3E-08	6.1E-05	8.4E-04	1.5E-03	1.8E-03	2.1E-03	2.1E-03	2.1E-03	2.1E-03	1.8E-03
WHOLE BODY	4.6E-02	3.5E-02	2.8E-02	2.0E-02	1.3E-02	8.3E-03	8.2E-03	8.9E-03	8.9E-03	8.4E-03	7.9E-03	6.6E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = GALL BL CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	1.1E-04	8.2E-03	5.1E-02	6.2E-02	4.5E-02	4.4E-02	3.7E-02	3.4E-02	3.2E-02	3.1E-02	2.4E-02
BRAIN	0.0	0.0	0.0	5.7E-07	3.8E-05	8.9E-05	1.7E-04	3.1E-04	4.1E-04	4.7E-04	5.0E-04	5.8E-04
BREASTS	0.0	5.7E-09	4.3E-05	3.6E-03	6.9E-03	9.3E-03	8.8E-03	7.9E-03	7.8E-03	7.6E-03	7.3E-03	6.2E-03
GALL BL WALL	1.4E+01	1.4E+01	1.1E+01	5.2E+00	1.9E+00	1.1E+00	1.1E+00	1.2E+00	1.1E+00	9.7E-01	8.9E-01	7.7E-01
GI TRACT :												
LLI WALL	0.0	1.3E-05	1.1E-03	1.3E-02	2.3E-02	1.8E-02	1.4E-02	1.4E-02	1.4E-02	1.2E-02	9.9E-03	1.0E-02
SI WALL	6.9E-04	1.4E-02	6.0E-02	1.4E-01	1.2E-01	7.2E-02	6.1E-02	6.0E-02	5.4E-02	4.9E-02	4.5E-02	3.7E-02
STOMACH WALL	2.3E-05	2.2E-02	1.1E-01	2.2E-01	1.5E-01	9.9E-02	8.2E-02	7.8E-02	7.6E-02	7.0E-02	6.5E-02	5.2E-02
ULI WALL	3.5E-03	8.4E-02	2.4E-01	2.9E-01	1.8E-01	1.1E-01	9.7E-02	1.0E-01	8.5E-02	7.8E-02	7.3E-02	5.6E-02
HEART WALL	3.3E-10	7.0E-05	2.7E-03	2.0E-02	3.2E-02	2.2E-02	2.1E-02	2.1E-02	2.1E-02	1.9E-02	1.7E-02	1.3E-02
KIDNEYS	0.0	7.8E-05	7.4E-03	5.0E-02	6.5E-02	4.5E-02	4.0E-02	3.5E-02	3.5E-02	3.0E-02	2.6E-02	2.0E-02
LIVER	4.0E-03	6.1E-02	1.7E-01	2.4E-01	1.5E-01	9.2E-02	8.6E-02	8.4E-02	7.6E-02	6.9E-02	6.4E-02	5.2E-02
LUNGS	4.6E-08	2.0E-05	1.5E-03	1.2E-02	1.9E-02	1.4E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	9.7E-03	7.9E-03
MUSCLE	4.6E-03	1.8E-02	2.8E-02	3.1E-02	2.2E-02	1.5E-02	1.4E-02	1.4E-02	1.4E-02	1.3E-02	1.2E-02	9.7E-03
OVARIES	0.0	1.5E-06	8.9E-04	1.6E-02	2.9E-02	2.3E-02	2.0E-02	1.9E-02	1.7E-02	1.6E-02	1.6E-02	1.3E-02
PANCREAS	8.7E-03	2.1E-01	4.7E-01	4.8E-01	2.7E-01	1.6E-01	1.5E-01	1.4E-01	1.3E-01	1.1E-01	1.0E-01	8.3E-02
SKELETON :												
ACTIVE MARROW	0.0	5.1E-05	4.8E-04	5.0E-03	1.1E-02	1.0E-02	1.0E-02	9.9E-03	9.1E-03	8.4E-03	7.8E-03	6.5E-03
BONE SURFACES	0.0	2.7E-05	1.7E-03	2.0E-02	3.6E-02	2.0E-02	1.1E-02	7.5E-03	6.9E-03	6.5E-03	6.2E-03	5.3E-03
SKIN	1.7E-07	1.9E-05	5.5E-04	3.7E-03	5.4E-03	4.6E-03	4.6E-03	5.0E-03	5.0E-03	4.9E-03	4.8E-03	4.2E-03
SPLEEN	0.0	2.8E-05	4.6E-03	3.1E-02	4.9E-02	3.7E-02	2.9E-02	3.0E-02	2.6E-02	2.4E-02	2.2E-02	1.8E-02
TESTES	0.0	0.0	5.5E-07	3.6E-04	2.3E-03	3.0E-03	3.5E-03	3.8E-03	3.7E-03	3.5E-03	3.4E-03	3.0E-03
THYMUS	0.0	9.1E-10	9.1E-06	1.9E-03	4.7E-03	5.6E-03	4.5E-03	4.3E-03	4.5E-03	4.6E-03	4.5E-03	4.2E-03
THYROID	0.0	0.0	2.4E-08	6.8E-05	8.6E-04	1.5E-03	1.8E-03	2.1E-03	2.1E-03	2.1E-03	2.1E-03	1.8E-03
URINARY BL WALL	0.0	2.2E-08	7.6E-05	5.5E-03	1.0E-02	1.1E-02	1.1E-02	9.9E-03	9.6E-03	9.6E-03	9.1E-03	6.6E-03
UTERUS	0.0	1.8E-06	1.0E-03	2.1E-02	3.0E-02	2.9E-02	2.5E-02	2.3E-02	1.9E-02	1.7E-02	1.6E-02	1.4E-02
WHOLE BODY	4.2E-02	4.4E-02	4.6E-02	4.4E-02	3.1E-02	2.0E-02	1.8E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = GI TRACT : LLI CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	4.7E-09	2.4E-05	1.8E-03	3.9E-03	6.6E-03	7.4E-03	6.8E-03	6.0E-03	5.6E-03	5.2E-03	4.5E-03
BRAIN	0.0	0.0	0.0	2.0E-08	4.5E-06	1.9E-05	3.8E-05	8.3E-05	1.3E-04	1.7E-04	2.0E-04	2.8E-04
BREASTS	0.0	0.0	1.2E-07	1.1E-04	1.2E-03	1.5E-03	1.8E-03	2.1E-03	2.2E-03	2.2E-03	2.1E-03	1.8E-03
GALL BL WALL	0.0	1.8E-05	1.8E-03	1.9E-02	2.6E-02	2.3E-02	2.0E-02	1.7E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
GI TRACT :												
LLI WALL	2.9E+00	4.6E+00	3.9E+00	1.9E+00	7.5E-01	4.4E-01	4.4E-01	4.7E-01	4.3E-01	3.9E-01	3.6E-01	2.9E-01
SI WALL	1.8E-02	1.5E-01	2.7E-01	2.6E-01	1.6E-01	9.4E-02	8.8E-02	8.7E-02	8.0E-02	7.3E-02	6.7E-02	5.3E-02
STOMACH WALL	4.4E-07	1.2E-03	7.5E-03	2.9E-02	3.1E-02	2.1E-02	2.2E-02	2.0E-02	1.9E-02	1.7E-02	1.6E-02	1.4E-02
ULI WALL	4.5E-02	1.0E-01	1.3E-01	1.2E-01	7.5E-02	5.0E-02	4.3E-02	4.4E-02	3.8E-02	3.6E-02	3.4E-02	3.1E-02
HEART WALL	0.0	0.0	2.0E-06	3.5E-04	1.8E-03	2.9E-03	3.0E-03	3.4E-03	3.6E-03	3.6E-03	3.4E-03	2.8E-03
KIDNEYS	0.0	2.6E-06	5.3E-04	6.9E-03	1.6E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	1.0E-02	8.2E-03
LIVER	0.0	4.4E-08	4.7E-05	2.1E-03	6.7E-03	6.4E-03	5.8E-03	5.8E-03	6.3E-03	6.1E-03	5.7E-03	4.3E-03
LUNGS	0.0	1.2E-10	2.2E-06	3.2E-04	1.7E-03	1.9E-03	1.9E-03	2.0E-03	2.2E-03	2.3E-03	2.3E-03	2.1E-03
MUSCLE	8.2E-04	9.3E-03	2.1E-02	3.1E-02	2.5E-02	1.7E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
OVARIES	2.1E-02	4.2E-01	7.8E-01	6.0E-01	3.0E-01	1.7E-01	1.6E-01	1.7E-01	1.5E-01	1.3E-01	1.2E-01	1.0E-01
PANCREAS	0.0	4.1E-07	2.6E-04	6.1E-03	1.2E-02	1.3E-02	1.2E-02	1.0E-02	9.1E-03	8.6E-03	8.3E-03	7.6E-03
SKELETON :												
ACTIVE MARROW	2.8E-04	8.3E-03	2.3E-02	3.4E-02	2.8E-02	2.1E-02	2.0E-02	2.0E-02	1.8E-02	1.6E-02	1.5E-02	1.3E-02
BONE SURFACES	4.7E-04	1.6E-02	4.8E-02	8.0E-02	6.6E-02	2.8E-02	1.4E-02	1.1E-02	1.0E-02	9.4E-03	8.9E-03	8.0E-03
SKIN	8.8E-04	1.5E-03	2.6E-03	5.3E-03	6.6E-03	5.4E-03	5.3E-03	5.9E-03	6.2E-03	6.0E-03	5.7E-03	5.0E-03
SPLEEN	0.0	3.2E-06	6.0E-04	7.0E-03	1.6E-02	1.3E-02	1.1E-02	1.1E-02	1.1E-02	1.0E-02	9.7E-03	8.4E-03
TESTES	0.0	2.7E-04	7.9E-03	3.6E-02	4.0E-02	2.7E-02	2.4E-02	2.4E-02	2.6E-02	2.4E-02	2.1E-02	1.7E-02
THYMUS	0.0	0.0	8.9E-09	2.8E-05	4.3E-04	7.0E-04	1.0E-03	1.4E-03	1.4E-03	1.5E-03	1.4E-03	1.3E-03
THYROID	0.0	0.0	0.0	1.9E-06	8.8E-05	2.9E-04	4.4E-04	6.0E-04	6.9E-04	7.2E-04	7.5E-04	6.9E-04
URINARY BL WALL	7.5E-06	1.1E-02	5.1E-02	1.4E-01	1.1E-01	6.4E-02	5.7E-02	6.0E-02	5.1E-02	4.7E-02	4.5E-02	3.8E-02
UTERUS	1.1E-09	1.6E-03	2.9E-02	1.5E-01	1.3E-01	8.3E-02	7.2E-02	7.1E-02	6.2E-02	5.2E-02	4.6E-02	3.9E-02
WHOLE BODY	7.3E-03	2.1E-02	3.2E-02	3.8E-02	2.7E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.3E-02	1.0E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = GI TRACT : SI CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	7.2E-07	3.8E-04	5.9E-03	1.7E-02	1.6E-02	1.5E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	8.8E-03
BRAIN	0.0	0.0	0.0	6.8E-08	1.0E-05	4.2E-05	7.5E-05	1.5E-04	2.4E-04	2.8E-04	3.1E-04	3.8E-04
BREASTS	0.0	0.0	5.7E-07	2.5E-04	1.7E-03	2.5E-03	2.6E-03	2.9E-03	3.0E-03	3.1E-03	3.2E-03	3.1E-03
GALL BL WALL	3.5E-03	2.0E-02	7.1E-02	1.5E-01	1.2E-01	7.6E-02	6.4E-02	5.5E-02	4.4E-02	4.2E-02	4.2E-02	3.4E-02
GI TRACT :												
LLI WALL	1.5E-01	2.4E-01	2.8E-01	2.3E-01	1.3E-01	7.9E-02	7.2E-02	7.2E-02	6.8E-02	6.1E-02	5.6E-02	5.1E-02
SI WALL	4.3E-01	8.2E-01	8.7E-01	6.1E-01	2.8E-01	1.6E-01	1.6E-01	1.6E-01	1.5E-01	1.3E-01	1.2E-01	9.8E-02
STOMACH WALL	2.8E-03	1.0E-02	2.2E-02	4.6E-02	5.1E-02	3.5E-02	3.1E-02	3.1E-02	2.7E-02	2.4E-02	2.3E-02	2.0E-02
ULI WALL	4.0E-01	6.6E-01	7.5E-01	5.8E-01	3.0E-01	1.7E-01	1.6E-01	1.7E-01	1.5E-01	1.4E-01	1.2E-01	1.0E-01
HEART WALL	0.0	1.4E-09	1.2E-05	1.5E-03	4.8E-03	5.7E-03	5.3E-03	5.5E-03	5.5E-03	5.4E-03	5.1E-03	3.8E-03
KIDNEYS	1.7E-08	4.7E-04	7.6E-03	3.6E-02	4.4E-02	3.2E-02	2.9E-02	2.9E-02	2.7E-02	2.4E-02	2.2E-02	1.8E-02
LIVER	1.6E-03	4.9E-03	1.2E-02	3.2E-02	3.6E-02	2.5E-02	2.3E-02	2.1E-02	2.1E-02	1.9E-02	1.8E-02	1.4E-02
LUNGS	0.0	4.1E-09	1.8E-05	1.6E-03	4.0E-03	4.2E-03	4.1E-03	4.6E-03	4.3E-03	4.2E-03	4.1E-03	3.6E-03
MUSCLE	4.0E-03	1.1E-02	1.9E-02	2.8E-02	2.3E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
OVARIES	1.6E-02	1.5E-01	3.2E-01	3.6E-01	2.1E-01	1.2E-01	1.2E-01	1.1E-01	1.0E-01	9.4E-02	8.7E-02	7.2E-02
PANCREAS	0.0	3.2E-05	2.6E-03	2.4E-02	3.8E-02	2.7E-02	2.4E-02	2.2E-02	2.0E-02	1.9E-02	1.8E-02	1.6E-02
SKELETON :												
ACTIVE MARROW	1.1E-03	3.3E-03	7.6E-03	1.8E-02	2.2E-02	1.7E-02	1.6E-02	1.6E-02	1.4E-02	1.3E-02	1.3E-02	1.0E-02
BONE SURFACES	1.9E-03	6.5E-03	1.6E-02	4.4E-02	5.1E-02	2.4E-02	1.2E-02	9.4E-03	8.6E-03	8.0E-03	7.5E-03	5.8E-03
SKIN	6.8E-07	3.7E-05	6.3E-04	3.7E-03	5.5E-03	4.5E-03	4.9E-03	5.2E-03	4.7E-03	5.0E-03	5.1E-03	4.2E-03
SPLEEN	3.1E-07	5.2E-05	2.0E-03	1.7E-02	2.5E-02	1.9E-02	1.7E-02	1.7E-02	1.6E-02	1.5E-02	1.5E-02	1.1E-02
TESTES	0.0	6.6E-09	4.4E-05	2.9E-03	7.9E-03	8.7E-03	8.3E-03	8.3E-03	8.0E-03	7.8E-03	7.6E-03	6.5E-03
THYMUS	0.0	0.0	5.9E-08	9.6E-05	6.2E-04	1.6E-03	1.8E-03	1.8E-03	1.9E-03	1.7E-03	1.7E-03	2.1E-03
THYROID	0.0	0.0	2.1E-10	6.5E-06	2.8E-06	4.6E-06	6.1E-06	7.9E-06	8.6E-06	8.8E-06	9.0E-06	9.0E-06
URINARY BL WALL	5.9E-10	2.6E-04	8.6E-03	4.3E-02	5.7E-02	3.8E-02	3.4E-02	3.1E-02	3.3E-02	2.9E-02	2.6E-02	1.8E-02
UTERUS	9.4E-05	3.8E-02	2.0E-01	3.2E-01	2.0E-01	1.2E-01	1.1E-01	1.0E-01	9.4E-02	8.5E-02	7.8E-02	6.5E-02
WHOLE BODY	7.0E-03	2.0E-02	3.1E-02	3.7E-02	2.8E-02	1.8E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = GI TRACT : STOMACH CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	3.7E-05	3.9E-03	3.2E-02	4.8E-02	3.4E-02	3.0E-02	3.0E-02	2.6E-02	2.3E-02	2.1E-02	1.9E-02
BRAIN	0.0	0.0	0.0	1.2E-06	6.4E-05	1.5E-04	2.5E-04	3.8E-04	5.0E-04	5.7E-04	6.1E-04	6.7E-04
BREASTS	0.0	2.6E-06	6.8E-04	6.7E-03	1.5E-02	1.1E-02	1.3E-02	1.3E-02	1.2E-02	1.2E-02	1.2E-02	9.8E-03
GALL BL WALL	4.1E-06	1.2E-02	8.5E-02	2.3E-01	1.7E-01	8.3E-02	7.2E-02	7.1E-02	7.4E-02	7.9E-02	7.7E-02	4.8E-02
GI TRACT :												
LLI WALL	7.2E-06	2.9E-04	3.9E-03	1.5E-02	2.1E-02	1.6E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.0E-02
SI WALL	2.6E-04	2.4E-03	1.2E-02	4.4E-02	4.9E-02	3.3E-02	3.1E-02	3.0E-02	2.6E-02	2.3E-02	2.2E-02	1.9E-02
STOMACH WALL	1.3E+00	2.5E+00	2.7E+00	1.7E+00	6.9E-01	4.1E-01	4.0E-01	4.1E-01	3.8E-01	3.5E-01	3.2E-01	2.6E-01
ULI WALL	2.7E-04	1.4E-02	3.5E-02	7.2E-02	6.5E-02	4.3E-02	3.8E-02	3.9E-02	3.3E-02	3.1E-02	2.9E-02	2.3E-02
HEART WALL	1.5E-06	2.9E-03	1.9E-02	5.9E-02	5.5E-02	3.5E-02	3.5E-02	3.1E-02	3.0E-02	3.0E-02	2.9E-02	2.2E-02
KIDNEYS	0.0	3.6E-05	2.8E-03	3.0E-02	3.9E-02	2.8E-02	2.5E-02	2.4E-02	2.4E-02	2.1E-02	1.9E-02	1.6E-02
LIVER	4.6E-06	3.2E-03	2.0E-02	5.5E-02	5.0E-02	3.4E-02	3.0E-02	2.9E-02	2.9E-02	2.5E-02	2.3E-02	1.9E-02
LUNGS	2.8E-06	1.3E-03	8.8E-03	2.6E-02	2.7E-02	1.8E-02	1.6E-02	1.5E-02	1.4E-02	1.4E-02	1.3E-02	1.1E-02
MUSCLE	3.6E-04	6.6E-03	1.7E-02	2.5E-02	1.9E-02	1.3E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.5E-03
OVARIES	0.0	2.8E-07	2.1E-04	6.1E-03	1.4E-02	1.3E-02	1.1E-02	9.9E-03	1.0E-02	1.0E-02	9.9E-03	8.2E-03
PANCREAS	1.1E-03	6.4E-02	2.3E-01	3.8E-01	2.3E-01	1.4E-01	1.2E-01	1.2E-01	1.1E-01	9.9E-02	9.2E-02	7.5E-02
SKELETON :												
ACTIVE MARROW	2.4E-05	2.6E-04	1.4E-03	5.3E-03	8.6E-03	7.9E-03	7.6E-03	7.8E-03	7.0E-03	6.5E-03	6.3E-03	5.7E-03
BONE SURFACES	1.0E-04	1.2E-03	7.3E-03	2.7E-02	3.6E-02	1.8E-02	9.4E-03	7.1E-03	6.3E-03	6.1E-03	5.9E-03	5.4E-03
SKIN	3.3E-07	4.4E-04	2.6E-03	7.0E-03	6.3E-03	4.8E-03	5.6E-03	6.0E-03	6.0E-03	5.3E-03	4.8E-03	4.3E-03
SPLEEN	1.6E-07	3.2E-03	4.9E-02	1.6E-01	1.2E-01	7.6E-02	6.8E-02	6.7E-02	6.3E-02	5.8E-02	5.3E-02	3.9E-02
TESTES	0.0	0.0	1.3E-07	1.6E-04	8.5E-04	1.0E-03	1.3E-03	2.0E-03	2.5E-03	2.6E-03	2.6E-03	2.3E-03
THYMUS	0.0	1.3E-08	3.8E-05	2.3E-03	6.9E-03	7.3E-03	6.9E-03	6.8E-03	6.7E-03	6.6E-03	6.4E-03	5.8E-03
THYROID	0.0	0.0	1.1E-07	1.4E-04	1.6E-03	2.0E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03
URINARY BL WALL	0.0	1.8E-09	1.5E-05	1.5E-03	4.7E-03	7.1E-03	6.6E-03	5.9E-03	5.7E-03	5.5E-03	5.4E-03	4.5E-03
UTERUS	0.0	6.5E-08	1.3E-04	5.0E-03	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	1.0E-02	9.4E-03	8.1E-03
WHOLE BODY	3.5E-03	1.1E-02	2.1E-02	2.9E-02	2.2E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	8.8E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = GI TRACT : ULI CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	3.6E-07	3.6E-04	8.6E-03	1.8E-02	1.8E-02	1.4E-02	1.4E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
BRAIN	0.0	0.0	0.0	9.2E-08	1.2E-05	5.9E-05	1.1E-04	2.1E-04	2.8E-04	3.1E-04	3.4E-04	3.8E-04
BREASTS	0.0	0.0	1.3E-06	5.1E-04	2.2E-03	3.6E-03	3.4E-03	3.4E-03	3.3E-03	3.2E-03	3.2E-03	3.2E-03
GALL BL WALL	3.5E-03	1.1E-01	2.3E-01	2.8E-01	1.7E-01	1.0E-01	8.9E-02	8.3E-02	9.4E-02	9.7E-02	9.0E-02	5.4E-02
GI TRACT :												
LLI WALL	3.4E-03	3.3E-02	7.1E-02	8.0E-02	5.5E-02	3.9E-02	3.7E-02	3.4E-02	3.1E-02	2.8E-02	2.6E-02	2.2E-02
SI WALL	5.2E-02	3.1E-01	5.6E-01	5.1E-01	2.7E-01	1.6E-01	1.5E-01	1.5E-01	1.4E-01	1.2E-01	1.1E-01	9.4E-02
STOMACH WALL	5.6E-04	2.6E-02	6.7E-02	9.2E-02	7.1E-02	4.3E-02	4.0E-02	3.9E-02	3.8E-02	3.2E-02	2.8E-02	2.6E-02
ULI WALL	2.0E+00	3.3E+00	2.9E+00	1.6E+00	6.3E-01	3.6E-01	3.7E-01	3.8E-01	3.7E-01	3.3E-01	2.9E-01	2.4E-01
HEART WALL	0.0	3.9E-09	2.6E-05	2.3E-03	6.7E-03	6.8E-03	6.0E-03	6.5E-03	6.9E-03	6.7E-03	6.4E-03	5.2E-03
KIDNEYS	0.0	4.8E-05	4.7E-03	2.7E-02	3.9E-02	2.9E-02	2.7E-02	2.4E-02	2.3E-02	2.2E-02	2.0E-02	1.6E-02
LIVER	5.4E-04	9.3E-03	3.4E-02	6.9E-02	5.9E-02	3.8E-02	3.5E-02	3.4E-02	3.0E-02	2.8E-02	2.7E-02	2.2E-02
LUNGS	0.0	6.6E-09	3.1E-05	2.0E-03	4.2E-03	5.4E-03	4.8E-03	4.9E-03	4.9E-03	4.9E-03	4.7E-03	3.8E-03
MUSCLE	5.7E-04	6.0E-03	1.6E-02	2.6E-02	2.1E-02	1.5E-02	1.4E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.4E-03
OVARIES	3.4E-03	1.3E-01	2.8E-01	2.9E-01	1.6E-01	1.0E-01	9.3E-02	9.2E-02	7.6E-02	6.9E-02	6.5E-02	5.6E-02
PANCREAS	0.0	5.0E-05	5.3E-03	3.1E-02	4.6E-02	3.0E-02	2.5E-02	2.5E-02	2.4E-02	2.1E-02	1.9E-02	1.6E-02
SKELETON :												
ACTIVE MARROW	5.8E-05	1.8E-03	6.9E-03	1.5E-02	1.7E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02	8.7E-03
BONE SURFACES	5.5E-05	3.5E-03	1.4E-02	3.7E-02	4.3E-02	2.1E-02	1.1E-02	8.2E-03	7.6E-03	7.1E-03	6.7E-03	5.7E-03
SKIN	0.0	3.4E-05	7.0E-04	4.6E-03	5.8E-03	4.7E-03	5.0E-03	5.6E-03	6.0E-03	5.5E-03	5.1E-03	4.7E-03
SPLEEN	0.0	2.8E-05	1.8E-03	1.5E-02	2.5E-02	1.8E-02	1.6E-02	1.5E-02	1.5E-02	1.3E-02	1.2E-02	1.1E-02
TESTES	0.0	9.9E-09	4.1E-05	3.6E-03	6.7E-03	7.7E-03	6.9E-03	6.9E-03	6.9E-03	6.8E-03	6.6E-03	6.1E-03
THYMUS	0.0	0.0	1.4E-07	1.5E-04	8.1E-04	1.9E-03	2.3E-03	2.6E-03	2.7E-03	2.7E-03	2.6E-03	2.1E-03
THYROID	0.0	0.0	4.2E-10	9.5E-06	2.6E-04	5.9E-04	9.3E-04	1.1E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03
URINARY BL WALL	9.2E-10	1.8E-04	5.8E-03	2.8E-02	4.7E-02	3.2E-02	2.8E-02	2.4E-02	1.8E-02	1.6E-02	1.6E-02	1.5E-02
UTERUS	2.0E-09	1.0E-03	2.2E-02	1.1E-01	1.1E-01	7.0E-02	5.8E-02	5.6E-02	4.8E-02	4.3E-02	4.0E-02	3.7E-02
WHOLE BODY	6.7E-03	1.9E-02	3.0E-02	3.6E-02	2.7E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = HEART CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	2.8E-05	5.0E-03	3.2E-02	4.4E-02	3.0E-02	2.7E-02	2.7E-02	2.5E-02	2.2E-02	2.0E-02	1.6E-02
BRAIN	0.0	0.0	2.0E-08	3.6E-05	3.4E-04	8.4E-04	9.3E-04	1.2E-03	1.6E-03	1.7E-03	1.6E-03	1.3E-03
BREASTS	1.0E-08	1.1E-03	2.1E-02	7.9E-02	6.5E-02	4.1E-02	4.2E-02	4.5E-02	3.8E-02	3.9E-02	3.9E-02	3.1E-02
GALL BL WALL	0.0	3.4E-05	2.1E-03	2.0E-02	2.7E-02	2.7E-02	2.1E-02	1.7E-02	1.6E-02	1.5E-02	1.5E-02	1.2E-02
GI TRACT :												
LLI WALL	0.0	0.0	5.8E-07	2.0E-04	1.3E-03	1.6E-03	1.9E-03	2.3E-03	2.4E-03	2.4E-03	2.3E-03	2.0E-03
SI WALL	0.0	2.5E-10	5.4E-06	9.8E-04	4.4E-03	5.3E-03	4.4E-03	5.0E-03	5.0E-03	4.6E-03	4.3E-03	3.9E-03
STOMACH WALL	8.3E-08	5.7E-04	8.9E-03	3.9E-02	4.0E-02	2.8E-02	2.4E-02	2.3E-02	2.3E-02	2.2E-02	2.1E-02	1.7E-02
ULI WALL	0.0	1.0E-09	1.3E-05	1.8E-03	4.6E-03	7.1E-03	6.7E-03	6.1E-03	6.0E-03	5.9E-03	5.7E-03	4.8E-03
HEART WALL	8.3E-01	1.6E+00	1.7E+00	1.2E+00	5.1E-01	2.9E-01	2.9E-01	3.0E-01	2.8E-01	2.5E-01	2.3E-01	1.9E-01
KIDNEYS	0.0	8.9E-08	1.2E-04	4.3E-03	1.3E-02	1.1E-02	1.0E-02	1.0E-02	9.8E-03	9.2E-03	8.7E-03	8.0E-03
LIVER	1.5E-04	2.2E-03	1.5E-02	5.0E-02	4.7E-02	3.1E-02	2.7E-02	2.7E-02	2.5E-02	2.3E-02	2.1E-02	1.7E-02
LUNGS	6.7E-04	3.0E-02	1.1E-01	1.7E-01	1.1E-01	6.1E-02	5.5E-02	5.4E-02	4.9E-02	4.5E-02	4.2E-02	3.3E-02
MUSCLE	6.2E-04	5.6E-03	1.4E-02	2.2E-02	1.7E-02	1.2E-02	1.1E-02	1.1E-02	1.1E-02	1.0E-02	9.4E-03	7.7E-03
OVARIES	0.0	0.0	1.4E-07	1.7E-04	1.8E-03	2.4E-03	2.7E-03	2.8E-03	2.7E-03	2.6E-03	2.5E-03	2.4E-03
PANCREAS	0.0	1.0E-04	7.1E-03	4.8E-02	5.3E-02	3.5E-02	3.4E-02	3.2E-02	2.9E-02	2.6E-02	2.4E-02	2.0E-02
SKELETON :												
ACTIVE MARROW	8.8E-06	2.0E-04	1.9E-03	7.6E-03	1.1E-02	9.1E-03	8.7E-03	9.0E-03	8.1E-03	7.8E-03	7.5E-03	6.4E-03
BONE SURFACES	3.6E-05	9.5E-04	9.6E-03	4.2E-02	5.1E-02	2.3E-02	1.2E-02	9.4E-03	8.5E-03	8.2E-03	7.8E-03	6.7E-03
SKIN	1.9E-05	2.5E-04	1.5E-03	5.5E-03	6.2E-03	5.0E-03	5.2E-03	5.7E-03	5.6E-03	5.4E-03	5.2E-03	4.2E-03
SPLEEN	0.0	2.4E-06	1.9E-03	1.6E-02	2.5E-02	1.9E-02	1.5E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.1E-02
TESTES	0.0	0.0	1.2E-10	5.1E-06	1.8E-04	5.1E-04	7.6E-04	9.2E-04	1.0E-03	1.1E-03	1.1E-03	9.5E-04
THYMUS	7.0E-04	2.4E-02	1.0E-01	1.9E-01	1.3E-01	7.6E-02	7.1E-02	6.8E-02	6.6E-02	5.9E-02	5.4E-02	4.6E-02
THYROID	0.0	9.6E-08	1.6E-04	6.4E-03	1.5E-02	1.3E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.6E-03
URINARY BL WALL	0.0	0.0	1.1E-08	4.5E-05	6.6E-04	1.3E-03	1.5E-03	1.8E-03	1.9E-03	1.8E-03	1.8E-03	1.6E-03
UTERUS	0.0	0.0	1.2E-07	1.6E-04	1.2E-03	2.3E-03	2.2E-03	2.6E-03	2.8E-03	2.7E-03	2.6E-03	2.5E-03
WHOLE BODY	4.3E-03	1.2E-02	2.1E-02	2.9E-02	2.2E-02	1.4E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.3E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = HEART WALL												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	6.3E-05	6.8E-03	3.4E-02	4.3E-02	3.1E-02	2.8E-02	2.8E-02	2.7E-02	2.4E-02	2.3E-02	1.8E-02
BRAIN	0.0	0.0	1.6E-08	3.0E-05	2.9E-04	7.8E-04	9.0E-04	1.3E-03	1.5E-03	1.5E-03	1.4E-03	1.6E-03
BREASTS	1.0E-06	4.0E-03	3.6E-02	9.7E-02	7.4E-02	4.9E-02	4.7E-02	4.8E-02	5.0E-02	4.7E-02	4.3E-02	3.2E-02
GALL BL WALL	1.5E-09	2.0E-04	5.3E-03	3.0E-02	3.9E-02	3.0E-02	2.5E-02	1.9E-02	2.1E-02	1.9E-02	1.7E-02	1.4E-02
GI TRACT :												
LLI WALL	0.0	0.0	1.6E-06	3.2E-04	2.1E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.3E-03	2.3E-03
SI WALL	0.0	1.4E-09	1.2E-05	1.5E-03	4.8E-03	5.7E-03	5.3E-03	5.5E-03	5.5E-03	5.4E-03	5.1E-03	3.8E-03
STOMACH WALL	8.5E-06	8.9E-03	2.9E-02	6.8E-02	5.8E-02	3.9E-02	3.6E-02	3.4E-02	3.2E-02	2.9E-02	2.7E-02	2.8E-02
ULI WALL	0.0	4.9E-09	2.7E-05	3.0E-03	7.2E-03	7.7E-03	6.4E-03	5.3E-03	5.4E-03	5.6E-03	5.7E-03	5.2E-03
HEART WALL	8.5E+00	5.8E+00	3.9E+00	1.8E+00	7.2E-01	4.2E-01	4.3E-01	4.7E-01	4.3E-01	3.9E-01	3.6E-01	2.9E-01
KIDNEYS	0.0	2.9E-07	2.1E-04	6.7E-03	1.4E-02	1.3E-02	1.1E-02	1.0E-02	9.2E-03	8.8E-03	8.5E-03	7.4E-03
LIVER	3.7E-04	8.4E-03	3.1E-02	6.2E-02	5.2E-02	3.3E-02	3.0E-02	3.1E-02	2.8E-02	2.6E-02	2.4E-02	2.0E-02
LUNGS	3.4E-03	4.7E-02	1.2E-01	1.6E-01	9.8E-02	5.7E-02	5.2E-02	5.1E-02	4.6E-02	4.2E-02	3.9E-02	3.0E-02
MUSCLE	7.5E-03	1.6E-02	2.2E-02	2.5E-02	1.8E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.8E-03	8.1E-03
OVARIES	0.0	0.0	3.0E-07	2.4E-04	2.2E-03	2.4E-03	2.6E-03	2.8E-03	2.8E-03	2.8E-03	2.7E-03	2.6E-03
PANCREAS	2.4E-09	6.2E-04	1.7E-02	7.4E-02	7.0E-02	4.5E-02	4.1E-02	3.5E-02	3.5E-02	3.3E-02	3.1E-02	2.5E-02
SKELETON :												
ACTIVE MARROW	8.8E-06	2.0E-04	1.9E-03	7.6E-03	1.1E-02	9.1E-03	8.7E-03	9.0E-03	8.1E-03	7.8E-03	7.5E-03	6.4E-03
BONE SURFACES	3.6E-05	9.5E-04	9.6E-03	4.2E-02	5.1E-02	2.3E-02	1.2E-02	9.4E-03	8.5E-03	8.2E-03	7.8E-03	6.7E-03
SKIN	4.0E-05	4.7E-04	2.7E-03	6.9E-03	6.4E-03	5.2E-03	5.1E-03	5.6E-03	6.1E-03	5.6E-03	5.1E-03	4.4E-03
SPLEEN	0.0	1.4E-05	2.8E-03	2.3E-02	3.2E-02	2.2E-02	2.0E-02	2.1E-02	1.8E-02	1.7E-02	1.7E-02	1.4E-02
TESTES	0.0	0.0	2.4E-10	7.2E-06	2.2E-04	5.7E-04	8.0E-04	9.8E-04	1.1E-03	1.1E-03	1.1E-03	1.0E-03
THYMUS	3.2E-03	4.0E-02	1.1E-01	1.6E-01	1.1E-01	6.4E-02	6.3E-02	6.2E-02	5.8E-02	5.1E-02	4.7E-02	4.2E-02
THYROID	0.0	1.1E-07	1.4E-04	5.7E-03	1.2E-02	1.1E-02	1.1E-02	1.0E-02	1.1E-02	1.1E-02	1.1E-02	7.8E-03
URINARY BL WALL	0.0	0.0	2.4E-08	6.3E-05	8.0E-04	1.4E-03	1.7E-03	1.9E-03	2.0E-03	2.0E-03	2.0E-03	1.7E-03
UTERUS	0.0	0.0	2.4E-07	2.2E-04	1.5E-03	2.2E-03	2.5E-03	2.9E-03	3.0E-03	2.9E-03	2.8E-03	2.5E-03
WHOLE BODY	5.0E-02	5.0E-02	4.9E-02	4.2E-02	2.7E-02	1.7E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.0E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = KIDNEYS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.5E-02	1.3E-01	2.6E-01	2.7E-01	1.6E-01	1.1E-01	1.0E-01	1.1E-01	9.9E-02	8.9E-02	8.1E-02	6.5E-02
BRAIN	0.0	0.0	0.0	6.1E-07	5.5E-05	1.1E-04	1.9E-04	3.4E-04	4.4E-04	5.0E-04	5.3E-04	5.9E-04
BREASTS	0.0	0.0	3.7E-06	1.5E-03	3.5E-03	4.5E-03	4.5E-03	5.4E-03	5.2E-03	5.0E-03	4.8E-03	4.2E-03
GALL BL WALL	0.0	1.1E-04	8.3E-03	5.3E-02	5.7E-02	5.3E-02	4.6E-02	3.9E-02	3.3E-02	2.9E-02	2.7E-02	2.2E-02
GI TRACT :												
LLI WALL	0.0	2.7E-06	4.3E-04	5.7E-03	1.0E-02	1.3E-02	1.1E-02	9.2E-03	8.6E-03	8.6E-03	8.5E-03	7.2E-03
SI WALL	1.7E-08	4.7E-04	7.6E-03	3.6E-02	4.4E-02	3.2E-02	2.9E-02	2.9E-02	2.7E-02	2.4E-02	2.2E-02	1.8E-02
STOMACH WALL	0.0	7.7E-05	3.9E-03	2.9E-02	4.1E-02	3.0E-02	2.8E-02	2.6E-02	2.4E-02	2.3E-02	2.2E-02	1.7E-02
ULI WALL	0.0	8.3E-05	3.3E-03	2.9E-02	4.1E-02	2.9E-02	2.7E-02	2.4E-02	2.5E-02	2.1E-02	1.9E-02	1.7E-02
HEART WALL	0.0	2.9E-07	2.1E-04	6.7E-03	1.4E-02	1.3E-02	1.1E-02	1.0E-02	9.2E-03	8.8E-03	8.5E-03	7.4E-03
KIDNEYS	8.0E+00	6.4E+00	4.5E+00	2.1E+00	7.8E-01	4.5E-01	4.8E-01	5.1E-01	4.8E-01	4.4E-01	4.1E-01	3.3E-01
LIVER	3.9E-04	8.5E-03	3.1E-02	6.2E-02	5.6E-02	3.7E-02	3.5E-02	3.4E-02	3.2E-02	2.9E-02	2.7E-02	2.1E-02
LUNGS	1.7E-07	4.5E-05	2.4E-03	1.1E-02	1.7E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	1.0E-02	9.8E-03	7.9E-03
MUSCLE	5.9E-03	1.6E-02	2.4E-02	2.5E-02	1.8E-02	1.3E-02	1.2E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	8.9E-03
OVARIES	0.0	3.8E-07	3.2E-04	5.2E-03	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02	1.0E-02	9.9E-03	8.2E-03
PANCREAS	1.5E-08	1.4E-03	3.0E-02	1.1E-01	9.0E-02	6.3E-02	5.7E-02	5.5E-02	5.1E-02	4.8E-02	4.5E-02	3.4E-02
SKELETON :												
ACTIVE MARROW	3.0E-04	3.1E-03	9.3E-03	1.9E-02	2.2E-02	1.8E-02	1.7E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02
BONE SURFACES	8.2E-04	9.9E-03	3.2E-02	7.1E-02	6.8E-02	2.9E-02	1.6E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.5E-03
SKIN	6.4E-06	1.6E-03	5.7E-03	9.5E-03	6.9E-03	5.1E-03	5.6E-03	6.4E-03	6.6E-03	6.3E-03	5.9E-03	4.9E-03
SPLEEN	1.0E-02	8.5E-02	2.1E-01	2.4E-01	1.4E-01	8.6E-02	8.3E-02	8.1E-02	7.6E-02	7.1E-02	6.5E-02	4.9E-02
TESTES	0.0	0.0	6.0E-08	1.2E-04	1.1E-03	1.3E-03	1.6E-03	2.0E-03	2.2E-03	2.2E-03	2.2E-03	2.1E-03
THYMUS	0.0	0.0	9.6E-07	6.0E-04	2.3E-03	3.8E-03	3.9E-03	4.2E-03	4.2E-03	3.8E-03	3.6E-03	3.3E-03
THYROID	0.0	0.0	8.5E-09	4.3E-05	1.2E-03	1.7E-03	1.8E-03	1.8E-03	1.9E-03	1.8E-03	1.8E-03	1.6E-03
URINARY BL WALL	0.0	3.1E-10	7.3E-06	1.2E-03	3.8E-03	5.1E-03	5.7E-03	5.8E-03	5.5E-03	5.2E-03	5.0E-03	4.2E-03
UTERUS	0.0	5.1E-08	1.3E-04	5.0E-03	1.3E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	9.8E-03	8.5E-03
WHOLE BODY	5.0E-02	5.0E-02	4.8E-02	4.0E-02	2.6E-02	1.7E-02	1.5E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = LIVER												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.3E-04	1.2E-02	5.0E-02	8.9E-02	7.2E-02	4.9E-02	4.4E-02	4.4E-02	4.0E-02	3.7E-02	3.5E-02	2.8E-02
BRAIN	0.0	0.0	0.0	1.8E-06	1.3E-04	2.4E-04	3.6E-04	5.3E-04	6.7E-04	7.2E-04	7.5E-04	7.0E-04
BREASTS	0.0	6.5E-06	1.7E-03	1.2E-02	1.7E-02	1.2E-02	1.2E-02	1.3E-02	1.4E-02	1.2E-02	1.1E-02	1.0E-02
GALL BL WALL	8.1E-02	1.3E-01	1.7E-01	2.0E-01	1.7E-01	1.1E-01	8.6E-02	8.6E-02	8.1E-02	7.4E-02	6.7E-02	5.1E-02
GI TRACT :												
LLI WALL	0.0	5.3E-08	4.1E-05	2.4E-03	4.7E-03	6.2E-03	5.8E-03	5.6E-03	5.3E-03	5.0E-03	4.7E-03	4.1E-03
SI WALL	1.6E-03	4.9E-03	1.2E-02	3.2E-02	3.6E-02	2.5E-02	2.3E-02	2.1E-02	2.1E-02	1.9E-02	1.8E-02	1.4E-02
STOMACH WALL	1.2E-03	6.9E-03	2.5E-02	6.0E-02	5.2E-02	3.5E-02	3.0E-02	2.8E-02	2.8E-02	2.5E-02	2.3E-02	2.0E-02
ULI WALL	1.0E-03	1.5E-02	4.0E-02	6.7E-02	5.9E-02	4.0E-02	3.5E-02	3.0E-02	3.4E-02	3.1E-02	2.8E-02	2.2E-02
HEART WALL	3.7E-04	8.4E-03	3.1E-02	6.2E-02	5.2E-02	3.3E-02	3.0E-02	3.1E-02	2.8E-02	2.6E-02	2.4E-02	2.0E-02
KIDNEYS	3.9E-04	8.5E-03	3.1E-02	6.2E-02	5.6E-02	3.7E-02	3.5E-02	3.4E-02	3.2E-02	2.9E-02	2.7E-02	2.1E-02
LIVER	1.6E+00	1.5E+00	1.2E+00	7.3E-01	3.3E-01	1.9E-01	1.9E-01	2.0E-01	1.8E-01	1.7E-01	1.5E-01	1.2E-01
LUNGS	2.6E-03	2.5E-02	5.2E-02	6.4E-02	4.3E-02	2.6E-02	2.4E-02	2.3E-02	2.2E-02	2.0E-02	1.8E-02	1.4E-02
MUSCLE	3.1E-03	8.2E-03	1.4E-02	1.8E-02	1.5E-02	1.0E-02	9.9E-03	1.0E-02	9.8E-03	9.3E-03	8.3E-03	7.2E-03
OVARIES	0.0	4.7E-07	2.8E-04	5.1E-03	1.2E-02	1.0E-02	9.9E-03	9.4E-03	9.8E-03	9.7E-03	9.1E-03	6.5E-03
PANCREAS	4.8E-04	1.4E-02	6.2E-02	1.2E-01	9.6E-02	5.9E-02	5.4E-02	5.1E-02	4.7E-02	4.3E-02	4.0E-02	3.3E-02
SKELETON :												
ACTIVE MARROW	1.4E-04	1.1E-03	3.1E-03	7.7E-03	1.0E-02	9.2E-03	8.6E-03	8.8E-03	8.4E-03	7.9E-03	7.5E-03	6.4E-03
BONE SURFACES	6.1E-04	5.3E-03	1.7E-02	4.2E-02	4.5E-02	2.1E-02	1.1E-02	8.4E-03	8.0E-03	7.7E-03	7.4E-03	6.0E-03
SKIN	1.8E-06	9.6E-04	3.2E-03	7.1E-03	6.9E-03	5.0E-03	5.3E-03	5.8E-03	5.7E-03	5.7E-03	5.5E-03	4.3E-03
SPLEEN	0.0	2.2E-06	5.8E-04	9.8E-03	1.9E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	9.7E-03
TESTES	0.0	0.0	1.2E-07	1.2E-04	6.7E-04	1.4E-03	1.4E-03	1.8E-03	2.2E-03	2.3E-03	2.3E-03	2.0E-03
THYMUS	0.0	1.7E-07	1.1E-04	4.8E-03	1.0E-02	8.4E-03	7.8E-03	8.6E-03	8.3E-03	7.9E-03	7.7E-03	6.9E-03
THYROID	0.0	0.0	2.6E-07	6.7E-04	2.2E-03	3.2E-03	2.8E-03	3.0E-03	3.1E-03	2.9E-03	2.7E-03	2.2E-03
URINARY BL WALL	0.0	2.5E-09	1.2E-05	1.2E-03	4.0E-03	7.5E-03	7.4E-03	5.8E-03	4.9E-03	4.8E-03	4.6E-03	3.9E-03
UTERUS	0.0	7.5E-08	1.1E-04	3.6E-03	1.1E-02	1.0E-02	9.4E-03	9.6E-03	8.8E-03	8.4E-03	8.0E-03	6.5E-03
WHOLE BODY	5.0E-02	5.0E-02	4.9E-02	4.1E-02	2.7E-02	1.7E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = LUNGS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.6E-04	1.3E-02	4.7E-02	7.0E-02	5.2E-02	3.5E-02	3.3E-02	3.1E-02	3.1E-02	2.8E-02	2.5E-02	1.8E-02
BRAIN	0.0	0.0	9.7E-07	1.4E-04	8.1E-04	1.4E-03	1.5E-03	2.0E-03	2.1E-03	2.0E-03	1.9E-03	2.1E-03
BREASTS	1.0E-04	1.1E-02	5.0E-02	7.3E-02	4.8E-02	3.2E-02	3.2E-02	3.3E-02	3.1E-02	2.8E-02	2.5E-02	2.2E-02
GALL BL WALL	0.0	3.0E-05	1.7E-03	1.5E-02	3.0E-02	1.6E-02	1.0E-02	1.1E-02	1.0E-02	1.0E-02	9.6E-03	7.9E-03
GI TRACT :												
LLI WALL	0.0	0.0	1.5E-06	2.7E-04	1.4E-03	2.0E-03	2.1E-03	2.2E-03	2.1E-03	2.1E-03	2.0E-03	1.7E-03
SI WALL	0.0	3.6E-09	1.6E-05	1.4E-03	3.7E-03	4.1E-03	4.1E-03	4.6E-03	4.3E-03	4.2E-03	4.1E-03	3.6E-03
STOMACH WALL	1.3E-03	5.0E-03	1.3E-02	2.6E-02	2.8E-02	1.9E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
ULI WALL	0.0	7.1E-09	2.9E-05	1.7E-03	4.7E-03	5.6E-03	4.9E-03	4.7E-03	4.9E-03	4.7E-03	4.4E-03	3.5E-03
HEART WALL	3.1E-03	4.2E-02	1.1E-01	1.4E-01	9.1E-02	5.6E-02	5.2E-02	5.1E-02	4.6E-02	4.2E-02	3.9E-02	3.0E-02
KIDNEYS	1.5E-07	4.0E-05	2.1E-03	1.0E-02	1.6E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	1.0E-02	9.3E-03	7.9E-03
LIVER	2.3E-03	2.2E-02	4.6E-02	5.7E-02	4.0E-02	2.5E-02	2.4E-02	2.3E-02	2.2E-02	2.0E-02	1.8E-02	1.4E-02
LUNGS	3.0E+00	2.1E+00	1.3E+00	5.7E-01	2.1E-01	1.2E-01	1.2E-01	1.2E-01	1.2E-01	1.0E-01	9.5E-02	7.5E-02
MUSCLE	1.0E-02	2.5E-02	3.3E-02	3.0E-02	1.8E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.8E-03	8.2E-03
OVARIES	0.0	0.0	4.5E-07	2.7E-04	1.5E-03	2.3E-03	2.1E-03	2.6E-03	2.8E-03	2.7E-03	2.5E-03	2.3E-03
PANCREAS	5.5E-05	1.4E-03	1.5E-02	4.7E-02	4.3E-02	2.8E-02	2.5E-02	2.4E-02	2.2E-02	2.1E-02	1.9E-02	1.5E-02
SKELETON :												
ACTIVE MARROW	1.7E-04	2.3E-03	7.8E-03	1.5E-02	1.4E-02	1.1E-02	1.1E-02	1.1E-02	1.0E-02	9.6E-03	9.1E-03	7.4E-03
BONE SURFACES	7.4E-04	1.1E-02	4.1E-02	8.7E-02	7.1E-02	2.8E-02	1.5E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.1E-03
SKIN	1.2E-04	8.6E-04	3.5E-03	7.7E-03	6.7E-03	5.5E-03	5.7E-03	6.7E-03	6.1E-03	5.9E-03	5.7E-03	5.2E-03
SPLEEN	4.9E-04	1.0E-02	3.5E-02	5.2E-02	3.7E-02	2.5E-02	2.4E-02	2.2E-02	2.0E-02	1.9E-02	1.9E-02	1.4E-02
TESTES	0.0	0.0	2.2E-10	6.4E-06	1.6E-04	2.4E-04	3.5E-04	4.9E-04	6.0E-04	6.7E-04	7.1E-04	8.2E-04
THYMUS	1.5E-07	1.6E-03	2.0E-02	6.2E-02	5.1E-02	3.4E-02	3.2E-02	3.1E-02	2.9E-02	2.6E-02	2.4E-02	2.1E-02
THYROID	0.0	2.6E-05	2.2E-03	1.7E-02	2.3E-02	1.7E-02	1.5E-02	1.5E-02	1.3E-02	1.3E-02	1.3E-02	1.0E-02
URINARY BL WALL	0.0	0.0	2.3E-08	5.8E-05	5.7E-04	1.0E-03	1.2E-03	1.5E-03	1.5E-03	1.6E-03	1.6E-03	1.4E-03
UTERUS	0.0	0.0	2.6E-07	2.2E-04	1.1E-03	1.8E-03	1.9E-03	2.4E-03	2.4E-03	2.4E-03	2.3E-03	2.2E-03
WHOLE BODY	5.0E-02	5.0E-02	4.9E-02	4.0E-02	2.4E-02	1.5E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	8.9E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = MUSCLE												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.9E-02	3.6E-02	4.0E-02	3.2E-02	2.0E-02	1.4E-02	1.4E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	9.9E-03
BRAIN	6.0E-07	3.1E-05	5.0E-04	3.1E-03	4.5E-03	3.8E-03	3.8E-03	3.9E-03	3.9E-03	3.7E-03	3.5E-03	3.0E-03
BREASTS	7.6E-03	1.4E-02	1.6E-02	1.4E-02	9.2E-03	6.7E-03	7.2E-03	7.9E-03	8.0E-03	7.5E-03	7.1E-03	5.9E-03
GALL BL WALL	2.1E-02	2.4E-02	2.5E-02	2.4E-02	2.4E-02	2.1E-02	1.6E-02	1.1E-02	1.0E-02	9.7E-03	9.5E-03	9.0E-03
GI TRACT :												
LLI WALL	1.3E-02	1.9E-02	2.5E-02	3.0E-02	2.6E-02	1.9E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.4E-02	1.2E-02
SI WALL	4.0E-03	1.1E-02	1.9E-02	2.8E-02	2.3E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
STOMACH WALL	1.1E-02	2.4E-02	3.0E-02	2.8E-02	2.0E-02	1.4E-02	1.3E-02	1.2E-02	1.3E-02	1.2E-02	1.2E-02	9.3E-03
ULI WALL	4.0E-03	9.0E-03	1.5E-02	2.3E-02	2.3E-02	1.8E-02	1.5E-02	1.4E-02	1.2E-02	1.1E-02	1.1E-02	9.8E-03
HEART WALL	7.5E-03	1.6E-02	2.2E-02	2.5E-02	1.8E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.8E-03	8.1E-03
KIDNEYS	5.9E-03	1.6E-02	2.4E-02	2.5E-02	1.8E-02	1.3E-02	1.2E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	8.9E-03
LIVER	3.1E-03	8.2E-03	1.4E-02	1.8E-02	1.5E-02	1.0E-02	9.9E-03	1.0E-02	9.8E-03	9.3E-03	8.8E-03	7.2E-03
LUNGS	1.1E-02	2.8E-02	3.7E-02	3.3E-02	2.0E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.8E-03	8.2E-03
MUSCLE	6.9E-02	6.2E-02	5.3E-02	3.6E-02	2.0E-02	1.3E-02	1.4E-02	1.4E-02	1.4E-02	1.3E-02	1.2E-02	9.8E-03
OVARIES	2.1E-02	3.9E-02	4.4E-02	4.2E-02	2.9E-02	2.0E-02	1.9E-02	1.9E-02	1.7E-02	1.6E-02	1.5E-02	1.2E-02
PANCREAS	1.0E-02	2.6E-02	3.6E-02	3.6E-02	2.4E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
SKELETON :												
ACTIVE MARROW	2.2E-03	6.3E-03	1.1E-02	1.5E-02	1.4E-02	1.1E-02	1.1E-02	1.1E-02	1.1E-02	1.0E-02	9.5E-03	7.9E-03
BONE SURFACES	9.6E-03	2.8E-02	5.1E-02	8.0E-02	6.4E-02	2.8E-02	1.7E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.6E-03
SKIN	2.1E-02	2.4E-02	2.2E-02	1.7E-02	1.1E-02	7.6E-03	7.6E-03	8.5E-03	8.4E-03	7.9E-03	7.4E-03	6.5E-03
SPLEEN	6.0E-03	1.7E-02	2.7E-02	3.1E-02	2.1E-02	1.4E-02	1.3E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.2E-03
TESTES	1.7E-02	3.3E-02	3.9E-02	3.4E-02	2.1E-02	1.4E-02	1.4E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
THYMUS	7.7E-03	2.1E-02	3.2E-02	3.2E-02	2.1E-02	1.4E-02	1.3E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.1E-03
THYROID	1.9E-02	4.3E-02	5.6E-02	5.3E-02	3.1E-02	2.0E-02	1.9E-02	1.9E-02	1.8E-02	1.6E-02	1.5E-02	1.2E-02
URINARY BL WALL	2.9E-02	3.7E-02	3.8E-02	3.5E-02	2.8E-02	1.9E-02	1.6E-02	1.7E-02	1.7E-02	1.6E-02	1.5E-02	1.1E-02
UTERUS	1.7E-02	3.9E-02	4.9E-02	4.7E-02	3.2E-02	2.1E-02	2.0E-02	2.0E-02	1.8E-02	1.7E-02	1.6E-02	1.3E-02
WHOLE BODY	4.9E-02	4.6E-02	4.2E-02	3.3E-02	2.0E-02	1.3E-02	1.2E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	8.9E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = OVARIES												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	2.3E-10	1.0E-05	1.7E-03	6.3E-03	7.2E-03	7.4E-03	6.9E-03	6.4E-03	6.1E-03	5.9E-03	4.9E-03
BRAIN	0.0	0.0	0.0	1.5E-08	4.3E-06	1.3E-05	3.9E-05	1.1E-04	1.7E-04	2.1E-04	2.3E-04	2.9E-04
BREASTS	0.0	0.0	1.7E-08	6.5E-05	8.7E-04	1.6E-03	1.9E-03	2.1E-03	2.2E-03	2.1E-03	2.1E-03	1.8E-03
GALL BL WALL	0.0	1.9E-06	9.2E-04	1.4E-02	2.2E-02	2.7E-02	2.4E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02
GI TRACT :												
LLI WALL	1.6E-01	5.8E-01	7.5E-01	5.2E-01	2.6E-01	1.5E-01	1.5E-01	1.5E-01	1.4E-01	1.2E-01	1.1E-01	8.6E-02
SI WALL	1.6E-02	1.5E-01	3.2E-01	3.6E-01	2.1E-01	1.2E-01	1.2E-01	1.1E-01	1.0E-01	9.4E-02	8.7E-02	7.2E-02
STOMACH WALL	0.0	7.6E-07	3.3E-04	6.6E-03	1.5E-02	1.4E-02	1.2E-02	1.3E-02	1.2E-02	1.1E-02	9.9E-03	7.7E-03
ULI WALL	7.4E-02	3.2E-01	4.3E-01	3.3E-01	1.8E-01	1.1E-01	1.1E-01	1.0E-01	9.3E-02	8.5E-02	7.9E-02	6.9E-02
HEART WALL	0.0	0.0	3.0E-07	2.4E-04	2.2E-03	2.4E-03	2.6E-03	2.8E-03	2.8E-03	2.8E-03	2.7E-03	2.6E-03
KIDNEYS	0.0	3.8E-07	3.2E-04	5.2E-03	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02	1.0E-02	9.9E-03	8.2E-03
LIVER	0.0	4.7E-07	2.8E-04	5.1E-03	1.2E-02	1.0E-02	9.9E-03	9.4E-03	9.8E-03	9.7E-03	9.1E-03	6.5E-03
LUNGS	0.0	0.0	5.0E-07	3.0E-04	1.6E-03	2.3E-03	2.0E-03	2.6E-03	2.8E-03	2.7E-03	2.5E-03	2.3E-03
MUSCLE	2.1E-02	3.9E-02	4.4E-02	4.2E-02	2.9E-02	2.0E-02	1.9E-02	1.9E-02	1.7E-02	1.6E-02	1.5E-02	1.2E-02
OVARIES	4.1E+02	2.1E+02	1.0E+02	3.5E+01	1.1E+01	6.4E+00	7.2E+00	8.2E+00	7.3E+00	6.5E+00	6.0E+00	4.8E+00
PANCREAS	0.0	6.3E-09	4.9E-05	3.7E-03	1.2E-02	1.1E-02	9.4E-03	9.7E-03	8.6E-03	8.3E-03	8.0E-03	6.4E-03
SKELETON :												
ACTIVE MARROW	7.1E-07	1.1E-03	1.0E-02	2.8E-02	2.8E-02	2.1E-02	1.9E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02
BONE SURFACES	2.1E-07	2.0E-03	2.1E-02	6.2E-02	6.1E-02	2.7E-02	1.4E-02	9.8E-03	9.2E-03	8.5E-03	7.9E-03	6.6E-03
SKIN	0.0	2.0E-06	3.2E-04	2.8E-03	5.6E-03	4.5E-03	5.2E-03	5.2E-03	5.5E-03	5.6E-03	5.5E-03	4.2E-03
SPLEEN	0.0	1.6E-08	5.3E-05	2.9E-03	8.0E-03	1.0E-02	9.0E-03	8.8E-03	7.1E-03	6.4E-03	6.1E-03	6.3E-03
THYMUS	0.0	0.0	1.7E-09	1.9E-05	4.0E-04	8.8E-04	1.2E-03	1.4E-03	1.5E-03	1.4E-03	1.4E-03	1.3E-03
THYROID	0.0	0.0	0.0	1.3E-06	8.3E-05	2.9E-04	4.5E-04	6.3E-04	7.2E-04	7.5E-04	7.8E-04	7.2E-04
URINARY BL WALL	3.2E-08	3.2E-03	3.8E-02	1.5E-01	1.3E-01	8.0E-02	6.2E-02	6.4E-02	5.9E-02	5.4E-02	5.0E-02	4.1E-02
UTERUS	4.4E-06	7.0E-02	3.6E-01	6.3E-01	3.6E-01	2.0E-01	1.7E-01	1.7E-01	1.7E-01	1.6E-01	1.5E-01	1.1E-01
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.6E-02	3.2E-02	2.0E-02	1.8E-02	1.8E-02	1.7E-02	1.6E-02	1.4E-02	1.2E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = PANCREAS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	1.9E-06	1.8E-02	1.3E-01	2.8E-01	1.9E-01	1.2E-01	1.1E-01	9.9E-02	9.1E-02	7.9E-02	7.2E-02	7.0E-02
BRAIN	0.0	0.0	0.0	1.8E-06	1.0E-04	2.5E-04	3.7E-04	5.3E-04	6.8E-04	7.4E-04	7.7E-04	7.6E-04
BREASTS	0.0	7.2E-08	1.7E-04	4.5E-03	1.6E-02	1.3E-02	1.0E-02	1.1E-02	1.2E-02	1.1E-02	9.6E-03	9.0E-03
GALL BL WALL	4.4E-02	4.5E-01	8.0E-01	6.7E-01	3.4E-01	1.8E-01	1.9E-01	1.7E-01	1.5E-01	1.4E-01	1.4E-01	1.1E-01
GI TRACT :												
LLI WALL	0.0	3.0E-07	2.0E-04	5.1E-03	8.9E-03	1.0E-02	1.1E-02	9.6E-03	8.5E-03	8.0E-03	7.6E-03	6.5E-03
SI WALL	0.0	3.2E-05	2.6E-03	2.4E-02	3.8E-02	2.7E-02	2.4E-02	2.2E-02	2.0E-02	1.9E-02	1.8E-02	1.6E-02
STOMACH WALL	1.6E-02	1.7E-01	3.6E-01	4.1E-01	2.4E-01	1.4E-01	1.3E-01	1.3E-01	1.2E-01	1.1E-01	9.7E-02	8.7E-02
ULI WALL	0.0	6.8E-05	3.4E-03	3.0E-02	4.3E-02	2.9E-02	2.8E-02	2.7E-02	2.3E-02	1.9E-02	1.8E-02	1.6E-02
HEART WALL	2.4E-09	6.2E-04	1.7E-02	7.4E-02	7.0E-02	4.5E-02	4.1E-02	3.5E-02	3.5E-02	3.3E-02	3.1E-02	2.5E-02
KIDNEYS	1.5E-08	1.4E-03	3.0E-02	1.1E-01	9.0E-02	6.3E-02	5.7E-02	5.5E-02	5.1E-02	4.8E-02	4.5E-02	3.4E-02
LIVER	4.8E-04	1.4E-02	6.2E-02	1.2E-01	9.6E-02	5.9E-02	5.4E-02	5.1E-02	4.7E-02	4.3E-02	4.0E-02	3.3E-02
LUNGS	6.1E-05	1.6E-03	1.6E-02	5.2E-02	4.6E-02	2.8E-02	2.5E-02	2.4E-02	2.2E-02	2.1E-02	1.9E-02	1.5E-02
MUSCLE	1.0E-02	2.6E-02	3.6E-02	3.6E-02	2.4E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
OVARIES	0.0	6.3E-09	4.9E-05	3.7E-03	1.2E-02	1.1E-02	9.4E-03	9.7E-03	8.6E-03	8.3E-03	8.0E-03	6.4E-03
PANCREAS	3.7E+01	2.6E+01	1.6E+01	6.5E+00	2.2E+00	1.3E+00	1.4E+00	1.5E+00	1.4E+00	1.3E+00	1.2E+00	9.5E-01
SKELETON :												
ACTIVE MARROW	2.7E-07	2.1E-04	2.0E-03	9.1E-03	1.4E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.6E-03	8.1E-03
BONE SURFACES	3.0E-05	8.3E-04	8.7E-03	4.2E-02	5.7E-02	2.7E-02	1.4E-02	1.0E-02	9.5E-03	9.0E-03	8.5E-03	7.1E-03
SKIN	1.6E-07	1.1E-05	2.2E-04	3.3E-03	5.1E-03	4.5E-03	4.4E-03	5.2E-03	5.7E-03	5.4E-03	5.0E-03	4.0E-03
SPLEEN	1.7E-02	2.0E-01	4.6E-01	4.7E-01	2.6E-01	1.5E-01	1.5E-01	1.4E-01	1.3E-01	1.2E-01	1.1E-01	9.1E-02
TESTES	0.0	0.0	1.9E-08	6.9E-05	8.9E-04	1.4E-03	1.9E-03	2.2E-03	2.2E-03	2.1E-03	2.1E-03	1.8E-03
THYMUS	0.0	6.2E-09	3.9E-05	2.7E-03	7.8E-03	9.2E-03	8.7E-03	9.0E-03	8.1E-03	7.1E-03	6.7E-03	6.4E-03
THYROID	0.0	0.0	1.5E-07	2.0E-04	2.3E-03	2.6E-03	2.9E-03	3.1E-03	3.0E-03	3.0E-03	2.9E-03	2.5E-03
URINARY BL WALL	0.0	0.0	2.4E-06	7.0E-04	4.1E-03	4.6E-03	4.8E-03	4.7E-03	4.5E-03	4.4E-03	4.3E-03	3.6E-03
UTERUS	0.0	3.4E-09	3.6E-05	2.9E-03	8.9E-03	1.0E-02	1.1E-02	1.0E-02	9.1E-03	7.3E-03	6.8E-03	6.1E-03
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.6E-02	3.2E-02	2.0E-02	1.8E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = SKELETON : ACTIVE MARROW												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	3.9E-04	6.8E-03	1.7E-02	2.9E-02	2.8E-02	2.0E-02	1.9E-02	2.2E-02	2.0E-02	1.9E-02	1.8E-02	1.5E-02
BRAIN	2.1E-03	6.6E-03	1.3E-02	1.9E-02	1.5E-02	1.0E-02	1.0E-02	1.0E-02	1.0E-02	9.4E-03	8.8E-03	7.4E-03
BREASTS	3.0E-04	4.8E-03	9.9E-03	9.3E-03	7.1E-03	4.9E-03	5.4E-03	6.7E-03	6.8E-03	6.6E-03	6.3E-03	5.0E-03
GALL BL WALL	0.0	1.7E-05	7.1E-04	6.3E-03	1.1E-02	1.0E-02	9.8E-03	9.7E-03	8.8E-03	8.0E-03	7.5E-03	6.2E-03
GI TRACT :												
LLI WALL	2.6E-03	1.2E-02	2.4E-02	3.6E-02	2.9E-02	1.9E-02	1.8E-02	1.8E-02	1.5E-02	1.4E-02	1.3E-02	1.3E-02
SI WALL	1.3E-03	3.7E-03	8.1E-03	1.8E-02	2.2E-02	1.7E-02	1.5E-02	1.6E-02	1.4E-02	1.3E-02	1.3E-02	1.0E-02
STOMACH WALL	8.6E-06	1.6E-04	1.2E-03	5.6E-03	8.4E-03	8.3E-03	7.7E-03	8.8E-03	8.7E-03	7.6E-03	6.8E-03	5.3E-03
ULI WALL	2.1E-03	5.2E-03	1.0E-02	1.8E-02	2.0E-02	1.5E-02	1.4E-02	1.4E-02	1.2E-02	1.1E-02	1.1E-02	8.9E-03
HEART WALL	2.2E-05	6.5E-04	3.0E-03	8.1E-03	1.0E-02	8.7E-03	8.0E-03	8.6E-03	8.1E-03	7.5E-03	7.0E-03	5.7E-03
KIDNEYS	3.2E-04	3.6E-03	1.0E-02	2.0E-02	2.2E-02	1.6E-02	1.6E-02	1.7E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02
LIVER	1.6E-04	1.2E-03	3.3E-03	7.8E-03	1.1E-02	8.9E-03	8.4E-03	8.8E-03	8.4E-03	7.9E-03	7.5E-03	6.4E-03
LUNGS	2.3E-04	2.9E-03	9.4E-03	1.7E-02	1.6E-02	1.0E-02	9.9E-03	1.1E-02	1.0E-02	9.6E-03	9.1E-03	7.4E-03
MUSCLE	2.2E-03	6.3E-03	1.1E-02	1.5E-02	1.4E-02	1.1E-02	1.1E-02	1.1E-02	1.1E-02	1.0E-02	9.5E-03	7.9E-03
OVARIES	2.1E-07	1.1E-03	1.0E-02	2.8E-02	2.9E-02	2.0E-02	1.8E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02
PANCREAS	8.1E-08	2.2E-04	2.1E-03	9.3E-03	1.5E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	9.6E-03	8.1E-03
SKELETON :												
ACTIVE MARROW	1.3E-01	1.1E-01	9.7E-02	7.0E-02	4.4E-02	3.2E-02	3.3E-02	3.4E-02	3.1E-02	2.9E-02	2.7E-02	2.2E-02
BONE SURFACES	4.6E-01	4.5E-01	4.1E-01	3.2E-01	1.6E-01	5.4E-02	3.3E-02	3.1E-02	2.8E-02	2.6E-02	2.5E-02	2.0E-02
SKIN	2.0E-03	4.6E-03	6.9E-03	8.9E-03	8.0E-03	6.7E-03	7.3E-03	8.4E-03	8.3E-03	7.6E-03	6.9E-03	5.4E-03
SPLEEN	4.3E-05	9.9E-04	3.8E-03	9.4E-03	1.3E-02	1.0E-02	9.5E-03	1.0E-02	9.9E-03	9.3E-03	8.7E-03	7.1E-03
TESTES	0.0	9.6E-07	1.6E-04	2.4E-03	5.7E-03	5.3E-03	5.1E-03	5.6E-03	5.5E-03	5.0E-03	4.6E-03	4.1E-03
THYMUS	2.9E-05	1.6E-03	5.4E-03	8.6E-03	9.1E-03	7.0E-03	6.6E-03	7.5E-03	7.0E-03	6.7E-03	6.4E-03	5.2E-03
THYROID	5.6E-10	4.8E-05	8.0E-04	5.1E-03	8.7E-03	7.3E-03	6.8E-03	7.3E-03	6.6E-03	6.3E-03	6.0E-03	5.1E-03
URINARY BL WALL	0.0	1.2E-05	6.2E-04	1.0E-02	1.1E-02	1.1E-02	9.3E-03	8.0E-03	7.6E-03	7.2E-03	6.9E-03	5.7E-03
UTERUS	0.0	7.3E-06	1.1E-03	1.1E-02	1.8E-02	1.5E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02	8.0E-03
WHOLE BODY	5.0E-02	5.0E-02	4.8E-02	4.1E-02	2.6E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	9.0E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = SKELETON : WHOLE SKELETON												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	2.9E-04	5.1E-03	1.3E-02	2.1E-02	2.0E-02	1.4E-02	1.4E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
BRAIN	2.7E-03	8.4E-03	1.6E-02	2.4E-02	2.0E-02	1.3E-02	1.3E-02	1.4E-02	1.3E-02	1.2E-02	1.2E-02	9.7E-03
BREASTS	2.6E-04	4.1E-03	8.4E-03	8.0E-03	6.3E-03	4.5E-03	4.9E-03	6.2E-03	6.2E-03	6.0E-03	5.7E-03	4.6E-03
GALL BL WALL	0.0	1.1E-05	4.5E-04	3.9E-03	6.1E-03	6.3E-03	6.4E-03	6.6E-03	5.9E-03	5.4E-03	5.1E-03	4.2E-03
GI TRACT :												
LLI WALL	1.0E-03	4.5E-03	1.0E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	1.1E-02	9.3E-03	8.4E-03	7.8E-03	6.8E-03
SI WALL	4.5E-04	1.3E-03	2.9E-03	6.9E-03	9.4E-03	7.8E-03	7.3E-03	7.8E-03	7.2E-03	6.7E-03	6.3E-03	4.9E-03
STOMACH WALL	8.8E-05	4.9E-04	1.7E-03	4.2E-03	6.3E-03	6.1E-03	5.6E-03	5.8E-03	6.1E-03	5.8E-03	5.4E-03	4.2E-03
ULI WALL	2.9E-03	3.6E-03	4.2E-03	5.7E-03	7.5E-03	7.7E-03	7.3E-03	7.0E-03	6.8E-03	6.3E-03	5.8E-03	4.5E-03
HEART WALL	1.8E-05	5.5E-04	2.5E-03	7.1E-03	9.1E-03	7.5E-03	6.9E-03	7.5E-03	7.1E-03	6.5E-03	6.1E-03	5.0E-03
KIDNEYS	1.7E-04	2.0E-03	5.7E-03	1.1E-02	1.3E-02	9.6E-03	9.5E-03	1.0E-02	9.8E-03	9.0E-03	8.4E-03	7.1E-03
LIVER	1.4E-04	1.1E-03	3.0E-03	6.8E-03	8.5E-03	6.7E-03	6.5E-03	7.0E-03	6.7E-03	6.4E-03	6.1E-03	5.0E-03
LUNGS	2.0E-04	2.5E-03	8.2E-03	1.5E-02	1.4E-02	9.3E-03	9.0E-03	1.0E-02	9.6E-03	8.9E-03	8.3E-03	6.8E-03
MUSCLE	2.1E-03	5.2E-03	8.9E-03	1.3E-02	1.2E-02	9.6E-03	9.7E-03	1.0E-02	9.9E-03	9.3E-03	8.7E-03	7.2E-03
OVARIES	5.0E-08	3.9E-04	3.5E-03	9.9E-03	1.1E-02	8.8E-03	8.0E-03	8.2E-03	7.7E-03	7.1E-03	6.6E-03	5.5E-03
PANCREAS	6.6E-06	1.6E-04	1.5E-03	6.9E-03	1.1E-02	8.8E-03	8.1E-03	8.6E-03	7.9E-03	7.4E-03	7.1E-03	5.9E-03
SKELETON :												
ACTIVE MARROW	9.2E-02	8.0E-02	6.9E-02	5.1E-02	3.3E-02	2.4E-02	2.5E-02	2.6E-02	2.4E-02	2.2E-02	2.1E-02	1.7E-02
BONE SURFACES	4.6E-01	4.5E-01	4.2E-01	3.3E-01	1.7E-01	5.7E-02	3.5E-02	3.2E-02	3.0E-02	2.8E-02	2.6E-02	2.1E-02
SKIN	1.6E-03	5.4E-03	8.4E-03	9.7E-03	8.2E-03	7.2E-03	7.4E-03	8.0E-03	7.9E-03	7.6E-03	7.3E-03	6.1E-03
SPLEEN	3.7E-05	8.9E-04	3.5E-03	8.6E-03	1.1E-02	9.4E-03	8.1E-03	8.0E-03	7.8E-03	7.3E-03	6.8E-03	5.6E-03
TESTES	0.0	2.3E-06	2.2E-04	2.7E-03	6.2E-03	5.2E-03	5.1E-03	5.8E-03	5.7E-03	5.1E-03	4.7E-03	4.2E-03
THYMUS	2.5E-05	1.3E-03	4.6E-03	7.6E-03	8.4E-03	6.6E-03	6.2E-03	7.1E-03	6.7E-03	6.4E-03	6.1E-03	5.0E-03
THYROID	1.3E-09	4.4E-05	8.5E-04	5.8E-03	9.9E-03	8.4E-03	7.7E-03	8.3E-03	7.5E-03	7.1E-03	6.8E-03	5.8E-03
URINARY BL WALL	0.0	4.8E-06	2.8E-04	4.1E-03	5.1E-03	5.8E-03	6.0E-03	6.5E-03	6.6E-03	6.2E-03	5.6E-03	3.8E-03
UTERUS	0.0	2.5E-06	3.9E-04	3.9E-03	7.8E-03	6.9E-03	6.2E-03	6.4E-03	6.0E-03	5.6E-03	5.2E-03	4.5E-03
WHOLE BODY	5.0E-02	5.0E-02	4.8E-02	4.0E-02	2.5E-02	1.4E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.0E-02	8.6E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = SPLEEN												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	3.7E-07	5.9E-03	5.6E-02	1.4E-01	1.2E-01	6.7E-02	6.5E-02	6.0E-02	5.3E-02	5.4E-02	5.4E-02	4.0E-02
BRAIN	0.0	0.0	0.0	1.5E-06	1.4E-04	2.5E-04	4.0E-04	6.2E-04	7.6E-04	8.4E-04	8.9E-04	1.0E-03
BREASTS	0.0	2.1E-08	6.8E-05	7.0E-03	9.1E-03	9.7E-03	9.8E-03	9.8E-03	9.2E-03	8.6E-03	8.0E-03	6.4E-03
GALL BL WALL	0.0	4.3E-05	4.7E-03	2.9E-02	5.5E-02	4.9E-02	3.8E-02	2.7E-02	2.3E-02	2.2E-02	2.2E-02	1.8E-02
GI TRACT :												
ILI WALL	0.0	2.8E-06	4.6E-04	5.3E-03	1.2E-02	1.1E-02	9.6E-03	1.0E-02	8.3E-03	7.9E-03	7.8E-03	7.0E-03
SI WALL	3.1E-07	5.2E-05	2.0E-03	1.7E-02	2.5E-02	1.9E-02	1.7E-02	1.7E-02	1.6E-02	1.5E-02	1.5E-02	1.1E-02
STOMACH WALL	1.9E-06	9.4E-03	5.5E-02	1.6E-01	1.3E-01	7.9E-02	6.8E-02	7.1E-02	5.8E-02	5.2E-02	4.9E-02	4.0E-02
ULI WALL	0.0	3.8E-05	1.3E-03	1.5E-02	2.3E-02	1.9E-02	1.7E-02	1.7E-02	1.7E-02	1.4E-02	1.2E-02	1.1E-02
HEART WALL	0.0	1.4E-05	2.8E-03	2.3E-02	3.2E-02	2.2E-02	2.0E-02	2.1E-02	1.8E-02	1.7E-02	1.7E-02	1.4E-02
KIDNEYS	1.0E-02	8.5E-02	2.1E-01	2.4E-01	1.4E-01	8.6E-02	8.3E-02	8.1E-02	7.6E-02	7.1E-02	6.5E-02	4.9E-02
LIVER	0.0	2.2E-06	5.8E-04	9.8E-03	1.9E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	9.7E-03
LUNGS	5.5E-04	1.2E-02	4.0E-02	5.8E-02	4.0E-02	2.5E-02	2.4E-02	2.2E-02	2.0E-02	1.9E-02	1.9E-02	1.4E-02
MUSCLE	6.0E-03	1.7E-02	2.7E-02	3.1E-02	2.1E-02	1.4E-02	1.3E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.2E-03
OVARIES	0.0	1.6E-08	5.3E-05	2.9E-03	8.0E-03	1.0E-02	9.0E-03	8.8E-03	7.1E-03	6.4E-03	6.1E-03	6.3E-03
PANCREAS	1.7E-02	2.0E-01	4.6E-01	4.7E-01	2.6E-01	1.5E-01	1.5E-01	1.4E-01	1.3E-01	1.2E-01	1.1E-01	9.1E-02
SKELETON :												
ACTIVE MARROW	3.9E-05	9.2E-04	3.7E-03	9.3E-03	1.2E-02	1.0E-02	1.0E-02	1.0E-02	9.9E-03	9.3E-03	8.7E-03	7.1E-03
BONE SURFACES	1.7E-04	4.6E-03	2.0E-02	5.0E-02	5.3E-02	2.3E-02	1.3E-02	9.6E-03	9.4E-03	8.8E-03	8.2E-03	6.7E-03
SKIN	1.2E-05	2.7E-04	2.4E-03	6.8E-03	6.0E-03	5.0E-03	5.3E-03	6.0E-03	5.2E-03	5.4E-03	5.6E-03	4.5E-03
SPLEEN	1.9E+01	1.5E+01	1.1E+01	4.8E+00	1.7E+00	9.8E-01	1.1E+00	1.1E+00	1.0E+00	9.5E-01	8.7E-01	7.0E-01
TESTES	0.0	0.0	1.2E-08	5.2E-05	6.8E-04	1.2E-03	1.6E-03	1.8E-03	1.9E-03	1.9E-03	1.9E-03	1.7E-03
THYMUS	0.0	2.9E-10	7.2E-06	1.8E-03	5.5E-03	5.7E-03	5.0E-03	6.2E-03	5.1E-03	4.3E-03	4.1E-03	4.6E-03
THYROID	0.0	0.0	6.7E-08	1.2E-04	1.8E-03	2.5E-03	2.7E-03	2.7E-03	2.6E-03	2.4E-03	2.3E-03	2.1E-03
URINARY BL WALL	0.0	0.0	1.3E-06	4.8E-04	3.0E-03	3.6E-03	3.8E-03	3.9E-03	3.9E-03	3.8E-03	3.7E-03	3.1E-03
UTERUS	0.0	9.4E-10	1.7E-05	2.6E-03	6.4E-03	7.8E-03	6.6E-03	6.2E-03	6.6E-03	6.3E-03	6.0E-03	5.1E-03
WHOLE BODY	5.0E-02	5.0E-02	4.9E-02	4.2E-02	2.7E-02	1.7E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.0E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = TESTES												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	0.0	2.9E-09	2.8E-05	5.2E-04	1.1E-03	1.4E-03	1.6E-03	1.7E-03	1.7E-03	1.7E-03	1.5E-03
BRAIN	0.0	0.0	0.0	4.6E-10	5.2E-07	4.2E-06	1.1E-05	2.9E-05	5.5E-05	7.7E-05	9.6E-05	1.6E-04
GALL BL WALL	0.0	0.0	5.7E-07	3.5E-04	2.3E-03	3.1E-03	3.4E-03	3.6E-03	3.6E-03	3.5E-03	3.4E-03	2.9E-03
GI TRACT :												
LLI WALL	9.7E-10	6.6E-04	1.4E-02	5.3E-02	6.0E-02	3.4E-02	3.2E-02	3.0E-02	3.0E-02	2.8E-02	2.6E-02	2.2E-02
SI WALL	0.0	6.6E-09	4.4E-05	2.9E-03	7.9E-03	8.7E-03	8.3E-03	8.3E-03	8.0E-03	7.8E-03	7.6E-03	6.5E-03
STOMACH WALL	0.0	0.0	2.0E-07	1.8E-04	1.1E-03	1.4E-03	1.8E-03	2.6E-03	2.7E-03	2.6E-03	2.6E-03	2.3E-03
ULI WALL	0.0	1.1E-08	4.1E-05	2.8E-03	5.6E-03	7.8E-03	7.7E-03	7.2E-03	7.2E-03	7.2E-03	7.0E-03	6.0E-03
HEART WALL	0.0	0.0	2.4E-10	7.2E-06	2.2E-04	5.7E-04	8.0E-04	9.8E-04	1.1E-03	1.1E-03	1.1E-03	1.0E-03
KIDNEYS	0.0	0.0	6.0E-08	1.2E-04	1.1E-03	1.3E-03	1.6E-03	2.0E-03	2.2E-03	2.2E-03	2.2E-03	2.1E-03
LIVER	0.0	0.0	1.2E-07	1.2E-04	6.7E-04	1.4E-03	1.4E-03	1.8E-03	2.2E-03	2.3E-03	2.3E-03	2.0E-03
LUNGS	0.0	0.0	2.5E-10	7.2E-06	1.7E-04	2.5E-04	3.4E-04	4.8E-04	5.8E-04	6.5E-04	7.0E-04	8.2E-04
MUSCLE	1.7E-02	3.3E-02	3.9E-02	3.4E-02	2.1E-02	1.4E-02	1.4E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
PANCREAS	0.0	0.0	1.9E-08	6.9E-05	8.9E-04	1.4E-03	1.9E-03	2.2E-03	2.2E-03	2.1E-03	2.1E-03	1.8E-03
SKELETON :												
ACTIVE MARROW	0.0	3.7E-06	1.3E-04	2.4E-03	5.4E-03	5.4E-03	5.3E-03	5.6E-03	5.5E-03	5.0E-03	4.6E-03	4.1E-03
BONE SURFACES	0.0	8.9E-06	1.2E-03	1.7E-02	3.1E-02	1.6E-02	8.8E-03	6.9E-03	6.8E-03	6.1E-03	5.6E-03	5.0E-03
SKIN	3.1E-02	7.8E-02	7.8E-02	4.5E-02	2.0E-02	1.2E-02	1.3E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	9.9E-03
SPLEEN	0.0	0.0	1.2E-06	5.2E-05	6.8E-04	1.2E-03	1.6E-03	1.8E-03	1.9E-03	1.9E-03	1.9E-03	1.7E-03
TESTES	4.5E+02	2.5E+02	1.3E+02	4.4E+01	1.4E+01	8.2E+00	9.4E+00	1.0E+01	9.6E+00	8.6E+00	7.9E+00	6.6E+00
THYMUS	0.0	0.0	0.0	6.9E-07	5.4E-05	2.1E-04	3.5E-04	5.0E-04	5.9E-04	6.3E-04	6.5E-04	6.1E-04
THYROID	0.0	0.0	0.0	4.6E-06	1.1E-05	6.7E-05	1.3E-04	2.3E-04	3.0E-04	3.4E-04	3.6E-04	3.6E-04
URINARY BL WALL	1.1E-07	5.6E-03	5.6E-02	1.6E-01	1.1E-01	7.4E-02	7.4E-02	7.7E-02	7.3E-02	6.3E-02	5.7E-02	4.8E-02
WHOLE BODY	5.0E-02	4.5E-02	4.0E-02	3.0E-02	1.9E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	9.8E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = THYMUS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	1.1E-09	1.9E-05	4.4E-03	6.6E-03	7.2E-03	6.9E-03	6.6E-03	7.0E-03	6.8E-03	6.4E-03	5.3E-03
BRAIN	0.0	0.0	1.1E-06	1.6E-04	1.3E-03	2.0E-03	2.1E-03	2.6E-03	3.1E-03	3.2E-03	3.1E-03	2.9E-03
BREASTS	0.0	1.7E-04	5.8E-03	4.7E-02	4.8E-02	3.1E-02	3.1E-02	3.4E-02	3.3E-02	3.5E-02	3.5E-02	2.7E-02
GALL BL WALL	0.0	2.8E-09	1.5E-05	1.5E-03	5.3E-03	5.4E-03	5.6E-03	5.8E-03	5.6E-03	5.4E-03	5.2E-03	4.4E-03
GI TRACT :												
LLI WALL	0.0	0.0	6.5E-09	2.1E-05	3.5E-04	6.3E-04	9.6E-04	1.2E-03	1.3E-03	1.3E-03	1.3E-03	1.1E-03
SI WALL	0.0	0.0	5.9E-08	9.6E-05	6.2E-04	1.6E-03	1.8E-03	1.8E-03	1.9E-03	1.7E-03	1.7E-03	2.1E-03
STOMACH WALL	0.0	3.7E-08	6.0E-05	2.1E-03	6.3E-03	7.1E-03	6.1E-03	6.7E-03	7.3E-03	7.4E-03	7.2E-03	5.9E-03
ULI WALL	0.0	0.0	1.5E-07	1.5E-04	9.5E-04	1.5E-03	2.1E-03	2.7E-03	2.9E-03	2.8E-03	2.6E-03	2.2E-03
HEART WALL	3.2E-03	4.0E-02	1.1E-01	1.6E-01	1.1E-01	6.4E-02	6.3E-02	6.2E-02	5.8E-02	5.1E-02	4.7E-02	4.2E-02
KIDNEYS	0.0	0.0	9.6E-07	6.0E-04	2.3E-03	3.8E-03	3.9E-03	4.2E-03	4.2E-03	3.8E-03	3.6E-03	3.3E-03
LIVER	0.0	1.7E-07	1.1E-04	4.8E-03	1.0E-02	8.4E-03	7.8E-03	8.6E-03	8.3E-03	7.9E-03	7.7E-03	6.9E-03
LUNGS	1.7E-07	1.8E-03	2.3E-02	7.0E-02	5.6E-02	3.5E-02	3.2E-02	3.1E-02	2.9E-02	2.6E-02	2.4E-02	2.1E-02
MUSCLE	7.7E-03	2.1E-02	3.2E-02	3.2E-02	2.1E-02	1.4E-02	1.3E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.1E-03
OVARIES	0.0	0.0	1.7E-09	1.9E-05	4.0E-04	8.8E-04	1.2E-03	1.4E-03	1.5E-03	1.4E-03	1.4E-03	1.3E-03
PANCREAS	0.0	6.2E-09	3.9E-05	2.7E-03	7.8E-03	9.2E-03	8.7E-03	9.0E-03	8.1E-03	7.1E-03	6.7E-03	6.4E-03
SKELETON :												
ACTIVE MARROW	4.2E-05	1.5E-03	4.9E-03	8.8E-03	8.8E-03	7.5E-03	7.2E-03	7.5E-03	7.0E-03	6.7E-03	6.4E-03	5.2E-03
BONE SURFACES	1.8E-04	7.5E-03	2.5E-02	4.9E-02	4.4E-02	2.0E-02	1.1E-02	8.5E-03	8.0E-03	7.7E-03	7.3E-03	6.1E-03
SKIN	2.4E-04	1.6E-03	6.0E-03	1.0E-02	8.0E-03	5.9E-03	6.5E-03	7.1E-03	6.4E-03	6.4E-03	6.4E-03	5.4E-03
SPLEEN	0.0	2.9E-10	7.2E-06	1.8E-03	5.5E-03	5.7E-03	5.0E-03	6.2E-03	5.1E-03	4.3E-03	4.1E-03	4.6E-03
TESTES	0.0	0.0	0.0	6.9E-07	5.4E-05	2.1E-04	3.5E-04	5.0E-04	5.9E-04	6.3E-04	6.5E-04	6.1E-04
THYMUS	3.0E+01	2.3E+01	1.5E+01	6.5E+00	2.2E+00	1.2E+00	1.3E+00	1.5E+00	1.3E+00	1.2E+00	1.1E+00	9.4E-01
THYROID	1.9E-08	1.7E-03	2.9E-02	1.1E-01	8.3E-02	5.3E-02	5.2E-02	5.4E-02	4.6E-02	4.3E-02	4.0E-02	3.4E-02
UTERINE BL WALL	0.0	0.0	1.7E-10	5.6E-06	1.9E-04	5.1E-04	7.3E-04	9.3E-04	1.0E-03	1.0E-03	1.1E-03	9.6E-04
UTERUS	0.0	0.0	1.5E-09	1.8E-05	3.9E-04	8.7E-04	1.1E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.3E-03
WHOLE BODY	5.0E-02	5.0E-02	4.8E-02	3.9E-02	2.4E-02	1.5E-02	1.4E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	9.7E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = THYROID												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	0.0	1.9E-07	2.2E-04	1.8E-03	3.0E-03	2.9E-03	3.2E-03	3.2E-03	3.1E-03	3.0E-03	2.6E-03
BRAIN	0.0	5.6E-07	2.5E-04	2.9E-03	1.0E-02	9.8E-03	9.6E-03	9.9E-03	9.9E-03	9.7E-03	9.2E-03	7.2E-03
BREASTS	0.0	4.5E-09	5.2E-05	4.0E-03	1.1E-02	1.2E-02	9.0E-03	9.3E-03	9.3E-03	8.7E-03	8.2E-03	6.8E-03
GALL BL WALL	0.0	0.0	4.1E-08	8.3E-05	9.5E-04	1.6E-03	1.9E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	1.9E-03
GI TRACT :												
LLI WALL	0.0	0.0	0.0	1.5E-06	7.1E-05	2.4E-04	3.8E-04	5.3E-04	6.2E-04	6.5E-04	6.8E-04	6.3E-04
SI WALL	0.0	0.0	2.1E-10	6.5E-06	2.8E-06	4.6E-06	6.1E-06	7.9E-06	8.6E-06	8.8E-06	9.0E-06	9.0E-06
STOMACH WALL	0.0	0.0	1.6E-07	1.6E-04	1.0E-03	2.6E-03	2.7E-03	2.3E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03
ULI WALL	0.0	0.0	4.5E-10	9.6E-06	2.6E-04	5.0E-04	7.7E-04	1.1E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03
HEART WALL	0.0	1.1E-07	1.4E-04	5.7E-03	1.2E-02	1.1E-02	1.1E-02	1.0E-02	1.1E-02	1.1E-02	1.1E-02	7.8E-03
KIDNEYS	0.0	0.0	8.5E-09	4.3E-05	1.2E-03	1.7E-03	1.8E-03	1.8E-03	1.9E-03	1.8E-03	1.8E-03	1.6E-03
LIVER	0.0	0.0	2.6E-07	6.7E-04	2.2E-03	3.2E-03	2.8E-03	3.0E-03	3.1E-03	2.9E-03	2.7E-03	2.2E-03
LUNGS	0.0	3.0E-05	2.5E-03	1.9E-02	2.5E-02	1.7E-02	1.5E-02	1.5E-02	1.3E-02	1.3E-02	1.3E-02	1.0E-02
MUSCLE	1.9E-02	4.3E-02	5.6E-02	5.3E-02	3.1E-02	2.0E-02	1.9E-02	1.9E-02	1.8E-02	1.6E-02	1.5E-02	1.2E-02
OVARIES	0.0	0.0	0.0	1.3E-06	8.3E-05	2.9E-04	4.5E-04	6.3E-04	7.2E-04	7.5E-04	7.8E-04	7.2E-04
PANCREAS	0.0	0.0	1.5E-07	2.0E-04	2.3E-03	2.6E-03	2.9E-03	3.1E-03	3.0E-03	3.0E-03	2.9E-03	2.5E-03
SKELETON :												
ACTIVE MARROW	1.9E-09	2.2E-05	7.8E-04	5.4E-03	9.1E-03	7.9E-03	7.3E-03	7.3E-03	6.6E-03	6.3E-03	6.0E-03	5.1E-03
BONE SURFACES	4.2E-09	1.1E-04	4.9E-03	3.6E-02	5.3E-02	2.6E-02	1.4E-02	1.0E-02	9.0E-03	8.6E-03	8.2E-03	6.9E-03
SKIN	5.0E-10	7.4E-05	1.4E-03	5.1E-03	6.5E-03	5.2E-03	5.1E-03	5.6E-03	5.7E-03	5.5E-03	5.2E-03	4.2E-03
SPLEEN	0.0	0.0	6.7E-08	1.2E-04	1.8E-03	2.5E-03	2.7E-03	2.7E-03	2.6E-03	2.4E-03	2.3E-03	2.1E-03
TESTES	0.0	0.0	0.0	4.6E-08	1.1E-05	6.7E-05	1.3E-04	2.3E-04	3.0E-04	3.4E-04	3.6E-04	3.6E-04
THYMUS	1.9E-08	1.7E-03	2.9E-02	1.1E-01	8.3E-02	5.3E-02	5.2E-02	5.4E-02	4.6E-02	4.3E-02	4.0E-02	3.4E-02
THYROID	2.2E+02	1.2E+02	6.8E+01	2.4E+01	7.7E+00	4.6E+00	5.1E+00	5.7E+00	5.4E+00	5.0E+00	4.6E+00	3.4E+00
URINARY BL WALL	0.0	0.0	0.0	3.6E-07	3.7E-05	1.6E-04	2.8E-04	4.2E-04	5.0E-04	5.4E-04	5.7E-04	5.4E-04
UTERUS	0.0	0.0	0.0	1.2E-06	7.7E-05	2.8E-04	4.4E-04	6.1E-04	7.0E-04	7.3E-04	7.6E-04	7.0E-04
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.4E-02	2.8E-02	1.8E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = URINARY BL CONT												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	0.0	0.0	2.9E-07	2.7E-04	1.3E-03	2.8E-03	3.0E-03	3.6E-03	3.2E-03	3.0E-03	2.9E-03	2.7E-03
BRAIN	0.0	0.0	0.0	3.5E-09	1.8E-06	1.0E-05	2.4E-05	5.1E-05	8.7E-05	1.2E-04	1.4E-04	2.2E-04
BREASTS	0.0	0.0	1.6E-09	2.0E-05	4.3E-04	9.3E-04	1.2E-03	1.5E-03	1.5E-03	1.5E-03	1.5E-03	1.3E-03
GALL BL WALL	0.0	1.7E-08	6.7E-05	3.8E-03	8.0E-03	8.2E-03	8.4E-03	8.6E-03	8.3E-03	8.0E-03	7.7E-03	6.4E-03
GI TRACT :												
LLI WALL	1.5E-05	8.2E-03	6.6E-02	1.6E-01	1.2E-01	7.1E-02	7.0E-02	6.4E-02	5.6E-02	5.5E-02	5.3E-02	4.0E-02
SI WALL	2.2E-10	1.5E-04	7.0E-03	4.3E-02	5.4E-02	3.6E-02	3.3E-02	3.0E-02	2.7E-02	2.5E-02	2.3E-02	1.9E-02
STOMACH WALL	0.0	2.5E-09	1.8E-05	1.8E-03	4.5E-03	6.6E-03	5.9E-03	5.1E-03	5.0E-03	4.9E-03	4.8E-03	4.5E-03
ULI WALL	4.4E-10	1.3E-04	5.1E-03	3.0E-02	4.3E-02	3.1E-02	2.7E-02	2.4E-02	2.4E-02	2.1E-02	1.9E-02	1.7E-02
HEART WALL	0.0	0.0	2.0E-08	6.0E-05	6.8E-04	1.0E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.6E-03	1.9E-03
KIDNEYS	0.0	1.8E-10	6.0E-06	9.7E-04	4.1E-03	6.1E-03	5.6E-03	5.9E-03	5.2E-03	4.7E-03	4.5E-03	4.6E-03
LIVER	0.0	1.4E-09	1.0E-05	1.4E-03	4.1E-03	4.8E-03	4.7E-03	5.2E-03	5.2E-03	4.9E-03	4.6E-03	3.8E-03
LUNGS	0.0	0.0	2.1E-08	6.2E-05	6.0E-04	7.4E-04	9.0E-04	1.1E-03	1.3E-03	1.3E-03	1.4E-03	1.5E-03
MUSCLE	1.6E-03	1.2E-02	2.6E-02	3.6E-02	2.6E-02	1.7E-02	1.7E-02	1.7E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
OVARIES	3.9E-09	1.6E-03	3.2E-02	1.4E-01	1.2E-01	7.5E-02	6.4E-02	5.9E-02	5.6E-02	5.1E-02	4.7E-02	3.6E-02
PANCREAS	0.0	0.0	2.0E-06	6.7E-04	3.0E-03	5.2E-03	5.4E-03	5.0E-03	4.6E-03	4.3E-03	4.2E-03	3.9E-03
SKELETON :												
ACTIVE MARROW	0.0	2.2E-05	5.4E-04	6.2E-03	1.1E-02	9.7E-03	8.8E-03	8.6E-03	7.8E-03	7.2E-03	6.9E-03	6.2E-03
BONE SURFACES	5.2E-09	7.4E-06	1.3E-03	1.8E-02	3.2E-02	1.8E-02	9.3E-03	6.4E-03	6.2E-03	5.9E-03	5.6E-03	4.9E-03
SKIN	2.4E-05	3.7E-04	2.5E-03	8.5E-03	7.8E-03	6.0E-03	6.1E-03	6.8E-03	6.7E-03	6.5E-03	6.2E-03	4.7E-03
SPLEEN	0.0	0.0	1.1E-06	5.4E-04	2.4E-03	3.7E-03	3.2E-03	3.2E-03	3.7E-03	3.5E-03	3.4E-03	3.4E-03
TESTES	1.5E-08	2.4E-03	6.1E-02	1.7E-01	1.3E-01	7.4E-02	6.9E-02	6.9E-02	6.5E-02	6.2E-02	5.8E-02	4.7E-02
THYMUS	0.0	0.0	1.5E-10	5.4E-06	1.8E-04	5.1E-04	6.9E-04	9.3E-04	1.0E-03	1.1E-03	1.1E-03	9.6E-04
THYROID	0.0	0.0	0.0	3.5E-07	3.6E-05	1.6E-04	2.8E-04	4.2E-04	5.0E-04	5.4E-04	5.7E-04	5.4E-04
URINARY BL WALL	3.2E+00	4.3E+00	4.0E+00	2.3E+00	9.1E-01	5.2E-01	5.2E-01	5.4E-01	5.1E-01	4.8E-01	4.5E-01	3.7E-01
UTERUS	1.9E-04	6.8E-02	3.1E-01	5.0E-01	2.9E-01	1.6E-01	1.5E-01	1.5E-01	1.3E-01	1.2E-01	1.2E-01	9.7E-02
WHOLE BODY	3.5E-03	1.1E-02	2.1E-02	2.9E-02	2.3E-02	1.5E-02	1.4E-02	1.4E-02	1.3E-02	1.2E-02	1.1E-02	9.2E-03

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = UTERUS												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000

ADRENALS	0.0	0.0	5.9E-06	1.3E-03	5.2E-03	6.4E-03	6.9E-03	6.4E-03	5.8E-03	5.6E-03	5.4E-03	4.5E-03
BRAIN	0.0	0.0	0.0	1.2E-08	3.8E-06	1.8E-05	3.8E-05	9.1E-05	1.5E-04	1.8E-04	2.1E-04	2.8E-04
BREASTS	0.0	0.0	1.3E-08	6.1E-05	8.4E-04	1.5E-03	1.8E-03	2.1E-03	2.1E-03	2.1E-03	2.1E-03	1.8E-03
GALL BL WALL	0.0	2.4E-06	1.1E-03	1.9E-02	2.8E-02	3.0E-02	2.6E-02	2.0E-02	1.6E-02	1.6E-02	1.5E-02	1.2E-02
GI TRACT :												
LLI WALL	5.3E-09	1.8E-03	3.0E-02	1.4E-01	1.2E-01	7.7E-02	6.5E-02	6.2E-02	5.7E-02	5.4E-02	5.1E-02	4.0E-02
SI WALL	9.4E-05	3.8E-02	2.0E-01	3.2E-01	2.0E-01	1.2E-01	1.1E-01	1.0E-01	9.4E-02	8.5E-02	7.8E-02	6.5E-02
STOMACH WALL	0.0	1.7E-07	2.0E-04	5.0E-03	1.4E-02	1.4E-02	1.1E-02	1.1E-02	9.9E-03	9.3E-03	9.0E-03	8.3E-03
ULI WALL	2.1E-08	1.8E-03	2.9E-02	1.2E-01	1.0E-01	6.6E-02	6.1E-02	5.3E-02	5.0E-02	4.5E-02	4.1E-02	3.6E-02
HEART WALL	0.0	0.0	2.4E-07	2.2E-04	1.5E-03	2.2E-03	2.5E-03	2.9E-03	3.0E-03	2.9E-03	2.8E-03	2.5E-03
KIDNEYS	0.0	5.1E-08	1.3E-04	5.0E-03	1.3E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	9.8E-03	8.5E-03
LIVER	0.0	7.5E-08	1.1E-04	3.6E-03	1.1E-02	1.0E-02	9.4E-03	9.6E-03	8.8E-03	8.4E-03	8.0E-03	6.5E-03
LUNGS	0.0	0.0	2.9E-07	2.4E-04	1.2E-03	1.8E-03	1.8E-03	2.4E-03	2.4E-03	2.4E-03	2.3E-03	2.2E-03
MUSCLE	1.7E-02	3.9E-02	4.9E-02	4.7E-02	3.2E-02	2.1E-02	2.0E-02	2.0E-02	1.8E-02	1.7E-02	1.6E-02	1.3E-02
OVARIES	4.4E-06	7.0E-02	3.6E-01	6.3E-01	3.6E-01	2.0E-01	1.7E-01	1.7E-01	1.7E-01	1.6E-01	1.5E-01	1.1E-01
PANCREAS	0.0	3.4E-09	3.6E-05	2.9E-03	8.9E-03	1.0E-02	1.1E-02	1.0E-02	8.1E-03	7.3E-03	6.8E-03	6.1E-03
SKELETON :												
ACTIVE MARROW	0.0	2.8E-05	1.0E-03	1.1E-02	1.7E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02	8.0E-03
BONE SURFACES	0.0	9.2E-06	2.1E-03	2.5E-02	4.1E-02	2.2E-02	1.1E-02	7.7E-03	7.2E-03	6.7E-03	6.3E-03	5.4E-03
SKIN	0.0	4.3E-06	2.9E-04	3.1E-03	5.7E-03	4.9E-03	5.2E-03	5.7E-03	5.5E-03	5.5E-03	5.4E-03	4.2E-03
SPLEEN	0.0	9.4E-10	1.7E-05	2.6E-03	6.4E-03	7.8E-03	6.6E-03	6.2E-03	6.6E-03	6.3E-03	6.0E-03	5.1E-03
THYMUS	0.0	0.0	1.5E-09	1.8E-05	3.9E-04	8.7E-04	1.1E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	1.3E-03
THYROID	0.0	0.0	0.0	1.2E-06	7.7E-05	2.8E-04	4.4E-04	6.1E-04	7.0E-04	7.3E-04	7.6E-04	7.0E-04
URINARY BL WALL	1.2E-03	1.5E-01	4.1E-01	5.5E-01	3.1E-01	1.7E-01	1.6E-01	1.6E-01	1.4E-01	1.3E-01	1.2E-01	9.2E-02
UTERUS	2.9E+02	1.7E+02	9.2E+01	3.2E+01	1.0E+01	5.9E+00	6.6E+00	7.2E+00	6.7E+00	6.1E+00	5.6E+00	4.3E+00
WHOLE BODY	5.0E-02	5.0E-02	5.0E-02	4.6E-02	3.2E-02	2.0E-02	1.9E-02	1.8E-02	1.7E-02	1.6E-02	1.5E-02	1.2E-02

SPECIFIC ABSORBED FRACTION OF PHOTON ENERGY IN kg^{-1} : RECOMMENDED VALUES FOR AGE 5 (19 kg)

SOURCE = WHOLE BODY												
TARGET	ENERGY (MeV)											
	0.010	0.015	0.020	0.030	0.050	0.100	0.200	0.500	1.000	1.500	2.000	4.000
ADRENALS	5.0E-02	5.0E-02	4.8E-02	3.9E-02	2.7E-02	1.7E-02	1.6E-02	1.7E-02	1.6E-02	1.4E-02	1.3E-02	1.1E-02
BRAIN	5.0E-02	5.0E-02	4.8E-02	3.8E-02	2.2E-02	1.3E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.0E-02	8.6E-03
BREASTS	4.6E-02	3.5E-02	2.7E-02	1.8E-02	1.1E-02	7.8E-03	8.2E-03	9.0E-03	8.9E-03	8.4E-03	7.9E-03	6.6E-03
GALL BL WALL	5.1E-02	4.5E-02	4.1E-02	3.6E-02	3.0E-02	2.3E-02	1.9E-02	1.5E-02	1.4E-02	1.3E-02	1.3E-02	1.1E-02
GI TRACT :												
LLI WALL	5.1E-02	4.7E-02	4.3E-02	3.6E-02	2.6E-02	1.9E-02	1.7E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.2E-02
SI WALL	5.0E-02	5.0E-02	4.8E-02	4.1E-02	2.8E-02	1.9E-02	1.8E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02
STOMACH WALL	5.1E-02	5.1E-02	4.8E-02	3.8E-02	2.5E-02	1.7E-02	1.6E-02	1.5E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
ULI WALL	5.1E-02	5.0E-02	4.6E-02	3.9E-02	2.8E-02	2.0E-02	1.8E-02	1.7E-02	1.6E-02	1.4E-02	1.4E-02	1.2E-02
HEART WALL	5.0E-02	5.0E-02	4.7E-02	3.8E-02	2.4E-02	1.6E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.0E-02
KIDNEYS	5.0E-02	5.0E-02	4.6E-02	3.5E-02	2.3E-02	1.6E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
LIVER	5.0E-02	5.0E-02	4.7E-02	3.7E-02	2.4E-02	1.6E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
LUNGS	5.7E-02	5.6E-02	5.3E-02	4.0E-02	2.4E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.1E-02	1.1E-02	8.9E-03
MUSCLE	4.9E-02	4.6E-02	4.1E-02	3.0E-02	1.8E-02	1.2E-02	1.2E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	8.9E-03
OVARIES	5.0E-02	5.0E-02	4.8E-02	4.2E-02	2.9E-02	1.9E-02	1.8E-02	1.8E-02	1.7E-02	1.6E-02	1.4E-02	1.2E-02
PANCREAS	5.0E-02	5.0E-02	4.8E-02	4.1E-02	2.8E-02	1.9E-02	1.8E-02	1.8E-02	1.7E-02	1.5E-02	1.4E-02	1.2E-02
SKELETON :												
ACTIVE MARROW	1.4E-02	1.6E-02	1.8E-02	1.9E-02	1.7E-02	1.3E-02	1.3E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	8.8E-03
BONE SURFACES	7.1E-02	8.5E-02	1.0E-01	1.1E-01	8.0E-02	3.1E-02	1.7E-02	1.5E-02	1.4E-02	1.3E-02	1.2E-02	1.0E-02
SKIN	3.8E-02	2.8E-02	2.2E-02	1.6E-02	1.0E-02	7.5E-03	7.6E-03	8.5E-03	8.3E-03	7.9E-03	7.4E-03	6.4E-03
SPLEEN	5.0E-02	5.0E-02	4.7E-02	3.7E-02	2.4E-02	1.6E-02	1.5E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.0E-02
TESTES	5.0E-02	4.5E-02	3.8E-02	2.7E-02	1.7E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.1E-02	1.1E-02	8.8E-03
THYMUS	5.0E-02	5.0E-02	4.6E-02	3.5E-02	2.1E-02	1.4E-02	1.4E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	9.7E-03
THYROID	5.0E-02	5.0E-02	4.8E-02	3.9E-02	2.5E-02	1.7E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.3E-02	1.1E-02
URINARY BL WALL	5.1E-02	5.0E-02	4.6E-02	3.7E-02	2.6E-02	1.7E-02	1.6E-02	1.6E-02	1.6E-02	1.5E-02	1.4E-02	1.0E-02
UTERUS	5.0E-02	5.0E-02	4.8E-02	4.1E-02	2.9E-02	1.9E-02	1.9E-02	1.8E-02	1.7E-02	1.6E-02	1.5E-02	1.2E-02
WHOLE BODY	5.0E-02	4.8E-02	4.5E-02	3.6E-02	2.3E-02	1.4E-02	1.3E-02	1.3E-02	1.2E-02	1.2E-02	1.1E-02	8.8E-03

APPENDIX B

**TABLES OF SPECIFIC ABSORBED FRACTIONS—
RAW DATA AND RECOMMENDED VALUES**

SEE MICROFICHE ON INSIDE BACKCOVER

INTERNAL DISTRIBUTION

1. B. A. Berven
- 2-3. R. O. Chester
- 4-8. M. Cristy
9. J. L. Davis
- 10-14. K. F. Eckerman
15. R. J. M. Fry
16. W. R. Garrett
17. A. R. Hawthorne
18. G. D. Kerr
19. G. G. Killough
20. D. C. Kocher
21. R. W. Leggett
22. C. R. Richmond
23. J. C. Ryman
24. C. S. Sims
25. C. C. Travis
26. P. J. Walsh
- 27-28. B. P. Warren
29. H. A. Wright
30. Central Research Library
31. Document Reference Section
- 32-33. Laboratory Records
34. Laboratory Records, ORNL - RC
35. ORNL Patent Office
36. RSIC Library

EXTERNAL DISTRIBUTION

37. Office of the Assistant Manager for Energy Research and Development, Department of Energy, Oak Ridge Operations Office, Oak Ridge, TN 37831
- 38-39. Technical Information Center, Office of Scientific and Technical Information, U.S. Department of Energy, P. O. Box 62, Oak Ridge, TN 37831
40. W. D. Adams, U.S. Department of Energy, Oak Ridge Operations, Federal Building, Oak Ridge, TN 37831
41. S. J. Adelstein, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115

42. R. E. Alexander, Office of Nuclear Regulatory Research, Occupational Radiation Protection Branch, Division of Facility Operations, U.S. Nuclear Regulatory Commission, MS 1130-SS, Washington, DC 20555
43. H. L. Atkins, Department of Radiology, Health Sciences Center, State University of New York, Stony Brook, NY 11794
44. W. J. Bair, Manager, Environment, Health and Safety Research Program, Battelle Pacific Northwest Laboratory, P. O. Box 999, Richland, WA 99352
45. Gunnar Bengtsson, Statens Stralskyddsinstitut, Box 60204, S-10401 Stockholm, Sweden
46. Luiz Bertelli, Instituto de Radioprotecao e Dosimetria/CNEN, Av. das Americas Km 11.5, Barra da Tijuca - Rio de Janeiro - RJ, CEP 22700 - Brazil
47. R. J. Berry, Department of Oncology, The Middlesex Hospital Medical School, London W1P 7PN, UK
48. J. A. Bianco, The Commonwealth of Massachusetts, University of Massachusetts Medical Center, Department of Nuclear Medicine, Worcester, MA 01605
49. R. E. Bigler, Sloan-Kettering Institute for Cancer Research, 1275 York Avenue, New York, NY 10021
50. J. L. Blair, Director, Human Health and Assessment Division, ER-73, Office of Health and Environmental Research, U.S. Department of Energy (GTN), Washington, DC 20454
51. B. B. Boecker, Inhalation Toxicology Research Inst., Lovelace Biomedical and Environmental Research Institute, P. O. Box 5890, Albuquerque, NM 87185
52. V. P. Bond, Assoc. Director for Life Sciences and Safety, Brookhaven National Laboratory, Upton, NY 11973
53. A. B. Brill, Medical Department, Brookhaven National Laboratory, Upton, NY 11973
54. A. L. Brooks, Inhalation Toxicology Research Inst., Lovelace Biomedical and Environmental Research Institute, P. O. Box 5890, Albuquerque, NM 87185
55. T. F. Budinger, Donner Laboratory, Rm. 230, University of California, Berkeley, CA 94720
56. Georg Burger, Institut fuer Strahlenschutz, Gesellschaft fuer Strahlen- und Umweltforschung, Ingolstaedter Landstrasse 1, D-8042 Neuherberg/Munich, Federal Republic of Germany
57. W. W. Burr, Jr., Oak Ridge Associated Universities, Medical Division, P. O. Box 117, Oak Ridge, TN 37831
58. Xing-an Chen, Laboratory of Industrial Hygiene, National Center for Preventive Medicine, 2 Xinkang Street, Deshengmenwai, Beijing 100011, People's Republic of China

59. R. H. Clarke, National Radiological Protection Board, Chilton, Didcot, Oxon OX11 0RQ, UK
60. R. J. Cloutier, Radiopharmaceutical Internal Dose Center, Oak Ridge Associated Universities, MERT, P. O. Box 117, Oak Ridge, TN 37831
61. D. J. Crawford-Brown, School of Public Health, Dept. of Environmental Sciences, University of North Carolina, Chapel Hill, NC 27514
62. R. G. Cuddihy, Inhalation Toxicology Research Inst., Lovelace Biomedical and Environmental Research Institute, P. O. Box 5890, Albuquerque, NM 87185
63. R. F. Dannals, Div. of Nuclear Medicine, Johns Hopkins Medical Institute, Baltimore, MD 21205
64. Li Deping, Institute of Radiation Protection, MNI, P.O. Box 120, Taiguan, Shanxi, People's Republic of China
65. L. T. Dillman, 184 W. Lincoln Ave., Delaware, OH 43015
66. Gunter Drexler, Gesellschaft fuer Strahlen- und Umweltforschung mbH, Institut fuer Strahlenschutz, Ingolstaedter Landstrasse 1, D-8042, Neuherberg, Federal Republic of Germany
67. H. J. Dunster, National Radiological Protection Board, Chilton, Didcot, Oxon OX11 0RQ, UK
68. P. W. Durbin, 101-74B, Lawrence Berkeley Laboratory, University of California, Berkeley, CA 94720
69. V. Elsasser, Institut fuer Strahlenhygiene des Bundesgesundheitsamtes, Ingoldstadter Landstrasse 1, D-8042 Neuherberg, Federal Republic of Germany
70. Thomas Fearon, Dept. of Radiology, Children's Hospital, National Medical Center, 111 Michigan Ave., N.W., Washington, DC 20010
71. L. E. Feinendegen, Institute of Medicine, Nuclear Research Center Julich GmbH, P. O. Box 1913, D-5170 Julich, Federal Republic of Germany
72. J. D. Foulke, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, MS 1130-SS, Washington, DC 20555
73. A. M. Friedman, University of Chicago, Dept. of Radiology, Nuclear Medicine Section, Box 429, Chicago, IL 60637
74. D. M. Goldenberg, New Jersey Medical School, 100 Bergen Street, Newark, NJ 07103

Marvin Goldman, Director, Laboratory for Energy-Related Health Research (LEHR), University of California, Davis, CA 94616
75. D. R. Hamilton, Nuclear Medicine Branch, OTA/NCDRH, U.S. Food and Drug Administration, Rockville, MD 20857
76. N. H. Harley, Department of Environmental Medicine, New York University Medical Center, 550 First Avenue, New York, NY 10016

77. J. D. Harrison, National Radiological Protection Board, Chilton, Didcot, Oxon OX11 0RQ, UK
78. K. Henrichs, Institut fuer Strahlenschutz der Gesellschaft fuer Strahlen- und Umweltforschung mbH, Ingolstaedter Landstr. 1, D-8042 Neuherberg, Federal Republic of Germany
79. K. Hubner, Department of Radiology, University of Tennessee Memorial Hospital, 1924 Alcoa Highway, Knoxville, TN 37920
80. V. Husak, Department of Nuclear Medicine, University Hospital, 775 02 Olomouc, Czechoslovakia
81. C. E. Iranzo, Paseo de la Castellana 201, Madrid 28046, Spain
82. G. V. Iyengar, National Bureau of Standards, Department of Commerce, Gaithersburg, MD 20899
83. Wolfgang Jacobi, Institut fuer Strahlenschutz der Gesellschaft fuer Strahlen- und Umweltforschung mbH, Ingolstaedter Landstr. 1, D-8042 Neuherberg, Federal Republic of Germany
84. P. H. Jensen, Applied Health Physics Section, Dept. of Health Physics, Riso National Laboratory, Postbox 49, DK-4000 Roskilde, Denmark
85. L. Johansson, Dept. of Radiation Physics and Nuclear Medicine, University of Goteborg Sahlgren Hospital, S-413 45 Goteborg, Sweden
86. J. R. Johnson, Atomic Energy of Canada, Ltd., Chalk River, Canada
87. J. Kalef-Ezra, Department of Medical Physics, Medical School, University of Ioannina, Ioannina, Greece
88. A. Kaul, Institut fuer Strahlenhygiene des Bundesgesundheitsamtes, Ingolstaedter Landstrasse 1, D-8042 Neuherberg, Federal Republic of Germany
89. H. Kawamura, Division of Radioecology, National Institute of Radiological Sciences, Isezaki, Nakaminato, Ibaraki 311-12, Japan
90. J. G. Kereiakes, E555 Medical Sciences Building, University of Cincinnati, Cincinnati, OH 45267
91. Rene Kirchmann, CEN/SCK Laboratories, Department of Radiobiology, Boeretang 200, B-2400, Mol, Belgium
92. L. Koblinger, Magyar Tudomanyos Adademia, Kozponti Fizikai Kutato Intezete, Budapest XII., Konkoly Thege ut 29-33, H-1525 Budapest P.O.B. 49, Hungary
93. J. Kruger, Nuclear Development Corporation, Private Bag X256, Pretoria 0001, South Africa
94. Emil Kunz, Institute of Hygiene & Epidemiology, Radiation Hygiene Department, Srobarova 48, 100 42 Parah 10-Vinohrady, Czechoslovakia
95. K. A. Lathrop, Hospital Box 433, University of Chicago Medical Center, 5841 S. Maryland Avenue, Chicago, IL 60637

96. J. S. Laughlin, Sloan-Kettering Institute for Cancer Research,
1275 York Avenue, New York, NY 10021
97. Gee-Fong Liang, Radiation Laboratory, Taiwan Power Company,
P.O. Box 7, Shinmen, Taiwan 253, Republic of China
98. J. Liniecki, Department of Nuclear Medicine, Medical Academy of
Lodz, Czechoslovakia 8/10, 92-216 Lodz, Poland
99. R. D. Lloyd, Building 351, University of Utah, College of
Medicine, Salt Lake City, UT 84112
100. Robert Loevinger, Radiation Physics C210, National Bureau of
Standards, Gaithersburg, MD 20899
101. J. Logic, University of Alabama Medical Center, Birmingham,
AL 35233
102. C. M. Luccioni, IPSN/DPS/SEAPS/LBA, Commissariat a' e' Energie
Atomique, BP 6, 92260 Fontenay aux Roses, France
103. O. Matsuoka, National Institute of Radiological Sciences,
9-1 Anagawa-4-chome, Chiba-shi, Japan 260
104. S. Mattsson, Dept. of Radiation Physics and Nuclear Medicine,
University of Goteborg Sahlgren Hospital, S-413 45 Goteborg,
Sweden
105. H. R. Maxon, E. L. Saenger Radioisotope Lab., University of
Cincinnati, Box 577, College of Medicine, Cincinnati, OH 45267
106. C. W. Mays, Radiobiology Division, University of Utah,
Salt Lake City, UT 84112
107. R. O. McClellan, Lovelace Inhalation Toxicology Research
Institute, P. O. Box 5890, Albuquerque, NM 87185
108. C. B. Meinhold, Chief, Safety and Environmental Protection
Division, Bldg. 535A, Brookhaven National Laboratory,
Upton, NY 11973
109. W. A. Mills, 2915 Ascott Lane, Olney, MD 20832
110. I. Mitsuhashi, Nuclear Engineering Department, NAIG Nuclear
Research Laboratory, Nippon Atomic Industry Group Co., Ltd.,
Kawasaki-ku, Kawasaki-city, Japan
111. J. P. Moroni, SCPRI, B.P. No 35, F-78110 LeVosinet, France
112. Y. I. Moskalev, Institute of Biophysics, Ministry of Public
Health, Zhivopisnoya 116, Moscow D-182, USSR
113. C. B. Nelson, U.S. Environmental Protection Agency,
401 M Street, S.W., (ANR-461), Washington, DC 20460
114. Neal Nelson, U.S. Environmental Protection Agency,
401 M Street, S.W., (ANR-461), Washington, DC 20460
115. J. C. Nenot, Institut de Protection et de Surete Nucleaire,
Departement de Protection, Services de Pathologie et de
Protection Sanitaire, Service de Protection Sanitaire,
Centre d'Etudes Nucleaires, B.P. No. 6, 92260 Fontenay-aux-
Roses, France

116. Y. C. Ng, Environmental Science Division, Lawrence Livermore National Laboratory, P. O. Box 808, Livermore, CA 94550
117. D. Nosske, Institut fuer Strahlenhygiene, Ingoldstadter Landstrasse 1, D-8042 Neuherberg, Federal Republic of Germany
118. M. C. O'Riordan, National Radiological Protection Board, Chilton, Didcot, Oxon, England
119. J. M. Palms, Vice President for Academic Affairs, Emory University, Atlanta, GA 30322
120. N. Parmentier, Republique Francaise, Commissariat A L'Energie Atomique, Department de Protection Sanitaire, Fontenay Aux Roses, France
121. C. L. Partain, Director, Nuclear Medicine, Vanderbilt University School of Medicine, Nashville, TN 37232
122. C. Pomroy, Atomic Energy Control Board, Ottawa K1P5S9, Canada
123. J. W. Poston, Dept. of Nuclear Engineering, College of Engineering, Texas A&M University, College Station, TX 77843
124. A. K. Poznanski, Department of Radiology, The Children's Memorial Hospital, 2300 Children's Plaza, Chicago, IL 60614
125. N. D. Priest, National Radiological Protection Board, Chilton, Didcot, Oxon OX11 0RQ, UK
126. P. V. Ramzaev, Institute of Radiation Hygiene, 8 Mira ul, Leningrad 197101, U.S.S.R.
127. Dr. Thomas Reavey, Office of Radiation Programs (ANR-461), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460
128. H. D. Roedler, Institut fuer Strahlenhygiene, Ingolstaedter Landstrasse 1, D-8042 Neuherberg, Federal Republic of Germany
129. J. S. Robertson, Human Health and Assessments Division, Office of Energy Research, ER-73, U.S. Department of Energy (GTN), Washington, DC 20545
130. E. L. Saenger, Eugene L. Saenger Radioisotope Laboratory, University of Cincinnati Hospital, Cincinnati General Division, 234 Goodman Street, Cincinnati, OH 45267
131. R. A. Schlenker, Building 203, Center for Human Radiobiology, Argonne National Laboratory, 9700 Cass Avenue, Argonne, IL 60439
132. Itsuzo Shigematsu, Chairman, Radiation Effects Research Foundation, 5-2 Hijiyama Koen, Minami-ku, Hiroshima-shi, 730, Japan
133. W. K. Sinclair, President, National Council on Radiation Protection and Measurement, 7910 Woodmont Avenue, Suite 1016, Bethesda, MD 20814
134. G. Silini, Secretary of UNSCEAR, Vienna International Center, P. O. Box 500, A-1400 Vienna, Austria
135. K. W. Skrabble, University of Lowell, Lowell, MA 01854

136. J-O. Snihs, Statens Stralskyddsinstitut, Box 60204,
S-10301 Stockholm, Sweden
137. M. G. Stabin, Radiopharmaceutical Internal Dose Center,
Oak Ridge Associated Universities, MERT, P. O. Box 117,
Oak Ridge, TN 37831
138. J. N. Stannard, 17441 Plaza Animado, Apt. 132, San Diego, CA 92128
139. H. W. Strauss, Director, Nuclear Medicine Division, Massachusetts
General Hospital, Fruit Street, Boston, MA 02114
140. R. E. Sullivan, U.S. Environmental Protection Agency,
401 M Street, S.W., (ANR-461), Washington, DC 20460
141. Eizo Tajima, Vice Chairman, Atomic Energy Safety Commission,
2-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100, Japan
142. G. Tanaka, Division of Radioecology, National Institute of
Radiological Sciences, Isezaki, Nakaminato, Ibaraki 311-12,
Japan
143. A. C. Taner, Ankara Nuclear Research and Training Center,
Fen Fakultesi Arkasi, Besevler-Ankara, Turkey
145. D. M. Taylor, Institute for Genetics & Toxicology,
Kernforschungszentrum Karlsruhe, Postfach 3640,
D-7500 Karlsruhe 1, Federal Republic of Germany
146. G. N. Taylor, Division of Radiobiology, Building 522,
University of Utah, Salt Lake City, UT 84112
147. J. W. Thiessen, Office of Health and Environmental Research
ER-71, U.S. Department of Energy (GTN), Washington, DC 20545
148. R. H. Thomas, Director's Office, Building 50A-4112,
Lawrence Berkeley Laboratory, University of California,
Berkeley, CA 94720
149. S. R. Thomas, Dept. of Radiology Physics, Medical Sciences
Building, E-465, Cincinnati, OH 45267
150. R. C. Thompson, Battelle Pacific Northwest Laboratories,
331 Bldg./300 Area, Richland, WA 99352
151. M. C. Thorne, Associated Nuclear Services, 123, High Street,
Epsom, Surrey KT19 8EB, England
152. J. E. Till, Route 2, Box 122, Neeses, SC 29107
153. S. Treves, Head, Nuclear Medicine, Children's Hospital
Medical Center, 300 Long Wood Avenue, Boston, MA 02115
154. M. Uchiyama, National Institute of Radiological Sciences,
Division of Physics, 9-1, Anagawa-4-chome, Chiba-shi 260, Japan
156. D. Van As, Nuclear Development Corporation, Private Bag X256,
Pretoria 0001, South Africa
157. B. W. Wachholz, Low Level Radiation Effects Branch,
National Cancer Institute, Landow Building 8C-09, 9000 Rockville
Pike, Bethesda, MD 20205

158. H. N. Wagner, Jr., Division of Nuclear Medicine, Johns Hopkins Medical Institute, Baltimore, MD 21205
159. J. T. Walker, U.S. Environmental Protection Agency, 401 M Street, S.W., (ANR-461), Washington, DC 20460
160. E. E. Watson, Radiopharmaceutical Internal Dose Center, Oak Ridge Associated Universities, MERT, P. O. Box 117, Oak Ridge, TN 37831
161. D. A. Weber, University of Rochester, Medical Center, 601 Elmwood Avenue, Rochester, NY 14642
162. L. R. Williams, Indiana University, Mathematics Department, 1700 Mishawaka Avenue, South Bend, IN 46615
163. B. C. Winkler, Private Bag X256, Pretoria, 0001, South Africa
164. Walter Wolf, School of Pharmacy, University of Southern California, Los Angeles, CA 90033
165. R. W. Wood, Physical and Technology Research Div., ER-74, Office of Health and Environmental Research, U.S. Department of Energy (GTN), Washington, DC 20545
166. M. E. Wrenn, Director, Radiobiology Division, Department of Pharmacology, School of Medicine, University of Utah Medical Center, Salt Lake City, UT 84112
167. H. O. Wycoff, Chairman, International Commission on Radiation Units and Measurements, 7910 Woodmont Avenue, Suite 1016, Bethesda, MD 20814
168. S. Wynchank, Research Institute for Medical Biophysics (RIMB), P. O. Box 70, Tygerberg 7505, Republic of South Africa
169. Hiroshi Yamaguchi, National Institute of Radiological Sciences, Division of Physics, 9-1, Anagawa-4-chome, Chiba-shi 260, JAPAN
170. Shlomo Yaniv, Health Effects Branch - MS 1130-SS, Division of Health, Siting and Waste Management, RES, U.S. Nuclear Regulatory Commission, Washington, DC 20555
171. R. W. Young, Armed Forces Radiobiology Research Institute, Naval Medical Center, Bethesda, MD 20814-5145
172. P. B. Zanzonico, Sloan-Kettering Institute for Cancer Research, 1275 York Avenue, New York, NY 10021