IRPA9
1996 International Congress on Radiation Protection
April 14-19,1996
Vienna, Austria

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PAPER TITLE Dosimetric Basis for the Risk Analysis of Thyroid Cancer Morbidity in the Bryansk Region of Russia.

AUTHOR(S) NAME(S) Zvonova I.A., Balonov M.I.

SUBMITTING AUTHOR

LAST NAME Zvonova FIRST NAME Irina TITLE Phys.S.;Ph.D.

AFFILIATION Institute of Radiation Hygiene TEL (812) 233-48-43

STREET Mira st., 8 FAX (812) 249-53-09

CODE 197101 CITY St. Petersburg COUNTRY Russia

PRESENTING AUTHOR (IF DIFFERENT) Zvonova I.A.

MAJOR SCIENTIFIC TOPIC NUMBER ..... (see page 7) 3.1, or 3.5; 4.3

ABSTRACT (See instructions overleaf)

Average thyroid dose in children under three years of the Bryansk region, the most suffered territory of Russia after the Chernobyl accident was about 2 Gy with maximal individual values up to 10 Gy in the most contaminated settlements. Prognosis of medical consequences for population of Bryansk region showed that thyroid cancer would be the most significant effect of people exposure due to the Chernobyl accident. Now about 50 thyroid cancer incidents were registered among children and teenagers of Bryansk region irradiated in 1986.

Thyroid dose estimations for population of the Bryansk region were based on the results of 17 000 measurements of I-131 content in thyroid of inhabitants (10 000 - children and teenagers under 18 year) in May-June 1986, data of questionnairies of the inhabitants about their life-style and food consumption, data of the regular environmental monitoring that has being fulfilled in the Institute of Radiation Hygiene from May 1986 till now.

Dosimetric models used for the reconstruction of group and individual thyroid doses are discussed in the report. Comparison of different parts of I-131 measurement database showed quite satisfactory agreement of dose estimations made independently by different groups of investigators with different equipment. About 20% of measured people got thyroid doses more than 0.3 Gy, 5% - more than 1 Gy. Among children under 8 years 44% and 15% of the investigated children had thyroid doses more than 0.3 and 1 Gy.

Using of this dosimetric data base for a epidemiological study of thyroid cancer morbidity in inhabitants of Bryansk region are discussed in the report. Preliminary estimations of radiation induced thyroid cancer risk coefficients are presented.