

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

FORM FOR SUBMISSION OF ABSTRACTS

FOR OFFICIAL USE ONLY

Abstract No. _____

Receipt _____

Author _____

Acceptance _____

Mini-Presentation _____

PAPER TITLE CONDITION OF REPRODUCTIVE HEALTH AS CRITERION OF DETERMINISTIC EFFECTS OF LOW DOSES OF RADIATION

AUTHORS NAMES L.A. BULDAKOV, I.J. VASILENKO, S.I. DEMIN, A.M. LIAGINSKAYA, M.M. SAUROV

SUBMITTING AUTHOR

LAST NAME BULDAKOV

FIRST NAME LEV **TITLE** DEPUTY DIRECTOR

AFFILIATION SRCR-Institute of Biophysics

TEL +7 (095) 190-4261

STREET 46, Zhivopisnaya

FAX +7 (095) 190-3590

CODE 123182 **CITY** Moscow

COUNTRY Russia

MAJOR SCIENTIFIC TOPIC NUMBER

Indices of reproductive health (RH) were studied in persons exposed by long-term radiation during the living at the radiation contamination areas after the accidents in Chernobyl and Southern Urals. 8 RH indices were studied in dynamics. 40,000 people were under surveillance at the territories of Cs-137 radioactive fallout density in the range of 1 to 15 Ci/km², where external exposure doses were in the range of 7 to 68 mSv. Control regions population did not have additional irradiation and Cs-137 radiation nuclide content in soil was less than 1 Ci/km².

The investigated Southern Urals population demonstrated 40-85 thousands of people to have annual radiation doses of 0.71, 7.6, 0.49, and 0.53 mSv for the 1st, 18th, 28th, and 38th year after the nuclear facility start-up, respectively.

It was found that such RH indices like birth rate, general morbidity of newborns, frequency of hereditary development abnormalities, mortal birth rate were the higher, the larger radiation doses comparing to control and these indices were found more frequently, than that were found for lowest contamination levels caused by Chernobyl accident. Such indices like general morbidity rate in pregnant women, the rate of unfavourable outcomes of pregnancy, early delivery, newborn body mass do not correlate to doses and radioactive fallout levels.

Medical consequences analysis for living in critical zones of Southern Urals demonstrated the confidently positive correlation coefficient (increasing with the elevation of dose) for mortal birth rate and infant mortality. Otherwise, the rate of hereditary development abnormalities and consequent mortality rate demonstrated the negative correlation to dose.

Revealing of some RH indices conditions can be used as criterion of deterministic effects of low doses of chronic radiation exposure, if other aggravative influences were accurately taken into account.