

FF002

B-WIRE

23-JUN-86 01:50

USSR - SCIENTISTS REPORT ON CHERNOBYL RADIOACTIVE FALLOUT  
BY CASEY BUKRO CHICAGO TRIBUNE

CHICAGO, JUNE 23 - THOUGH THE NUCLEAR ACCIDENT AT CHERNOBYL IN APRIL WAS A LANDMARK EVENT OF THE ATOMIC ERA, IT PRODUCED LESS RADIOACTIVE FALLOUT THAN THE ATMOSPHERIC BOMB TESTS OF THE EARLY 1960S, RADIATION EXPERTS SAY.

ON THE OTHER HAND, FALLOUT FROM THE SOVIET DISASTER WAS SEVERAL THOUSAND TIMES WORSE THAN WHAT WAS MEASURED IN THE WORLD WAR II BOMBING OF HIROSHIMA, WHICH USHERED IN THE ATOMIC AGE.

THESE ARE AMONG THE CONCLUSIONS REACHED BY SCIENTISTS STUDYING THE ATOMIC POWER PLANT FAILURE NEAR KIEV IN THE SOVIET UKRAINE ON APRIL 26 -- A FAILURE THAT HAS RESULTED IN 26 DEATHS AND IS EXPECTED TO TAKE A HEAVY TOLL IN RADIATION-RELATED ILLNESSES OVER THE NEXT DECADES.

BETWEEN 1961 AND 1963, MAJOR ATMOSPHERIC A-BOMB TESTS WERE CONDUCTED BY THE UNITED STATES AND SOVIET UNION IN REMOTE, UNPOPULATED AREAS. THE CHERNOBYL REACTOR, HOWEVER IS ABOUT 80 MILES FROM KIEV, WHICH HAS A POPULATION OF 2.5 MILLION.

THOUGH NO DEATHS ARE ATTRIBUTED DIRECTLY TO THE BOMB TESTING, EACH EXPLOSION RELEASED RADIOACTIVE MATERIAL INTO THE ATMOSPHERE. GLOBAL CONCERNS ABOUT THE HEALTH EFFECTS OF RADIOACTIVE FALLOUT RESULTED IN A 1963 TREATY BETWEEN THE U.S. AND THE U.S.S.R. BANNING ATMOSPHERIC TESTS IN FAVOR OF UNDERGROUND ONES.

"IN TERMS OF BLAST YIELD, CHERNOBYL WAS PROBABLY ON THE ORDER OF 1 TO 10 MEGATONS," SAID DR. DAVID AUTON, A PHYSICIST WITH THE DEFENSE NUCLEAR AGENCY, AN ARM OF THE DEFENSE DEPARTMENT THAT RESEARCHES THE EFFECTS OF NUCLEAR WEAPONS.

A MEGATON IS EQUAL TO A MILLION TONS OF TNT. BOMBS OF THE 10-MEGATON SIZE WERE TESTED BY THE UNITED STATES IN THE PACIFIC, SAID AUTON, AND THEY PRODUCED "SLIGHTLY MORE FALLOUT THAN HAPPENED AT CHERNOBYL."

IN 1961, ACCORDING TO THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY, AIR PARTICLES OVER THE UNITED STATES CONTAINED 500 PICOCURIES OF GROSS BETA RADIATION PER CUBIC METER OF AIR. BETA PARTICLES ARE A TYPE OF NUCLEAR RADIATION.

"WE'VE SEEN NOTHING ABOVE 15 IN THE ESTIMATES FOR CHERNOBYL," SAID CHARLES PHILLIPS, DEPUTY DIRECTOR OF THE EPA'S ENVIRONMENTAL RADIATION FACILITY IN MONTGOMERY, ALA. AIR MONITORING FOR RADIOACTIVITY WAS PRIMITIVE IN THE EARLY 1960S, HE SAID. AS A RESULT, THERE ARE FEW MEASUREMENTS FOR COMPARISON.

DESPITE THE DEVASTATION CAUSED BY THE ATOMIC BOMBING OF HIROSHIMA ON AUG. 6, 1945, THE FALLOUT THERE WAS ACTUALLY MINIMAL BECAUSE THE BOMB EXPLODED IN THE AIR HIGH ABOVE THE GROUND, AND THE FALLOUT SOARED UP AND AWAY FROM THE AREA, AUTON EXPLAINED.

THE DEATH TOLL AT HIROSHIMA HAS BEEN PUT AT BETWEEN 100,000 AND 200,000, BUT THESE WERE CAUSED BY THE IMPACT OF THE BLAST, THE FIRES IT IGNITED AND THE "PROMPT" OR DIRECT RADIATION IT RELEASED, AUTON SAID.

"THERE WERE PROBABLY NO INJURIES OR DEATHS FROM FALLOUT," HE SAID. "WHEN A BOMB GOES OFF IN THE AIR AND THE FIRE DOES NOT TOUCH THE GROUND, THE FALLOUT GOES WAY UP IN THE AIR AND DOES NOT COME DOWN LOCALLY." (PTO)

FF003

B-WIRE

23-JUN-86 01:52

USSR - (1) SCIENTISTS REPORT ON CHERNOBYL RADIOACTIVE FALLOUT AS A RESULT, RADIOACTIVE FALLOUT MEASURED AT HIROSHIMA WAS ONE REM (A UNIT OF RADIATION EXPOSURE) OVER A PERIOD OF SIX WEEKS -- ABOUT 1,000 TIMES HIGHER THAN NATURAL BACKGROUND RADIATION LEVELS, AUTON SAID. THE NUCLEAR REGULATORY AGENCY HAS DECLARED THAT 12 REMS A YEAR IS THE LIMIT OF BODY EXPOSURE FOR NUCLEAR POWER PLANT WORKERS. EXPOSURES OVER 500 REMS ARE FATAL.

NO RADIOACTIVE FALLOUT MONITORING NETWORK WAS IN PLACE IN 1945, BUT AUTON BELIEVES HIROSHIMA'S RADIOACTIVE CLOUD PROBABLY DRIFTED TO CHINA, THE SOUTH PACIFIC AND "OTHER PLACES IN THE WORLD," AND SPRINKLED DOWN AS FALLOUT.

"MY GUESS IS THAT, SO FAR AS FALLOUT IS CONCERNED, THE CHERNOBYL ACCIDENT WAS PROBABLY CONSIDERABLY GREATER THAN WHAT HAPPENED IN JAPAN," AUTON SAID.

THOUGH ACCOUNTS OF THE CHERNOBYL DISASTER ARE STILL VERY SKETCHY, AUTON BELIEVES THAT FALLOUT DOSES "AROUND THE REACTOR SITE ITSELF ... PROBABLY GOT AS HIGH AS SEVERAL THOUSAND REMS. THIS IS UNPRECEDENTED IN TERMS OF HEALTH EFFECTS ON PEOPLE."

SCIENTISTS AT ARGONNE NATIONAL LABORATORY, LEMONT, ILL., CALCULATE THAT THE CHERNOBYL ACCIDENT RELEASED 10,000 TO 20,000 TIMES MORE RADIOACTIVITY THAN WAS PRODUCED BY EITHER THE BOMBING OF HIROSHIMA OR NAGASAKI -- WHICH WAS ABOUT FIVE TIMES MORE POWERFUL -- THREE DAYS LATER.

THE CHERNOBYL REACTOR CORE CONTAINED 200 TONS OF URANIUM AND 1,700 TONS OF GRAPHITE, AND ARGONNE SCIENTISTS BELIEVE THAT THE FIRE THERE RELEASED ABOUT 30 PERCENT OF THE REACTOR'S RADIOACTIVITY INTO THE AIR. BY THESE CALCULATIONS, RADIATION EXPOSURE LEVELS AT THE CHERNOBYL SITE COULD HAVE BEEN TENS OF THOUSANDS TIMES HIGHER THAN NORMAL BACKGROUND LEVELS.

SOVIET FIGURES OF RADIOACTIVE MATERIAL RELEASED BY THE CHERNOBYL ACCIDENT ARE FAR LOWER THAN WESTERN ESTIMATES. IN A RECENT MEETING OF THE ATOMIC ENERGY AGENCY IN VIENNA, SOVIET OFFICIALS SAID ONLY 1.8 TO 4 TONS OF THE RADIOACTIVE MATERIAL IN THE REACTOR ESCAPED, OR ABOUT 1 TO 3 PERCENT OF THE TOTAL.

ACCOUNTS OF THE ACCIDENT INDICATE THAT A FIRE BURNED FURIOUSLY FOR SEVERAL DAYS IN THE REACTOR, SPEWING DENSE CLOUDS OF RADIOACTIVE SMOKE HIGH INTO THE AIR. FLAMES REPORTEDLY SOARED 1,000 FEET, FEEDING RADIOACTIVE SMOKE AND DEBRIS INTO WINDS THAT SWEEP ACROSS RUSSIA, WESTERN EUROPE AND THEN AROUND THE WORLD. UNSAFE LEVELS OF FALLOUT WERE DETECTED IN AREAS POPULATED BY ABOUT 120 MILLION PEOPLE IN EUROPE.

KR/TA