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E/W - RATIO OF RADIOACTIVE CAESIUM WAS UNEXPECTEDLY HIGH

LONDON, JUNE 29 (SPECIAL/PARROTT) - A WESTERN SCIENTIST SAYS THERE WAS AN UNEXPECTEDLY HIGH RATIO OF RADIOACTIVE CAESIUM IN THE FALLOUT FROM THE CHERNOBYL NUCLEAR REACTOR AND THIS COULD HAVE LONG-TERM CONSEQUENCES FOR CROPS IN PARTS OF THE UKRAINE.

THE SCIENTIST WAS ONE OF 40 EXPERTS FROM 15 NATIONS WHO ATTENDED A THREE-DAY CONFERENCE IN THE NETHERLANDS ON THE LONG-TERM ENVIRONMENTAL AND HEALTH CONSEQUENCES OF THE CHERNOBYL ACCIDENT.

THE SCIENTIST SPOKE TO OUR CORRESPONDENT ON CONDITION HE WAS NOT IDENTIFIED BY NAME.

CAESIUM-137 WAS ONE OF THE TWO MAIN RADIOACTIVE ISOTOPES - THE OTHER WAS IODINE-131 - IN THE NUCLEAR PLUME WHICH DRIFTED ACROSS THE SOVIET UNION, EUROPE AND SCANDINAVIA AFTER THE APRIL 26 EXPLOSION.

RADIATION EXPERTS SAY CAESIUM-137 REMAINS RADIOACTIVE FOR MUCH LONGER THAN IODINE-131 AND IT CAN GET INTO THE FOOD CHAIN BY CONTAMINATING SOIL, PLANTS AND LIVESTOCK.

HOWEVER, THE WESTERN SCIENTIST SAID CALCULATIONS SHOWED THAT THE AMOUNT OF GROUNDWATER CONTAMINATION FROM CAESIUM IN THE UKRAINE WAS "MUCH LESS SERIOUS" THAN HAD BEEN ANTICIPATED.

THE SCIENTIST SPOKE AT THE END OF THE CONFERENCE ORGANISED BY THE WORLD HEALTH ORGANISATION AFTER AN INITIATIVE BY THE DUTCH AND WEST GERMAN GOVERNMENTS. THE CONFERENCE WAS HELD IN THE SMALL TOWN OF BILTHOVEN OUTSIDE UTRECHT.

AMONG THE PARTICIPANTS IN THE CONFERENCE, WHICH WAS NOT OPEN TO THE MEDIA, WERE SCIENTISTS FROM THE SOVIET UNION, POLAND AND HUNGARY.

THE CONFERENCE ENDED FRIDAY WITH A STATEMENT SAYING THE "ACUTE PHASE" OF THE NUCLEAR ACCIDENT WAS OVER AND THAT, APART FROM SCATTERED RADIOACTIVE "HOT SPOTS" IN MOSTLY SMALL AND LOCAL AREAS, AVERAGE LEVELS OF RADIATION IN ALMOST EVERY EUROPEAN COUNTRY WERE "VERY LOW INDEED."

HOWEVER, A CONFERENCE SPOKESMAN SPECIFICALLY SAID THAT THIS ASSESSMENT DID NOT APPLY TO THE UKRAINE.

THE WESTERN SCIENTIST TOLD OUR CORRESPONDENT THAT THE AMOUNT OF CAESIUM RELEASED FROM CHERNOBYL IN RATIO TO THE AMOUNT OF RADIOACTIVE IODINE HAD BEEN HIGHER THAN EXPECTED. HE SAID THE RATIO OF CAESIUM TO IODINE HAD BEEN "UP TO 40 TIMES" MORE THAN IN THE FALLOUT FROM THE ATMOSPHERIC NUCLEAR WEAPONS TESTS OF THE 1960'S.

THIS SUGGESTED THAT THE CHERNOBYL FALL-OUT WOULD BE A "BIGGER LONG-TERM PROBLEM" THAN THE FALL-OUT FROM THE NUCLEAR TESTS.

THE SCIENTIST SAID HE BELIEVES THAT IN THE LONG-TERM THE SOVIETS WILL HAVE PROBLEMS WITH MEAT FROM THE UKRAINE AS A RESULT OF CAESIUM BEING ABSORBED BY LIVESTOCK ANIMALS.

THE SCIENTIST ALSO SAID THAT THE CONTAMINATION MIGHT BE HIGH EAST OF CHERNOBYL. "THIS IS AN AREA WHICH PEOPLE (IN THE WEST) HAVEN'T BEEN TALKING ABOUT VERY MUCH", HE SAID. (PTO)

E/W - (1) RATIO OF RADIOACTIVE CAESIUM WAS UNEXPECTEDLY HIGH

THE SCIENTIST SAID THAT IF THE BRITISH GOVERNMENT FOUND IT NECESSARY TO IMPOSE PUBLIC HEALTH RESTRICTIONS ON CAESIUM-CONTAMINATED SHEEP AS FAR AWAY AS WEST SCOTLAND, IT WAS CLEAR THE SOVIETS "SHOULD BE PUTTING A LOT OF RESTRICTIONS ON."

HE SAID AREAS OF THE SOVIET UNION HAD SUFFERED "FAR HIGHER CONTAMINATION THAN ANYWHERE ELSE IN EUROPE." HE SAID THIS AREA OF THE SOVIET UNION WAS ROUGHLY COMPARABLE TO THE SIZE OF ITALY:

"THIS IS THE GRAIN PRODUCTION AREA OF THE SOVIET UNION AND IT IS GOING TO BE VERY INTERESTING TO SEE HOW MUCH (CAESIUM) THERE IS IN THE CORN." HOWEVER, HE SAID THE FIGURES ABOUT THE CONTAMINATION LEVELS "HAVE NOT (YET) COME OUT."

THE SCIENTIST SAID THAT THERE WERE A LOT OF REMEDIES THAT THE SOVIETS COULD APPLY. ONE WAS TO "DEEP-PLOUGH" RADIOCONTAMINATED LAND - THAT IS, BURYING THE TOP SOIL BY TURNING IT UPSIDE DOWN. THEN, IT WOULD BE POSSIBLE TO "SHALLOW PLOUGH" FIELDS, AND BURY THE CONTAMINATION, BUT THE FIELDS SHOULD NOT BE DEEP PLOUGHED AGAIN FOR 30 TO 40 YEARS TO ALLOW THE CAESIUM TO DECAY. ANOTHER REMEDY WOULD BE TO PLANT FORESTS ON CONTAMINATED AREAS RATHER THAN GROWING CROPS.

THE CONFERENCE CHAIRMAN, DR B. ZOETEMAN, OF THE DUTCH NATIONAL INSTITUTE OF PUBLIC HEALTH AND ENVIRONMENTAL HYGEINE, ALSO TOLD OUR CORRESPONDENT THAT DECONTAMINATION OF SOME AREAS OF THE UKRAINE WOULD HAVE TO BE UNDERTAKEN. HE SAID CAREFUL CONTROL OF THESE AREAS WOULD BE NECESSARY FOR THE NEXT FIVE YEARS, AND THEN "THE PROBLEM WILL GO AWAY."

HE SAID THE TWO SOVIETS SCIENTISTS HAD TOLD THE CONFERENCE THAT THERE WERE SOME AREAS WHERE PEOPLE WOULD NOT BE ALLOWED TO LIVE IN FUTURE.

OUR CORRESPONDENT ASKED ZOETEMAN IF CONTAMINATION TO MINSK AND KIEV HAD BEEN DISCUSSED AT THE CONFERENCE. HE REPLIED THAT THE "LOCAL SITUATION" HAD NOT BEEN DISCUSSED IN DETAIL.

THE WESTERN SCIENTIST SAID THAT THE SOVIETS HAVE A BIG PROBLEM WITH THEIR PLAN TO REOPEN THE CHERNOBYL NUCLEAR REACTORS.

"THEY HAVE SAID THAT THE CONTAMINATION LEVELS AROUND THE SITE ARE STILL VERY HIGH AND THERE ARE SOME COMMUNITIES WHERE THE PEOPLE CERTAINLY WON'T BE GOING (BACK TO) VERY SOON."

HE SAID: "IT'S VERY DIFFICULT TO SEE HOW IN HUMAN TERMS THEY CAN WORK THOSE REACTORS." HE QUESTIONED WHERE WORKERS WOULD LIVE.

THE SCIENTIST ALSO REFERRED TO THE POSSIBILITY OF GROUNDWATER CONTAMINATION IN THE UKRAINE FROM CAESIUM. HE SAID THAT CALCULATIONS SHOWED IT IS "MUCH LESS SERIOUS" THAN PEOPLE HAD FIRST IMAGINED. HE SAID THAT, IN THE EVENT OF A "COMPLETE MELTDOWN" AT CHERNOBYL, SOME WESTERN SCIENTISTS HAD FEARED AN EMERGENCY ON THE DNIEPER RIVER WHICH WOULD HAVE CONTAMINATED THE WATER SUPPLIES OF KIEV WITH CAESIUM. HE SAID: "BUT WE FEEL GENERALLY THAT THE FOOD CHAIN IS MORE IMPORTANT THAN THE GROUNDWATER."

HE SAID THE SOVIETS HAD TAKEN ACTION TO PREVENT CONTAMINATED WATER REACHING THE RIVERS, BUT THERE WERE NO ENGINEERING DETAILS OF WHETHER THIS WOULD BE "A PERMANENT SOLUTION OR NOT".

HE SAID THE SOVIETS HAD SINCE SHOWED PICTURES OF PEOPLE BATHING IN THE DNIEPER IN KIEV. "I UNDERSTAND THAT THE LEVELS (OF WATER CONTAMINATION) ARE EXTREMELY LOW."

SOURCES AT THE CONFERENCE SAID THE TWO SOVIET SCIENTISTS GAVE A BRIEF DESCRIPTION OF THE SITUATION IN THE SOVIET UNION, AND OF PRECAUTIONARY MEASURES THAT HAD BEEN TAKEN. THE SOURCES SAID THEY GAVE NO NEW INFORMATION ABOUT THE ACTUAL ACCIDENT.

THE WESTERN SCIENTIST REFERRED TO THE PROMISE BY SOVIET GENERAL SECRETARY MIKHAIL GORBACHEV TO PROVIDE A FULL STATEMENT BY THE END OF AUGUST ON THE CHERNOBYL ACCIDENT, AND ITS EFFECTS ON FOOD AND PEOPLE.

HE SAID THERE ARE RUMORS IN BOTH THE INTERNATIONAL ATOMIC ENERGY ASSOCIATION IN VIENNA AND IN THE WORLD HEALTH ORGANISATION THAT THE SOVIETS WILL NOT BE READY TO MEET THE AUGUST 31 DEADLINE. (MORE) RH

E/W - (2) RATIO OF RADIOACTIVE CAESIUM UNEXPECTEDLY HIGH

"GORBACHEV UNDERTOOK TO GIVE THIS BIG OPEN REVIEW. I THINK THEY ARE IN A BIG MESS. I DON'T THINK THEY HAVE GOT THE CAPACITY TO PUT IT (THE REVIEW) TOGETHER..."

HE SAID THAT THE SOVIETS WERE ATTEMPTING TO GO FURTHER IN THEIR ASSESSMENT OF THE AFTERMATH OF THE ACCIDENT THAN ANYTHING SCIENTISTS HAD ATTEMPTED IN WESTERN EUROPE.

HE SAID ONE BENEFIT OF THE BILTHOVEN MEETING WAS THAT THE TWO SOVIET REPRESENTATIVES WOULD GO HOME WITH A PRELIMINARY CONFERENCE REPORT SHOWING HOW A GROUP OF EXPERTS FROM OTHER COUNTRIES WOULD SET ABOUT TACKLING SUCH A STUDY.

AMONG THOSE WHO ATTENDED THE BILTHOVEN CONFERENCE WERE RADIATION HYGEINE EXPERTS, ENVIRONMENTALISTS, METEOROLOGISTS, RADIOBIOLOGISTS, AND NUCLEAR SAFETY EXPERTS.

A DRAFT REPORT FROM THE CONFERENCE WILL BE CIRCULATED TO PARTICIPANTS AND, AFTER THEIR COMMENTS HAVE BEEN TAKEN INTO ACCOUNT, A FULL REPORT WILL BE MADE PUBLIC, PROBABLY IN SEPTEMBER.

THE WESTERN SCIENTIST SAID THE SOVIETS HAD BEEN "VERY LUCKY" IN THE WAY THAT THE ACCIDENT HAD HAPPENED. FIRSTLY, IT HAD HAPPENED AT NIGHT WHEN MOST PEOPLE WERE INSIDE. SECONDLY, THE RADIOACTIVE PLUME HAD INITIALLY MOVED NORTH, AWAY FROM KIEV, AND IT WAS ONLY A FEW DAYS LATER WHEN IT CAME SOUTH.

HE SAID THE SOVIETS STARTED EVACUATING PEOPLE FROM THE REGION 36 HOURS LATER. "THEY THEN MOVED ABOUT 50,000 PEOPLE OUT. AFTER EIGHT DAYS THEY MOVED ANOTHER 50,000 PEOPLE. THREE WEEKS LATER THEY WERE STILL MOVING PEOPLE OUT FROM OTHER AREAS APART FROM THE ONES WHO WENT VOLUNTARILY."

HE SAID IT WAS ACCEPTED THAT THE SOVIETS WERE CORRECT WHEN THEY SAID THAT TWO PEOPLE HAD INITIALLY DIED IN THE ACCIDENT.

THERE WAS NO DOUBT THAT SOME AREAS OF THE UKRAINE WERE GOING TO BE "VERY HEAVILY CONTAMINATED". THE PATTERN OF CONTAMINATION, TO SOME EXTENT, REFLECTED WHERE RAIN HAD FALLEN AFTER THE ACCIDENT, BRINGING DOWN WITH IT RADIOACTIVE DEPOSITS.

THE CONFERENCE HAD EARLIER HEARD THAT SOME LOCALISED RADIOACTIVE "HOT SPOTS" IN EUROPE ARE IN AREAS OF HIGH RAINFALL. SOME OF THESE HOT SPOTS ARE IN THE HILL COUNTRY OF NORTHERN BRITAIN AND IN THE NORTHERN ALPINE REGION.

THE WESTERN SCIENTIST SAID THE TWO SOVIET SCIENTISTS HAD TOLD THE CONFERENCE THAT AREAS CLOSE TO CHERNOBYL HAD SHOWN "TOTALLY DIFFERENT RADIATION PATTERNS."

THE SCIENTIST SAID A GROUP OF FINNS WHO HAD BEEN IN KIEV AT THE TIME OF THE ACCIDENT TRAVELLED BACK TO FINLAND ON MAY 3. TESTS SHOWED THAT THEIR THYROID GLANDS HAD BEEN "VERY HEAVILY CONTAMINATED" BY RADIOACTIVITY. THE THYROID ATTRACTS IODINE-131.

THE SCIENTIST SAID: "BY USING EXAMPLES LIKE THAT YOU CAN DO A PROJECTION (OF THE EVENTUAL HEALTH RISKS) TO THE WHOLE POPULATION"

OTHER WESTERN EXPERTS HAVE SAID THAT THE MAIN LONG-TERM RISK FROM EXPOSURE TO RADIATION IS OF INCREASED SUSCEPTIBILITY TO CANCER, BUT THESE CANCERS WILL TAKE 30 OR 40 YEARS TO FULLY EXPRESS THEMSELVES.

SOME WEEKS AGO A BRITISH LECTURER IN RADIATION BIOLOGY, BARRY LAMBERT, ESTIMATED THAT PERHAPS A FIGURE OF 10,000 CANCER DEATHS EVENTUALLY FOR THE SOVIET UNION WAS A REALISTIC ESTIMATE.

THE WESTERN SCIENTIST SAID THAT A DIAGRAM OF HOW THE RADIOACTIVE PLUME DRIFTED ACROSS THE SOVIET UNION, EUROPE AND SCANDINAVIA AMOUNTED TO A "CANCER MAP."

THE SCIENTIST SAID THE SOVIETS HAD BEEN "TOTALLY IRRESPONSIBLE" IN GOING AHEAD WITH MAY-DAY CELEBRATIONS IN KIEV. "THEY GAVE GREAT COVERAGE TO ALL THE PEOPLE DANCING IN THE STREETS ON MAY DAY IN KIEV. BY GOD, THAT WAS CRIMINAL." (PTO) RH

ZOETEMAN TOLD OUR CORRESPONDENT AFTER THE CONFERENCE THAT THE LEVEL OF RADIOACTIVITY IN EASTERN EUROPE WAS "RATHER COMPARABLE" TO THE SITUATION IN WESTERN EUROPE. IT WAS "QUITE SCATTERED" AS IN THE SCANDINAVIAN COUNTRIES AND IN THE COUNTRIES NORTH OF THE ALPS.

HE SAID IT WAS NOW CLEAR THAT LARGE PARTS OF POLAND HAD NOT BEEN SERIOUSLY AFFECTED AT ALL. ONLY THE EASTERN PART OF POLAND "IS AFFECTED IN A WAY WHICH IS REALLY OF CONCERN."

ALTHOUGH THERE HAD BEEN HIGH LOCAL LEVELS OF RADIATION REPORTED, "GENERALLY SPEAKING THE EASTERN PART OF POLAND IS SIMILAR TO AUSTRIA OR THE MIDDLE PART OF SCANDINAVIA."

HE SAID PEOPLE IN POLAND HAD PANICKED "BECAUSE THE GOVERNMENT THERE WANTED TO BE VERY CAREFUL AND TOOK PRECAUTIONARY MEASURES, PARTICULARLY FOR THE CHILDREN."

HE SAID THE BENEFITS AND DRAWBACKS OF THIS TREATMENT SHOULD BE BETTER EVALUATED.

ZOETEMAN SAID THE POLISH REPRESENTATIVE, PROFESSOR NAUMANN, OF THE MEDICAL CENTRE FOR POST-GRADUATE EDUCATION IN THE MINISTRY OF HEALTH, IN WARSAW, HAD EXPLAINED TO THE CONFERENCE "THE GENERAL PHILOSOPHY BEHIND THE MEASURES TAKEN AND HE TOLD ABOUT THE DEPOSITION LEVEL AND THE EXPOSURE LEVELS WHICH HAD BEEN MEASURED IN POLAND."

AN AMERICAN SOURCE AT THE CONFERENCE TOLD OUR CORRESPONDENT THERE WAS EVIDENCE THAT POTASSIUM IODINE TREATMENT ADMINISTERED BY THE AUTHORITIES HAD BEEN EFFECTIVE "BY A FACTOR OF FIVE" IN LIMITING RADIATION INGESTION BY THE POLES, PARTICULARLY CHILDREN.

IT IS HIS VIEW THAT THE BIGGEST HEALTH HAZARD TO PEOPLE FROM THE CHERNOBYL NUCLEAR ACCIDENT IS "PSYCHOLOGICAL PROBLEMS."

EARLIER, IAN WADDINGTON, DIRECTOR OF THE ENVIRONMENTAL HEALTH SERVICE FOR THE EUROPEAN REGION OF THE WORLD HEALTH ORGANISATION, HAD TOLD A PRESS CONFERENCE THAT THE AVERAGE LEVEL OF RADIOACTIVITY IN ALMOST EVERY EUROPEAN COUNTRY WAS "VERY LOW INDEED."

HE SAID THERE WERE ISOLATED RADIATION "HOT SPOTS" BUT EVEN THERE PREVENTATIVE ACTION WAS BEING CAREFULLY TAKEN BY PUBLIC HEALTH AUTHORITIES, AND THE PUBLIC HEALTH RISK WAS "MINIMAL." HE SAID HE DID NOT INCLUDE THE UKRAINE IN HIS ASSESSMENT.

BUT WADDINGTON WAS HIGHLY CRITICAL OF THE SYSTEM OF PUBLIC HEALTH MEASURES ADOPTED BY EUROPEAN GOVERNMENTS AFTER THE CHERNOBYL ACCIDENT. HE SAID THEY HAD BEEN "CHAOTIC" AND UNCOORDINATED.

HOWEVER, ZOETEMAN TOLD OUR CORRESPONDENT HE DID NOT FULLY AGREE WITH WADDINGTON. HE SAID: "I THINK ALL COUNTRIES TOOK WHAT MEASURES THEY THOUGHT NECESSARY...A GOVERNMENT SOMETIMES HAS TO ACT FOR DIFFERENT REASONS THAN ONLY SCIENTIFIC REASONS."

ZOETEMAN SAID THE CONFERENCE HAD BEEN USEFUL IN GIVING THOSE WHO ATTENDED AN "OVERVIEW" OF THE SITUATION AFTER THE CHERNOBYL ACCIDENT.

THE BILTHOVEN CONFERENCE WAS THE SECOND ASSEMBLY OF EXPERTS ORGANISED BY THE W.H.O. SINCE THE CHERNOBYL ACCIDENT. A PREVIOUS MEETING ON MAY 6 ASSESSED THE IMMEDIATE IMPACT OF THE NUCLEAR DISASTER.

THERE ARE NO IMMEDIATE PLANS FOR A FOLLOW-UP MEETING TO BILTHOVEN. WADDINGTON SAID: "THERE IS A LOT OF DATA STILL TO BE GATHERED AND IT WILL BE MANY MONTHS BEFORE THE FULL SITUATION IS CLEAR." RH