UNSCEAR BRIEFING NOTE

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EFFECTS OF EXPOSURE TO RADON GAS

VIENNA|21 July 2009|There is mounting direct evidence to confirm a small but detectable risk of lung cancer from living with radon in the home, says the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

Previous estimates of risk for radon were calculated from health studies of underground miners, who were exposed to high levels of radon and its decay products. Now the Committee has evaluated recent direct studies of the public, in Europe, North America and China, exposed to relatively low levels of radon in their homes.

Although there are major uncertainties in calculating from the studies of miners to exposure at home, there is remarkably good agreement between the estimates derived from studies of miners at high levels and the direct evidence at low levels.

Radon leads to increases in the underlying risk of lung cancer. This is particularly relevant for smokers, who are already at higher risk of contracting lung cancer.

Radon gas is formed by the radioactive decay of uranium which is present in all soils and rocks and radon is present in the air everywhere. But indoors levels are higher than outdoors since the inside of a building is normally at a slightly lower pressure than the air outside. This results in radon gas from the soil being drawn into the building through cracks in the floor.

The effects of exposure to radon in the home and the workplace is the subject of one of three annexes of a major authoritative report published today by UNSCEAR.

The 2006 report also assesses the effects of radiation on the immune system and non-targeted effects of radiation on cells. Its release was delayed because of resource issues that have been corrected.

UNSCEAR was established in 1955, reporting to the UN General Assembly on levels and effects of radiation. Its authoritative findings led to the Partial Test Ban Treaty prohibiting atmospheric testing of nuclear weapons, and underpin international standards for radiation protection.

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