

Radiation Exposure Standards “Scientifically Inappropriate”

calculating risk. The standard is called “reference man,” a measure created by the International Commission on Radiological Protection in 1975 and defined as a 5-foot-7-inch, 154-pound “Caucasian” male, 20 to 30 years old, who is “Western European or North American in habitat and custom.”

A new report by Arjun Makhijani, President of the Institute for Energy and Environmental Research (IEER), the influential scientific watchdog group in Takoma Park, Maryland, declares that the use of Reference Man is “scientifically inappropriate” because the vast majority of people, especially women and children, are excluded and left unprotected.

In a press release announcing the report, IEER said “Reference Man is not used in all cases but it is used in, among others, some drinking water regulations, the standard computer program guiding the cleanup of radioactively contaminated sites and guidance and compliance documents of the Environmental Protection Agency, Nuclear Regulatory Commission and Department of Energy.”

Main findings and recommendations

The IEER report’s main findings and recommendations call into question the foundations that underlie the use of radioactive materials and nuclear power. We reprint them in full:

1. The use of Reference Man, a hypothetical 20 to 30 year old Caucasian male, in radiation protection regulations and guidelines, including those designed to protect the general public, is pervasive. This is scientifically inappropriate because the vast majority of people, including women and children, fall outside the definition. In general, it also does not protect those most at risk, who are often women and children.

2. Radiation protection regulations are generally given in terms of limits on radiation dose per year or in terms of maximum allowable concentrations of radionuclides in the environment, which also serve to limit radiation dose. The use of Reference Man in radiation dose calculations underestimates dose to children in a large number of

situations, to women in some situations. The underestimation of dose results in an underestimation of cancer risk.

3. Overall, children have a higher risk of cancer for a given radiation dose. This higher risk per unit of radiation dose compounds the problem of underestimation of dose.

4. The regulations and guidelines that rely mainly on Reference Man include the NRC’s radiation protection regulations in the workplace and for the general public specified in 10 CFR 20, EPA Federal Guidance Reports 11 and 12, and DOE Order 5400.5 for the protection of the public. The default values in the official computer program used to estimate allowable residual radioactivity use Reference Man. [They are] also used to assess compliance with the Clean Air Act.

5. The Maximum Contaminant Levels for transuranic radionuclides [like plutonium] in drinking water rely on Reference Man.

6. The 2006 report on low-level ionizing radiation of the National Academies, commonly known as the BEIR VII report,

concluded that women are at considerably greater risk of dying from cancer from the same radiation dose (higher mortality risk) and also at greater risk of getting cancer per unit of radiation dose, compared to an adult male.

7. Fetal exposure is only taken into account in radiation controlled workplaces in those cases where a woman declares her pregnancy. The standards in effect are obsolete by a factor of five or more.

8. The failure to estimate doses to children and cancer risks to children when they are in excess of doses and risks received by adults would appear to be in violation of President Clinton’s 1997 Executive Order on children, which was reaffirmed by President Bush, with some changes, in 2003.

Take Action:

IEER and the other groups and individuals involved in the “Healthy from the Start” campaign are working to end the use of Reference Man. For more on this crucial effort, visit www.healthyfromthestart.org.

Hawaii Embraces Solar Hotwater, Electric Cars

In a common sense, business- and jobs-supporting move, Hawaii’s legislators and Republican Governor Linda Lingle last June enacted a new building code requiring solar hot water heaters or other energy-efficient systems in all new houses starting in 2010. The mandate will reduce home energy consumption by an average of 30 percent, the state-wide equivalent of 30,000 barrels of oil. A family of four can expect to save \$600 every year, and the state will prevent the emission of over 10,000 tons of greenhouse gases. Not only has Hawaii wisely moved to solar hot water, the state has initiated an electric car and battery transfer point system to help eliminate the use of fossil fuels.

The new building code mandate also offers tax credits to owners with homes built prior to 2010. Small businesses in the state have jumped at the opportunity to supply the

construction industry with solar power products. The money spent on solar construction and installation will circulate in Hawaii boosting the state’s economy, rather than being exported as petro dollars.

Other states’ legislatures should take a lesson from Hawaii’s Senate Majority Leader Gary Hooser (D-Kaua’i, Ni’ihau), who said, “Mandating solar hot water heating for all new homes is a no-brainer. This is the low hanging fruit, a low-cost, proven technology that saves homeowners money and is great for the environment.” Spain and Israel require solar heating in new residences, but building codes in most U.S. states are stuck in the no-brain era.

Electric cars, trolleys and busses are being integrated into Hawaii’s progressive energy plan. The State, along with the Hawaiian Electric Company, endorsed the “Project Better Place” plan to build an all-electric transportation system using exchange-able batteries and rapid recharging stations. The State has about 1.2 million cars. Since Project Better Place’s inception in October 2007, Israel, Denmark, Australia, California, Hawaii and Canada have committed to deploying the world’s first electric car networks.

Some small companies like stone designers Bella Pietra in Honolulu have enthusiastically moved to electric cars, buying three that go 30 MPH for six hours and are perfect for downtown deliveries — and, thanks to promotional city ordinances, they get free parking. The electric cars are made in Hawaii and only cost between \$3,500 and \$6,000.

In a related event, last October, Tesla Motors agreed to build a new electric car manufacturing facility and headquarters in San Jose. San Francisco has endorsed Project Better Place and plans on spending one billion dollars on a recharging network to be completed by 2012.

— For details see: *Hawaii Senate Bill 644*, http://www.capitol.hawaii.gov/session2008/Bills/SB644_CD1_.htm



“DEPLETED” URANIUM WEAPONS UPDATE

Italian Military to Compensate DU Victims

Italy’s Minister of Defense Ignazio La Russa announced during a press conference on Dec. 19, 2008, that the ministry will provide 30 million Euros (38 million dollars) to victims of uranium weapons and nano-particle contamination.

Stefania Divertito, of the International Coalition to Ban Uranium Weapons (ICBUW), writes that “It’s the first time that an Italian government minister has clearly pronounced the phrase “victim of depleted uranium.”

Costa Rican Legislator Offers Uranium Weapons Ban

The International Coalition to Ban Uranium Weapons sponsored a March conference in San Jose, Costa Rica focused on the campaign for a new convention or treaty that would forbid the manufacture, possession, sale or use of uranium weapons. The ICBUW is made up of more than 100 organizations in nearly 30 countries.

On March 4, President of the Latin American Parliament’s Human Rights Commission and member of Costa Rica’s legislative assembly Alexander Mora Mora released a draft for a comprehensive ban on uranium weapons.

A member of the Partido Liberacion Nacional and keen advocate for peace and nonviolence, Mora Mora estimates that the bill could become law in under a year. Parliamentarians have been inspired by Belgium’s decision to ban uranium weapons and armor in a unanimous vote passed in 2007. Belgium’s ban will come into force this June.

Mora Mora announced the development at the opening of the ICBUW’s March international conference in San Jose. “Although our member organizations here have been working closely with the legislature’s members for some time, Mora Mora is the driving force behind this text and we hope that its impact will spread far beyond the boundaries of Costa Rica,” said ICBUW staffer Doug Weir.

It is anticipated that the Costa Rican statutory language will be written into a 1995 law controlling explosive weapons. If it successfully negotiates the state’s legislature, the text will ban the use, sale, transit, production and distribution of uranium weapons in Costa Rica and its exclusive economic zone.

International Appeal From Costa Rica

On March 7, participants in the Costa Rica conference issued a formal appeal “to citizens, governments, civil society and international agencies to take urgent action on uranium weapons.”

The appeal follows on two years of successful campaigning by the ICBUW in which the Belgian government unanimously adopted a national ban of the weapons, and the United Nations agreed to further investigate the effects of using the devices.

The appeal read in part: “We call on ... citizens and governments to join us in the pursuit of a uranium weapons treaty that will protect the ecosystem from long-term contamination and safeguard the health of civilians living in post-conflict environments. As a first step towards achieving

this goal, we urge states to introduce domestic bans on uranium weapons to create a Uranium Weapon Free Zone across the region.

“We call on governments worldwide to acknowledge the Precautionary Principle and introduce, as the first step towards a uranium weapons convention, an immediate moratorium on the use of uranium weapons, before more states suffer from the results of their use and testing.

“We call on the World Health Organization, International Atomic Energy Agency and United Nations Environment Program to honestly assess the wealth of new data on uranium’s health hazards, and support rapid international action, based on the Precautionary Principle, to control the use of uranium in conventional weapons.

“We call on civil society organizations from across Latin America and the world, to join our Coalition and to help forge new links between peace, religious, environmental and arms control organizations; between trade unions and politicians; between scientists and lawyers; between soldiers and peacemakers and between those fighting military bases and testing grounds.

“Through a Uranium Weapon Convention forged in solidarity with the victims ... we can create a ... lasting precedent for the protection of civilians and the environment from toxic and radioactive contamination.”

DOE Looking for DU Processor

In December 2008, the DOE opened to bids the operation of two “depleted” uranium (also called uranium hexafluoride, U-238, or UF₆) conversion facilities to be built in Portsmouth, Ohio and Paducah, Kentucky. The estimated value of the five-year contracts is \$350 to \$450 million.

The operator would oversee conversion of the DOE’s inventory of some 700,000 tons of DU to “a more stable chemical form acceptable for transportation, reuse or disposal.” This U-238 is the so-called “legacy waste” left from decades of “enrichment” (increasing the amount of fissionable U-235), for use in H-bombs and reactor fuel beginning with the Manhattan Project during World War II.

The DOE’s mention of “reuse” is a reference to the manufacture of DU weapons. Since the 1950s, DU has been stored at Portsmouth and Paducah in large steel cylinders. Cylinders formerly at Oak Ridge, Tennessee have been relocated to the Portsmouth site.

New Documentary on Uranium Weapons

The 2008 documentary “Contaminated Forever,” on the deadly impact of depleted uranium contamination, is scheduled to air on several local access TV stations throughout California, Massachusetts, New Hampshire and Missouri through a progressive media networking service. The producers, Wild Clearing, have also received word that the film will be aired and web-streamed in parts of New York City.

You can watch the film on the web at: www.contaminatedforever.com. Contact: <wildclearing@wildclearing.com>