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**PLEASE NOTE EMBARGO**

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**MUNICH SCIENTISTS USE DELIBERATELY MISLEADING INFORMATION  
TO DEFEND BOMB-GRADE REACTOR FUEL**

**German Bid for Permanent Security Council Seat Jeopardized?**

WASHINGTON -- Scientists at the Technical University-Munich are using deliberately misleading information to defend their plan to build a large research reactor with bomb-grade nuclear fuel in violation of a near-global consensus against such projects, according to the Washington-based Nuclear Control Institute.

Last Tuesday, the Institute -- an independent research center on nuclear proliferation -- released an analysis showing that the proposed German FRM-II reactor would be the first Western research reactor with power of at least one megawatt to violate a 16-year international moratorium against bomb-grade uranium fuel in new research reactors. Of the 14 large reactors built since the late 1970s, only two have violated the international moratorium -- in Libya and China. NCI's analysis is based on the most recent data (December 1994) from the International Atomic Energy Agency (IAEA).

Scientists at the Technical University-Munich promptly responded by claiming that at least five reactors using bomb-grade uranium have become operational worldwide in the last five years. They failed to point out, however, that these were Chinese- and Russian-supplied plants known as "Miniature Neutron Source Reactors," which have extremely low power and use tiny amounts of fuel and, therefore, do not present a major proliferation risk.

Attempting to use the "miniature" reactors as a defense for the FRM-II demonstrates the misleading nature of the TU-Munich scientists' remarks, according to the Nuclear Control Institute. The miniature reactors have power no higher than 30 kilowatts; the FRM-II would have a power of 20 megawatts -- more than 600 times larger. The miniature reactors use less than one kg. of fuel over their entire lives; the FRM-II would use 1200 kgs. of fuel over its 30-year life -- more than 1200 times as much bomb-grade fuel.

"This is a deliberate deception by Technical University-Munich scientists and their spokesman Gert von Hassel in an attempt to defend an indefensible reactor," said Paul Leventhal, president of NCI. "To discuss the high enrichment of the fuel, without stating the very small amount of fuel or the minuscule power of the reactors, is a deliberate attempt to mislead the German people. The fact is that the civilized world has outlawed building reactors of any significant size with bomb-grade fuel. If Germany goes ahead, it

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will put itself in the same class as China and Libya. Such insensitivity to nonproliferation norms cannot help its efforts to secure a permanent seat in the UN Security Council."

For 20 years, international efforts have focused on eliminating bomb-grade fuel in research reactors with power of at least one megawatt, because they require routine refueling with enough fuel to pose a risk of nuclear proliferation and nuclear terrorism. NCI's earlier press release and charts explicitly focused on such reactors.

In their response, TU-Munich scientists also asserted that there are about 100 research reactors worldwide using bomb-grade, or "highly enriched," uranium (HEU) fuel. But as NCI's charts and analysis made clear, these reactors were built mainly in the 1950s and 1960s, before the international community fully appreciated their proliferation risks. Most have "lifetime" cores. They receive no additional fresh HEU fuel and, therefore, present little proliferation risk. Others have shut down. Still others are converting to non-weapons-usable, low-enriched uranium (LEU) fuel.

Only three reactors in Europe -- two in France and one in Belgium, built before the international moratorium -- require fresh HEU because they cannot yet convert to LEU. When existing HEU-fueled reactors shut down or convert, the longstanding international goal of ending commerce in bomb-grade uranium can be achieved.

The TU-Munich scientists also claimed that the 1980 UN International Nuclear Fuel Cycle Evaluation (INFCE) recognized the need for HEU in research reactors like the FRM-II. This is untrue. The INFCE recognized the need only for limited use of HEU in existing reactors until alternate, high-density LEU fuels could be developed. Such alternate fuels were subsequently developed in the 1980s by the international Reduced Enrichment Research and Test Reactors (RERTR) program, based at the U.S. Argonne National Laboratory, and are in use throughout the world.

The FRM-II, construction of which has not yet started, can be redesigned to use LEU without affecting experimental performance, according to experts at Argonne. The Argonne scientists are most qualified to make this assessment because they have assisted in the conversion to LEU of dozens of research reactors around the world and even designed the fuel presently planned for the FRM-II. If, as Von Hassel claims, European researchers are really in need of a new neutron source -- which is doubtful in light of the under-utilization of the existing, higher-flux ILL reactor in Grenoble, France -- the FRM-II could perform the same experiments with LEU as with HEU.

Finally, the TU-Munich scientists claimed that the safeguards of the IAEA and Euratom are adequate to eliminate terrorism or proliferation concerns. However, such safeguards are not designed to prevent a theft or diversion. They can only sound the alarm after the bomb-grade uranium is gone. For this reason, the international community decided 20 years ago that the surest way to avoid these risks was to eliminate civilian commerce in bomb-grade uranium. That is why, the United States, a nuclear-weapons state, in 1986 ordered the conversion of its university research reactors to LEU, and this year canceled plans to build a large "Advanced Neutron Source" reactor, citing proliferation concerns associated with its planned use of HEU fuel.

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