

# US urged not to use bomb-grade uranium in nuclear power experiment

By Timothy Gardner

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An undated publicity photograph released to Reuters on November 8, 2011 shows the "material and fuels complex" facility at the The Idaho National Laboratory, a U.S. Energy Department nuclear research site in eastern Idaho. REUTERS/Idaho National Laboratory/Handout/File Photo

WASHINGTON, May 30 (Reuters) - Former U.S. State Department and nuclear regulatory officials on Tuesday urged the U.S. Energy Department to reconsider a plan to use bomb-grade uranium in a nuclear power experiment, saying that its use could encourage such tests in other countries.

The Energy Department and two companies aim to share costs on the Molten Chloride Reactor Experiment (MCRE) at the Idaho National Laboratory and use more than 1,322 pounds (600 kg) of fuel containing 93% enriched uranium.

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Bill Gates-backed company TerraPower LLC, the utility Southern Co ([SO.N](#)) and the department hope the six-month experiment will lead to breakthroughs in reactors that could help reduce pollution linked to climate change.

But a group of former Nuclear Regulatory Commission members, including former Chairman Allison Macfarlane, and U.S. assistant secretaries

of state responsible for nonproliferation, said MCRE could give other countries an excuse to enrich uranium to bomb-grade level in pursuit of new reactors.

"The damage to national security could exceed any potential benefit from this highly speculative energy technology," the experts said in a letter to Energy Department officials. They fear an increase in such experiments boosts risks that militants looking to create a nuclear weapon could get hold of the uranium.

"It is shocking that the Energy Department, without even notifying the public, would undermine a decades-old, bipartisan U.S. policy to prevent the spread of nuclear weapons," said Alan Kuperman, a professor at the LBJ School of Public Affairs at the University of Texas, who organized the letter.

MCRE's design could be converted to run on low-enriched uranium incurring a delay and boosting

some costs, but other costs could be saved on security, the letter said.

The Energy Department said highly enriched uranium (HEU) is needed to keep the size of the experimental reactor small. If uranium up to only 20% pure were used, the reactor core would need to be about three times taller, three times wider, and contain 40 times the volume of fuel salt, it said. Once the experiment is over the reactor would be deactivated and removed, it said.

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A TerraPower spokesperson said MCRE would be conducted at a secure facility already handling bomb-grade uranium. TerraPower said a reactor being developed at its lab in Washington state called the Molten Chloride Fast Reactor, would use fuel far less pure of up to 20% enriched uranium, far less of a proliferation risk.

"There will never be a commercial product from TerraPower that runs on HEU," the spokesperson said.

Southern declined to comment.