



Source: PBMR

The tiny fuel particles (lower right) have a kernel of fission fuel (uranium oxide) at the center, and are coated with containment layers; they are then inserted into a graphite sphere to form “pebbles” the size of tennis balls, each of which contains about 15,000 fuel particles. Pebbles travel around the reactor core about 6 times in their lifetime. During normal operation, the reactor will be loaded with 360,000 fuel pebbles.

tricity and process heat. The design is such that modules can be combined to suit the specific energy requirements of the user.

There are several factors that make the PBMR concept promising and attractive, such as its short (24-month) construction time, low operating cost, fast load-following characteristics, and inherent safety characteristics.

Accident-Proof

There is no conceivable accident scenario that can cause a fuel meltdown or otherwise lead to a large release of radioactivity. It should therefore eventually be possible, subject to licensing authority approval and public accep-

The core of the reactor contains approximately 360,000 of these fuel spheres and during normal operation, the core produces nominally 200 MW of heat. Helium is used as the coolant, and the energy absorbed in the core is transferred to a secondary loop through a heat exchanger.

The secondary side of the heat exchanger contains water, and the heat absorbed changes it to steam which, in turn, is used to drive a steam turbine connected to a generator to produce electricity in the same way conventional power stations operate. In this configuration the reactor is an electricity producing plant. The secondary side of the heat exchanger may also be coupled to a process plant directly to provide the energy directly as process heat. In this configuration, the reactor is a pure process heat producing plant.

Another possible configuration is a co-generation plant that produces both elec-



University of Greenwich Public Services International Research Unit

The attack by George Soros on the PBMR has been fronted by green fascist and so-called Professor of Energy Policy, Steve Thomas, of the University of Greenwich.

The Soros-Funded Anti-PBMR Faction

The anti-nuclear group, Physicians for Social Responsibility, sponsored a U.S. tour in May 2009 for the leading British anti-nuke guru, who has made a career out of trashing the PBMR. The George Soros-funded Steve Thomas spread his distorted opinions, including that the PBMR was “dead,” in a conference call and other publicized speeches, with the theme of “The Myth of The European ‘Nuclear Renaissance.’”

Most recently Thomas, a professor at the University of Greenwich, regurgitated his PBMR allegations in June 22 *The Bulletin of the Atomic Scientists*, under the wishful-thinking title, “The Demise of the Pebble Bed Modular Reactor.” To read more about Thomas, see “Who’s Trying to

Strangle the PBMR?” (http://www.21stcenturysciencetech.com/Articles%202008/F-W_2008/HTR_4.pdf)

A special report on the PBMR, including an interview with PBMR’s CEO Jaco Kriek, can be found at http://www.21stcenturysciencetech.com/Articles%202008/F-W_2008/HTR_1.pdf

—Marjorie Mazel Hecht