

World watching SA pebble reactor model

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ALL eyes in the world's nuclear power industry are on South Africa to see what comes of its cutting edge development of pebble-bed modular reactors (PBMRs).

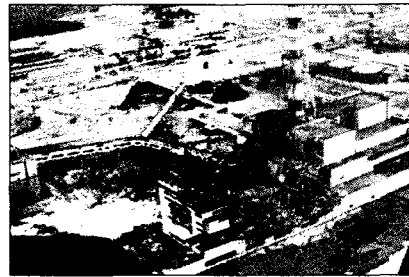
This claim was made by Dr Patrick Moore, a Canadian ecologist who was a co-founder of Greenpeace, but is now a prominent proponent of nuclear power. He was delivering a lecture at the University of the Witwatersrand recently. Moore said all South Africans should support "the people putting it together". He was referring to preparations to build a demonstration model at Koeberg, which will cost about R12 billion, according to estimates.

PBMRs will have worldwide applications in industry that are not available via first-generation nuclear reactors which use a core of uranium. By using pebbles with tiny amounts of uranium or other elements, the meltdown scenario, such as that in Chernobyl, is avoided, Moore said.

"It is a shame that South Africa did not plan ahead and commission nuclear plants in the 1990s," he said. The current crisis has forced South Africa to de-mothball "dirty fossil fuel" plants, since they are quicker to bring up to speed than nuclear reactors, which typically need ten years.

Proper planning would have allowed South Africa ample time to train technicians and engineers to run plants.

He showed figures to demonstrate that South Africa has one of the worst fossil-fuel profiles in the worlds. It produces the same per capita amounts of carbon dioxide as the United Kingdom, but this figure is far higher when only



THE Chernobyl nuclear power plant after the 1986 explosion. New technology avoids the possibility of meltdown, says ecologist Patrick Moore

PICTURE: DAILY NEWS ARCHIVES

intensive users of electricity are taken into account. SA only had two choices: nuclear energy or fossil fuels.

PBMRs are based on a German design, and a plant that ran for 21 years before it was decommissioned after the Chernobyl disaster, which prompted the German government to reveal a small release of radioactivity during a mechanical malfunction.

A prototype pebble-bed reactor in China is the only one currently in operation. More prototypes are being developed by a Dutch company and US concerns, but the consensus appears to be that SA is the leader in the field.

Environmentalists question the safety claims made for PBMRs, and their cost. Earthlife SA has successfully sued the PBMR company to halt its development, pending hearings on its safety.

The construction of the model will be completed by 2009, but the first fuel only loaded in 2013. Commercial PBMRs will be built three years later. Proponents claim 57 000 jobs will have been created by the time exports start.

