

Light-water nuclear reactor

North Korea is demanding a light-water nuclear reactor to generate electricity as part of a deal to scrap its atomic weapons programmes. The uranium fuel for this type of reactor – enriched to 2.5-3.5% – will not make a bomb; enrichment to over 90% is needed for weapons applications

1

Reactor vessel:

Pressurized water is heated by reactor core. High pressure ensures water does not turn to steam

2

Coolant loop:

Superheated water carries heat to steam generator

3

Steam generator:

Vaporizes water in secondary loop to drive turbine which produces electricity. Steam never comes into contact with reactor

Reactor vessel

Containment building

Pump

Steam generator

Turbine and generator

Source: U.S. Nuclear Regulatory Commission

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