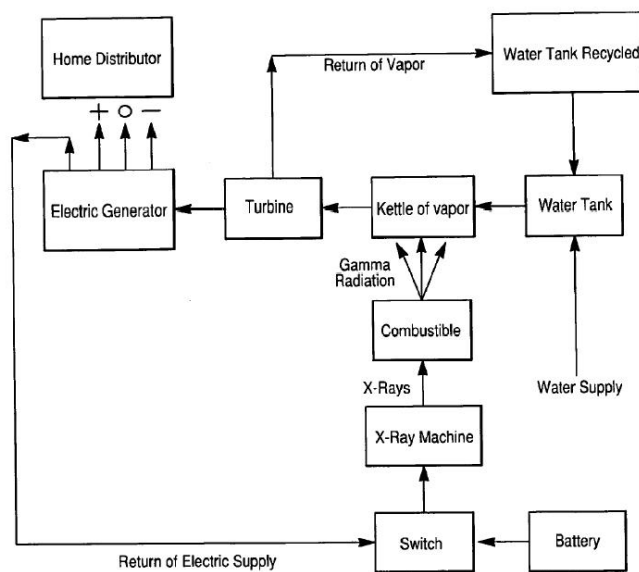


Hafnium + X-Rays = Electric Generator?

Back in 1998, an experiment involving a sample of an isomer of hafnium-178 and a used dental X-ray machine eventually led the Pentagon's Defense Advanced Research Projects Agency to plan a \$30 million project to develop a "hafnium bomb."

Fig. 1



Other scientists couldn't replicate the results. Scientific advisers objected. The physics seemed a bit shaky. It didn't matter; there was soon talk of a new generation of nuclear-type weapons and hafnium-powered bombers. One article claimed that a Global Hawk unmanned aerial vehicle was about to be pulled off the production line to have a hafnium engine placed on it (a spokesperson for Global Hawk fell out of their chair laughing when I asked about this).

My book, *Imaginary Weapons* (now out in paperback) followed this zany idea from its inception at a lab in Texas to the Pentagon. The hafnium bomb — at least in the Pentagon — is dead (though a Department of Energy official has worked furiously to revive it). But is it totally dead? Hafnium really is the gift that keeps on giving. Now we have the hafnium generator, a recently published patent application:

A method and system for producing electricity, and more particularly to a method of producing electricity by producing steam by directing Gamma rays generated by directing X-rays at a mass of Hafnium 178 onto a mass of water. The steam thereafter is channeled to a steam turbine generator to produce electricity.

So far as I can tell, this hasn't been granted a patent yet. We'll have to wait and see what the folks at the Patent Office have to say about this novel idea.