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Visionen om outtömlig energi

Bridreaktorn i svensk kärnkraftshistoria 1945–80

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ABSTRACT

Maja Fjæstad, *Visionen om outtömlig energi: Bridreaktorn i svensk kärnkraftshistoria 1945–80* [A vision of inexhaustible energy: The fast breeder reactor in Swedish nuclear power history 1945–80]. With a summary in English, Stockholm Papers in the History and Philosophy of Technology TRITA-HOT 2062 (Hedemora: Gidlunds förlag, 2010), 336 pp.

The fast breeder is a type of nuclear reactor that aroused much attention in the 1950s and 60s. Its ability to produce more nuclear fuel than it consumes offered promises of cheap and reliable energy, and thereby connected it to utopian ideas about an eternal supply of energy. Furthermore, the ideas of breeder reactors were a vital part of the post-war visions about the nuclear future.

This dissertation investigates the plans for breeder reactors in Sweden, connecting them to the contemporary development of nuclear power with heavy or light water and the discussions of nuclear weapons, as well as to the general visions of a prosperous technological future. The history of the Swedish breeder reactor is traced from high hopes in the beginning, via the fiasco of the Swedish heavy water program, partly focusing on the activities at the company AB Atomenergi and investigating how it planned and argued for its breeder program and how this was received by the politicians. The story continues into the intensive environmental movement in the 1970s, ending with the Swedish referendum on nuclear energy in 1980, which can be seen as the final point for the Swedish breeder. The thesis discusses how the nuclear breeder reactor was transformed from an argument for nuclear power to an argument against it. The breeder began as a part of the vision of a society with abundant energy, but was later seen as a threat against the new sustainable world.

The nuclear breeder reactor is an example of a technological vision that did not meet its industrial expectations. But that does not prevent the fact that breeder was an influential technology in an age where important decisions about nuclear energy were made. The thesis argues that important decisions about the contemporary reactors were taken with the idea that they in a foreseeable future would be replaced with the efficient breeder. And the last word on the breeder reactor is not said — today, reactor engineers around the world are showing a renewed interest in this elusive reactor type.

Keywords: nuclear power, nuclear energy, nuclear power history, nuclear weapons, breeder reactor, fast reactor, AB Atomenergi, history, history of science, history of technology, environmental history, Sweden, 20th century, vision, technological vision, interpretative flexibility.

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