

A Review on Nuclear Desalination Technology

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Abstract : In recent years, most desalination plants have been powered by fossil fuels, and to a lesser extent, by green energy. Greenhouse gases emitted by fossil-fuelled plants significantly impact the global climate. So scientists are forced to develop a powerful energy source to protect the environment with greater sustainability due to climate change issues. Nuclear energy can supply much more fresh water than what is currently available. Furthermore, it is more affordable and does not emit any greenhouse gases. This review compares conventional desalination plants with nuclear-powered desalination plants in terms of cost, energy consumption, water recovery, and environmental issues. On the basis of the review conducted, nuclear desalination has been demonstrated to be technically feasible and economically competitive with a variety of fossil fuels, renewable energy sources, and waste heat sources. Nuclear sources have been criticized due to their lack of safety. But studies show, if we were able to handle the issue with care, the problems could be eliminated. Here we're looking at the Seawater Reverse Osmosis Plant (SWROP) at Kudankulam Nuclear Power Plant in Tamil Nadu, India and review the further possibility of implementing nuclear desalination technology in other states of India.

Keywords : energy consumption, environmental impacts, nuclear desalination, water recovery

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