Remembering antarctica's nuclear past with 'nukey poo'

The Antarctic Treaty therefore included freedom of inspection of all facilities, and stipulated "any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited".

When Nukey Poo was built by the US Navy it was described by Admiral George Dufek as "a dramatic new era in man's conquest of the remotest continent."

While the early explorers set out with flags, pitting their bodies against the elements to claim new territory, nuclear technology represented a modern way for man to triumph over the hostile environment. PM-3A was seen as a trailblazer, and – if all went well – it was planned to be first of many installed in Antarctica.

Dufek also envisaged nuclear energy making possible a wide range of human activities in the far south. His imagined version of "Antarctica in the Year 2000" included nuclear-driven greenhouse crop production, geoengineering of the world's weather, and mining ventures that helped broker world peace.

While geoengineering in the forms of slowing the melt of glacial ice, solar geoengineering, and marine geoengineering continue to be discussed, mining is prohibited by the 1991 Protocol on Environmental Protection to the Antarctic Treaty. Contemporary visions of Antarctic futures tend to focus on environmental change and reducing human impacts, rather than enhancing the human presence.

Nuclear optimism fades

"Nukey Poo" began producing power for the McMurdo station in 1962, and was refuelled for the first time in 1964. A decade later, the optimism around the plant had faded. The 25-man team required to run the plant was expensive, while
concerns over possible chloride stress corrosion emerged after the discovery of wet insulation during a routine inspection. Both costs and environmental impacts conspired to close the plant in September 1972.

This precipitated a major clean up that saw 12,000 tonnes of contaminated rock removed and shipped back to the USA through nuclear-free New Zealand. The clean up pre-dated Antarctica’s modern environmental protection regime by two decades, and required the development of new standards for soil contamination levels.

This elaborate process ensured that the US did not violate the Antarctic Treaty by disposing of nuclear waste on the continent. It also foreshadowed a shift in environmental attitudes away from development and use, towards protection; the removal of so much as one pebble from the Antarctic without requisite permits is now prohibited.

Today, all that physically remains at the site of the PM-3A reactor is a missing hillside and a plaque. Nuclear power is no longer viewed with the optimism of the 1960s, thanks to disasters such as Chernobyl and Fukushima.

The site where Nukey Poo once stood has been designated as a Historic Site and Monument under the Antarctic Treaty System, putting it in the same category as the huts of early explorers such as Mawson and Shackleton.

However, a site with a past of nuclear contamination does not sit well within modern narratives of Antarctica as a place to protect, so this episode in the continent’s history is not often told.

When Admiral Dufek wrote in 1960 "Antarctica will be a fantastic land in the future" he had a very different vision in mind to the Antarctica we see today. Today, the far south is not a place to be improved upon with human innovation, so much as a place to be protected from our influence – including climate change.

The episode of Nukey Poo reveals the modern association between science and the Antarctic environment has not always been so. In demonstrating how Antarctica went from being seen as territory to conquer to a fragile environment, we are reminded that its protection cannot be taken for granted.

This article was originally published on The Conversation. Read the original article.