Olympic Dam, Australia

Uranium mining site

The uranium mine at Olympic Dam poses a threat to the ecosystem of the region and a health hazard to the workers and the surrounding populations. Uranium tailings, leaks and spills have caused severe radioactive contamination of the environment. With plans on the way to enlarge the mine in the coming years, comprehensive studies on health and ecological effects are urgently needed.

Western Mining Corporation began drilling at Roxby Downs in 1975, producing the first shipments of copper, gold, silver and uranium in 1988. In 2005, the mine was taken over by the global mining firm BHP Billiton. The IAEA reported that tailings dam leaks have already led to the release of more than 5 million m^3 of radioactive waste into the environment.

Kevin Buzzacott, a member of the Arabunna people, has been fighting against the Olympic Dam uranium mine ever since it was opened in 1986. The natural mound springs on the traditional Arabunna territory are drying out, as the mine uses up to 15 million liters of fresh ground water from the Great Artesian Basin per day.

Tailings pond. Every year, Olympic Dam produces about 4,500 tons of uranium oxide, at the same time creating 10 million tons of radioactive tailings – more than 2,000 tons for each ton of uranium oxide.

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History

The Olympic Dam mine near the town of Roxby Downs in South Australia is not only the largest underground mine on the continent, but is also the site of the world's largest known uranium ore deposit. Western Mining Corporation began drilling at Roxby Downs in 1975, producing the first shipments of copper, gold, silver and uranium in 1988. In 2005, the mine was taken over by the global mining firm BHP Billiton. Olympic Dam yields about 4,500 tons of uranium oxide per year, producing about 10 million tons of radioactive tailings in the process – more than 2,000 tons for each ton of uranium oxide.[1]

As uranium mining is heavily dependent on water for processing ore and suppressing radioactive dust, up to 15 million liters of fresh ground water are pumped from Australia's largest aquifer, the Great Artesian Basin, to the mine each day. BHP Billiton is currently planning to expand operations at Olympic Dam, turning it into one of the world's largest open pit mines. This would increase uranium production to about 8,000 tons a year, making Olympic Dam the biggest uranium mine in the world. Water use, however, would also more than double to 42 million liters daily, and the amount of new radioactive tailings would reach 68 million tons each year.[1,2]

Health and environmental effects

The depletion of groundwater supplies in the Great Artesian Basin poses a severe environmental hazard to the delicate ecosystem of the Australian Outback, which depends on the mound springs, naturally rising up from the Great Artesian Basin. They provide sustenance not only for the local flora and fauna, but also for the Aboriginal communities like the Arabunna or the Kokatha, who have been living in this arid region for centuries. For the indigenous people of Australia, the mound springs hold great spiritual and cultural significance and the gradual disappearance of the sacred springs through receding levels of groundwater is seen as a tragedy of epic proportions. An additional cause of concern is the growing mounds of tailings, retaining about 80 % of the ore's original radioactivity. The International Atomic Energy Agency (IAEA) reported that tailings dam leaks have already led to the release of more than five million m^3 of radioactive waste into the environment.[2,4] Many more leaks and spills may have gone unreported.

As part of its enlargement plans, BHP Billiton has announced that seepage of radioactive waste water would amount to eight million liters per day for ten years and would then decrease to an "operational steady state" of three million liters per day.[2,5] In addition, the company identified several possible health hazards such as breaches of tailings dams, erosion of embankments, radioactive radon emissions from tailing dumps and the inhalation of radioactive dust. They also conceded the possibility of a contamination of soils, groundwater and the surrounding environment.[1,2,5]

Outlook

While the South Australian parliament has already given the green light to expansion of the mine, Aboriginal groups, opposing further encroachment on their traditional lands, filed a lawsuit, trying to prevent what many in Australia view as an environmental disaster in the making. Medical experts, including Nobel Prize winner Prof. Peter Doherty, former Dean of Adelaide Medical School Prof. Bob Douglas, and Executive Dean of Health Sciences at Flinders University Prof. Michael Kidd, recommended freezing the project until health impacts could be studied. They demanded that BHP should put aside funds to pay for the health effects for centuries.[6] To this day, no independent comprehensive health assessments of the local population or environmental studies of radioactive contamination have been published. The people in the region who are suffering from increased radiation levels are also Hibakusha – their health was negatively affected by the nuclear industry's insatiable appetite for cheap uranium.

Further information:

The intelligent documentary "Uranium – is it a country?" was shot at Olympic Dam in 2009:
www.strahlendesklima.de/en/uranium

References

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