

Maralinga, Australia

Nuclear weapons test site

Between 1952 and 1957, the United Kingdom conducted seven major and hundreds of minor nuclear tests at the Maralinga Test Site in Southern Australia. Nuclear fallout from the explosions contaminated large parts of the region and exposed many people to high levels of radioactivity. To this day, the casualties of these tests are denied recognition, medical care and compensation.



Before the nuclear tests, the region around Maralinga was inhabited by members of the Aboriginal Pitjantjatjara and Yankunytjatjara people. Members of other tribes frequently passed through the area. Many of them came into contact with “black mist” after the nuclear explosions, and were exposed to dangerously high amounts of radioactivity. Photo credit: InnoventionAustralia/creativecommons.org/licenses/by/2.0



Ground Zero of the Taranaki Test at Maralinga in 1957. Two clean-up operations failed to remove radioactive contamination, and the site remains uninhabitable to this day. Photo: © News Ltd. – Sydney NSW



Avon Hudson is one of the veterans of the British nuclear tests. In the 1950s and 1960s, he served at Maralinga and Woomera and currently plays a leading role in the Australian Nuclear Veterans Association (ANVA), where he has been fighting for recognition and compensation for veterans affected by nuclear fallout from the tests. Photo: © Jessie Boylan, 2011



History

Without consulting parliament, Australia’s prime minister Robert Menzies permitted the UK to conduct nuclear tests on Australian soil in 1952. After preliminary testing on the Montebello Islands and in the desert around Emu Field, Maralinga was declared a joint British-Australian nuclear test site in May 1955. Seven major nuclear tests were performed here, with yields ranging from one to 60 kilotons of TNT equivalent. By comparison, the Hiroshima bomb had an explosive yield of about 13–15 kilotons.

Under the code-name “Operation Buffalo,” four bombs were exploded in 1956, in order to investigate the effects of nuclear radiation on animals, servicemen and civilians. In 1957, three more bombs were detonated at Maralinga as part of “Operation Antler.” These nuclear detonations produced varying fallout patterns, which contaminated the entire Australian continent. Official fallout measurements were incomplete and were concealed from the public and, often, from the government.¹

In addition, approximately 600 minor tests of nuclear weapon components and sub-assemblies, the disposal of radioactive waste from the tests, and the effects of accidents have to be considered when assessing the total impact of nuclear testing at Maralinga. In total 24.4 kg of plutonium, 101 kg of beryllium and 8,083 kg of uranium were dispersed by the winds over a distance of up to 100 km, contaminating an area of about 450 km². The Maralinga Test Site was closed in 1967. Two clean-up operations failed to remove radioactive contamination, however, and the site remains uninhabitable to this day. Plutonium-239 has a half-life of 24,000 years.²

Health and environmental effects

As with previous British nuclear weapons tests at Emu Field, the local Aboriginal population bore the brunt of radiation exposure. Before the tests began, the region of Maralinga was inhabited by Pitjantjatjara and Yankunytjatjara, with other Aboriginal groups often passing through the area. During the tests, many of them came into contact with fallout in the form of “black mist.” The warning signs in English were usually incomprehensible to the Aborigines. Studies on the health effects of radiation on the Aboriginal populations were inconclusive due to inadequate identification and follow-up of the affected population.¹

An attempted clean-up operation in 1990 tried to bury contaminated soil below the surface, but instead stirred

References

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- 3 “BEIR VII report, phase 2: Health risks from exposure to low levels of ionizing radiation.” National Academy of Sciences Advisory Committee on the Biological Effects of Ionizing Radiation, 2006, p. 279f, tables 12.5a and 12.5b. www.nap.edu/openbook.php?record_id=11340&page=8
- 4 “Australian Participants in Nuclear Tests in Australia.” Website of the Australian Department of Veterans’ Affairs, 2006. www.dva.gov.au/aboutDVA/publications/health_research/nuclear_test/Pages/index.aspx
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up thousands of tons of contaminated dust, which was dispersed by the wind. As a result of this fallout, additional exposure for Aborigines in most of the region is estimated to be 5 mSv per year, while people in the most affected 120 km² are believed to be exposed to an additional 65 mSv per year. According to the BEIR VII report, such doses would lead to 10 to 130 excess cases of cancer per 10,000 people.³

Servicemen were also significantly affected by radiation exposure. In the 1970s, veterans described the lack of protective clothing and recalled flying through plumes of radioactive fallout in unpressurized aircrafts. The Department of Veterans Affairs conducted a study between 1982 and 2001 and found a significant increase in cancer rates (23 %) and cancer mortality (18 %) among veterans of the nuclear tests, compared to the population as a whole.⁴

Outlook

The uninhabitable and contaminated land around Maralinga was symbolically returned to the Tjarutja people in 2009, but those affected have not received any compensation. The burden of proof lies solely on the side of the claimants, who face difficulties in gathering evidence for their cases: hospital records are not available and dosage records are incomplete or have been removed from the archives. The indigenous population faces even more bureaucratic hurdles in their fight for recognition and compensation. To this day, epidemiological studies on the affected population have not been performed and the British and Australian governments seem unwilling to accept responsibility for the health impacts of nuclear testing. The Australian affiliate of the International Physicians for the Prevention of Nuclear War found the right words in a hearing before the Australian Senate: “Justice delayed is justice denied.”⁵ This simple truth applies to Hibakusha around the world – including the Aborigines and veterans of Maralinga.

