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Major Projects West Section
Environment Standards Division
Department of the Environment and Energy
PO Box 787, CANBERRA ACT 2601

12 July 2019

Re: reference number [2019/8465](#) and title of the referral to:

“BHP BILLITON OLYMPIC DAM CORPORATION PTY LTD/Mining/Volume 5140 Folio 575 (Section 1475 and 1516 Out of Hundreds (Andamooka))/South Australia/Olympic Dam Operations Tailings Storage Facility Six, SA”

Thank you for the opportunity to provide a submission.

The Medical Association for Prevention of War (Australia) works for the elimination of all weapons of mass destruction and the prevention of armed conflict. We promote peace through research, advocacy, peace education and partnerships. Our professional not-for-profit organisation has branches across Australia, and works globally through the International Physicians for the Prevention of Nuclear War.

There are clear historical links between the nuclear industry and nuclear weapons proliferation. Uranium mining is part of the nuclear fuel chain. Radioactive waste is toxic material that can last for millennia.

The proposed new Tailing Storage Facility (TSF 6) for the BHP Olympic Dam operation clearly does not meet acceptable standards, and indeed highlights the existing inadequate regulation and enforcement of earlier conditions.

Environmental standards are being breached, and in addition there is inadequate management of tailings safety. There is inadequate isolation of tailings from the environment and also ongoing use of evaporative ponds that are detrimental to the local and migratory fauna. Clearly occupational health and safety standards are not being adequately addressed or upheld.

BHP's record on Tailings Storage Facility management

Currently BHP has 67 tailings storage facilities (TSF) internationally. BHP has a record of mine tailings dam failures, most notably in South America at the BHP and Vale joint venture mine at Samarco in Brazil in 2015.

In June this year, in response to public and investor pressure after the Sanmarco disaster, BHP released a global assessment of all their tailings facilities. The classification of the tailings facilities is based on the most recent classification of the facilities by the Engineer of Record at each mine.

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Of these 67 TSF, five TSF are listed as “extreme risk”¹. “Extreme risk” refers to the potential loss of life of at least 100 workers, and means environmental rehabilitation of the site would be impossible after a failure of the TSF. In addition, in such an event infrastructure and economic losses are listed as extreme.

One of these “extreme risk” sites is in the USA, but this mine has been closed. The four remaining “extreme risk” TSFs are all in Australia, and three out of four are at Olympic Dam. Indeed, all of the TSFs at Olympic Dam (TSF 1-5) are categorised as “extreme risk”.

Uranium mining at Olympic Dam is a controlled “*nuclear action*” and Matter of National Environmental Significance (NES) under the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

A key recommendation by the Federal Department of Environment in 2011 was that “...*conditions be applied to the existing operation so that the entire Olympic Dam operation (existing and expanded) is regulated by a single approval under the EPBC Act*”.²

Given the acknowledged “extreme risk” posed by the Olympic Dam TSFs, the whole mine should be reviewed, so there are genuine environmental and worker safety protections, existing recommendations are enforced and the site actually meets Australian standards.

Use of evaporation ponds continues unchanged despite conditions specified in the 2011 EPBC 2005/22700 approval

The existing tailing evaporative ponds contain acidic waste water and have been demonstrably harmful to a number of Listed Bird and Listed Migratory Bird Species. In the 2011 federal Department of Environment approval to expand the mine (EPBC 2005/22700) there were very specific conditions. The review recommended BHP phase out use of evaporation ponds across the entire Olympic Dam operation. There was very explicit prohibition of the construction of new evaporation ponds for the proposed expanded mine, and a recommendation to phase out existing ponds³. The application under consideration now cites “Business as usual” as a justification for continuing current “extreme risk” practices. However this does not remove the responsibility for improved management of both solid and liquid tailings waste. Using BHP’s current tailings management approach, the expansion of tailing facilities will further worsen the environmental harms to Listed Bird and Listed Migratory Bird species (and further increase risk of worker fatalities).

In the BHP application there is no consideration of alternative methods to manage new tailings, nor consideration of appropriate management of the existing “extreme risk” tailings. The use of water to stabilise dust dispersal is at best optimistic, given the 725 hectares of existing exposed tailings and the extremely warm environment for much of the year.

Long term planning regarding future tailings hazard is manifestly inadequate

The 2011 review also specified a systematic approach that includes international best practice standards regarding mine rehabilitation, given the 10,000 year time frame needed to mitigate risk to the public and the environment².

Future environmental considerations are also not sufficient. The Olympic Dam TSFs have inadequate provisions in terms of their long term major environmental toxicity, and subsequent liability. By Federal standards the radioactive materials in the tailings from Olympic Dam need to be kept isolated for over 10,000 years. However the proposed coverage of these very

¹ ESG briefing: Tailings dams BHP June 2019 https://www.bhp.com/-/media/documents/media/reports-and-presentations/2019/190607_esgbriefingtailingdams.pdf?la=en

² *Olympic Dam expansion assessment report EPBC 2005/2270*”, Sept 2011, 7. Existing operation, p.62 epbcnotices.environment.gov.au/entity/annotation/93695ae1-2868-e511-9099-005056ba00a8/a71d58ad-4cba-48b6-8dab-f3091fc31cd5?t=1555990955990

³ Expansion of the Olympic Dam copper uranium gold and silver mine, processing plant and associated infrastructure (EPBC 2005/2270) epbcnotices.environment.gov.au/entity/annotation/123b43db-2868-e511-9099-005056ba00a8/a71d58ad-4cba-48b6-8dab-f3091fc31cd5?t=1555029462032

raised areas with one meter of clay and some rock rubble (1997 EIS Summary p.21) is highly unlikely to survive erosion impacts for more than a small portion of that time.

The established lack of regulation and enforcement represents a dereliction of the duty of care on the part of both the South Australian and Federal governments. As it stands this facility will leave a major tailings legacy clearly inadequately isolated from the environment.

It is worth noting this approach is in clear contrast with the Ranger Uranium mine rehabilitation, which requires deep burial of all tailings. This is an appropriate standard and actually demonstrates a genuine and realistic plan to meet the necessary isolation requirements.

There is no plan whatsoever for deep burial of the Olympic Dam tailings, nor a bond to ensure appropriate rehabilitation. As a result the taxpayers of South Australia and Australia ultimately will be left with the liability of dealing with a severely damaged and toxic site.

Without clear regulation this unacceptable management will continue. The adverse environmental impacts will last for many, many generations.

In closing we make four recommendations:

- 1) That no new TSF is permitted until a design is proposed that adequately addresses the environmental impacts and employee risk considerations as customary under Australian legal frameworks and regulation. Yet another “extreme risk” TSF is not acceptable.
- 2) That existing “extreme risk” TSFs 1-5 be immediately reviewed and remediated appropriately to meet best practice standards. Evaporation ponds need to be phased out, as per the EPBC conditions from 2011.
- 3) That the entire Olympic Dam mine operations be reviewed and subject to assessment with regard to all impacts on the environment.
- 4) That BHP immediately provide an independently determined realistic bond for deep burial of tailings and mine rehabilitation, sufficient to address the major environmental toxicities and health liabilities that will otherwise remain for thousands of years.

Yours Sincerely,

Dr Margaret Beavis MBBS FRACGP MPH
MAPW Secretary.