



Application for Works Approval Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6090/2017/1
Works Approval Holder	BMT Australia Pty Ltd
ACN	614 363 647
File Number	DER2017/001541
Premises	Kwinana Mercury Treatment Plant Lot 101 Donaldson Road, KWINANA BEACH WA 6005 Legal description – Part of Lot 101 on Plan 73740 As defined by the coordinates in Schedule 1 of the Revised Works Approval
Date of Report	7 January 2022
Proposed Decision	Intent to grant revised works approval

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1. Decision summary

The Delegated Officer has determined to make amendments to Works Approval W6090/2017/1. The amendments are largely administrative or minor in nature and therefore do not alter the risk profile of the Premises, providing those activities, emissions and receptors as stated in existing works approval remain unchanged.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

The decision report for the original works approval will remain on the department's website for future reference and will act as a record of the department's decision making.

2. Scope of assessment

2.1 Regulatory framework

In amending the works approval, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

Works Approval W6090/2017/1 is held by BMT Australia Pty Ltd (Works Approval Holder) for the Kwinana Mercury Treatment Plant (the Premises), located at Lot 101 Donaldson Road, Kwinana Beach, Western Australia.

The Premises relates to the categories and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Works Approval W6090/2017/1.

The Works Approval Holder submitted an application to the department to amend Works Approval W6090/2017/1 under section 59B of the *Environmental Protection Act 1986* (EP Act). An amendment was requested to update the premises boundary, include the as constructed activated carbon filter design unit, and amend the wording relating to the proposed mercury stabilisation unit.

In addition, the Delegated Officer has specified that no more than 500 tonnes of mercury containing waste be stored at the facility at any one time. Other changes include specification for the storage, treatment and disposal of partially processed mercury wastes such as mercury butter at the facility, requirement to fence the site and name change to the forklift weighing equipment.

Table 1 lists the documents submitted during the assessment process.

Table 1: Documents and information submitted during the assessment process

Document/information description	Date received
Application Form (Part 1)	22 March 2021 DWER document reference # DWERDT430284
Application Form (Part 2)	9 April 2021 DWER document reference # DWERDT437939
Application Form (Part 3)	29 October 2021 DWERDT documents reference # DWERDT521288

The premises boundary is extended through this amendment to include an expanded area of the existing Lot 101 Donaldson Road Kwinana Beach. The additional area is sought to enable the short-term storage of Mercury Containing Wastes within sea containers as an interim measure, pending finalisation of the construction of works at the site.

The amendment incorporates the as constructed activated carbon filtration unit which varied from the original proposed filtration unit in that it includes three filtration vessels instead of two, increasing the overall filtration capacity, and to allow the site to operate at full capacity with off-line at all times for maintenance and back up purposes as required.

The original mercury stabilisation was proposed to be constructed as a custom-built reactor for the stabilisation of mercury through addition of sulphur to form mercury sulphide, or Cinnabar. The Works Approval Holder has requested that the wording be changed from mercury stabilisation reactor to mercury stabilisation unit as the site now intends to import a prefabricated self-contained mercury stabilisation unit.

The increase in maximum storage capacity at the site from 400 tonnes to 500 tonnes of mercury containing waste at any one time was assessed and approved on 10 January 2020. The Delegated has determined to specify this change within existing Condition 12, Table 4.

The premises did not originally intend on storing partially treated wastes at the premises such as mercury butter, which is a concentrated sludge containing elemental mercury concentration of which varies depending on the waste stream. On this basis, the Delegated officer has included changes to conditions to specify storage and disposal requirements for this material. This alteration has not been risk assessed as this material is treated similarly to liquid mercury.

Other changes to the works approval include the requirement for the facility to be secured and alteration to the naming of the waste weighing infrastructure.

3. Consultation

The Works Approval Holder was provided with the draft amended works approval and Amendment Report on 1 December 2021. Comments received from the Works Approval Holder on Day Month Year have been considered by the Delegated Officer as detailed in Appendix 1.

4. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that an amended works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

4.1 Summary of amendments

Table 1 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised works approval as part of the amendment process.

Table 2: Summary of works approval amendments

Condition no.	Proposed amendments
History	Added current amendment
Condition 9 – Infrastructure and equipment	<p>Inclusion of the Sea Container Storage Area within the premises infrastructure.</p> <p>Amendment to the forklift infrastructure to specify the importance of the forklift as the main waste measurement infrastructure at the facility.</p> <p>The Process Building operation requirements include a storage specification for elemental mercury containing wastes</p> <p>The activated carbon filtration system infrastructure is updated from the proposed two stage to the as constructed three stage vertical upflow system. The prescribed operational requirement limits bypass of more than one filtration system at a time during processing.</p> <p>Wording changes to the mercury stabilisation reactor to mercury stabilisation unit to reflect the intention to install a self contained pre built treatment unit at the premises</p>
Condition 12 – Table 4 Waste accepted onto the premises	Amendment to specified process limits to include a maximum volume of waste stored at the site at any time to 510 tonnes per annum
Condition 15 – Table 7, Waste Management Specifications	Amended to include partially treated mercury waste (elemental mercury sludge) as a waste type on the premises that may be required to be disposed of at site until such a time as the construction of the mercury stabilisation unit is finalised
Premises map	Updated to more recent map to include extended premises boundary and updated aerial map and eastings and northings
Schedule 2: Works	<p>Updated to reflect changes to constructed and proposed infrastructure including:</p> <p>Sea Container Storage Area</p> <p>Process Building Level 1</p> <p>Activated Carbon filtration system and stack</p>

Appendix 1: Summary of Works Approval Holder's comments on draft amendment

Condition	Summary of Works Approval Holder's comment	Department's response
Condition 9 – Table 2 Process Building and Condition15 – Table 7	BMT requested that the term 'partially treated waste' be changed to 'mercury butter'.	No formal definition could be found within the available literature to describe the mercury butter derived from the mercury treatment processes. Consequently, DWER sought further consultation with BMT and the agreed substitute term to 'mercury butter' or 'partially treated mercury waste will be 'elemental mercury sludge' (DWERT document reference # A2076497).
Condition 9 – Table 2 Mercury Stabilisation	As per original amendment BMT requests the word 'reactor' be changed to stabilisation unit.	Requested change implemented
Condition 10- Table 3 Solid Waste Type	BMT requests update to the 'Acceptance specification' description in Table 3 to reflect the draft approval allowing the overflow of MCW to be stored within locked and sealed sea containers as detailed in Table 2.	Requested change implemented and the following text added: Overflow solid MCW held within approved United Nations approved Dangerous Goods bags or drums may be stored within locked and sealed sea containers
Condition 12 - Table 4	BMT accepts the 500 tonnes storage limit on the premises however notes that the current volume onsite is 510 tonnes.	Limit increased to not more than 510 tonnes
Condition 12 - Table 4 Solid Waste Type	BMT requests update to Process description in Table 4 to reflect the draft approval allowing the overflow of MCW to be stored within locked and sealed sea containers as detailed in Table 2.	Requested change implemented and the following text added: Overflow solid MCW held within approved United Nations approved Dangerous Goods bags or drums may be stored within locked and sealed sea containers

Condition	Summary of Works Approval Holder's comment	Department's response
General – ref amendment report section 2.2 application summary	BMT requests the report corrected to remove the reference to 'concentrated sludge with a maximum of 30% of concentration of element mercury' to 'concentrated sludge containing elemental mercury concentration of which varies depending on the waste stream'.	Requested change implemented